DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2009
BUDGET ESTIMATES

JUSTIFICATION OF ESTIMATES
FEBRUARY 2008

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

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Research, Development, Test and Evaluation, Navy

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, $19,337,238,000, to remain available for obligation until September 30, 2010: *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.

"In accordance with the President's Management Agenda, Budget and Performance Integration initiative, this program has been assessed using the Program Assessment Rating Tool (PART). Remarks regarding program performance and plans for performance improvement can be located at the Expectmore.gov website."

DEPARTMENT OF DEFENSE

FY 2009 RDT&E PROGRAM

SUMMARY
($ IN THOUSANDS)

22 JAN 2008

APPROPRIATION	FY 2007	FY 2008	FY 2009
Research, Development, Test & Eval, Navy	8,774,390	7,977,139	8,682,052
Total Research, Development, Test & Evaluation	8,774,390	7,977,139	8,682,052

DEPARTMENT OF DEFENSE

FY 2009 RDT&E PROGRAM

SUMMARY
($ IN THOUSANDS)

22 JAN 2008

Summary Recap of Budget Activities	FY 2007	FY 2008	FY 2009
System Development & Demonstration	8,774,390	7,977,139	8,682,052
Total Research, Development, Test & Evaluation	8,774,390	7,977,139	8,682,052

Summary Recap of FYDP Programs			
Intelligence and Communications	32,720	39,819	16,678
Research and Development	8,741,670	7,937,320	8,665,374
Total Research, Development, Test & Evaluation	8,774,390	7,977,139	8,682,052

DEPARTMENT OF THE NAVY

FY 2009 RDT&E PROGRAM

SUMMARY
($ IN THOUSANDS)

22 JAN 2008

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DEPARTMENT OF THE NAVY
FY 2009 RDT&E PROGRAM

EXHIBIT R-1

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

Date: 22 JAN 2008

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2007	FY 2008	FY 2009	SEC
80	0604212N	Other Helo Development	05	96,810	40,862	58,210	U
81	0604214N	AV-8B Aircraft - Eng Dev	05	20,902	17,011	29,924	U
82	0604215N	Standards Development	05	71,240	107,114	71,920	U
83	0604216N	Multi-Mission Helicopter Upgrade Development	05	28,881	76,482	70,329	U
84	0604218N	Air/Ocean Equipment Engineering	05	5,431	5,054	5,750	U
85	0604221N	P-3 Modernization Program	05	19,602	4,461	3,589	U
86	0604230N	Warfare Support System	05	9,753	6,228	8,611	U
87	0604231N	Tactical Command System	05	61,747	87,577	128,742	U
88	0604234N	Advanced Hawkeye	05	483,995	791,707	484,159	U
89	0604245N	H-1 Upgrades	05	33,512	3,531	3,795	U
90	0604261N	Acoustic Search Sensors	05	45,789	18,658	45,790	U
91	0604262N	V-22A	05	251,574	115,477	68,763	U
92	0604264N	Air Crew Systems Development	05	13,563	23,749	16,192	U
93	0604269N	EA-18	05	361,037	278,469	128,906	U
94	0604270N	Electronic Warfare Development	05	68,746	43,179	106,932	U
95	0604273N	VH-71A Executive Helo Development	05	613,876	225,391	1,047,835	U
96	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	774,034	835,366	834,650	U
97	0604300N	SC-21 Total Ship System Engineering	05	797,040	629,323	678,936	U
98	0604307N	Surface Combatant Combat System Engineering	05	174,508	143,065	188,500	U
99	0604311N	LPD-17 Class Systems Integration	05	8,070	4,213	985	U
100	0604329N	Small Diameter Bomb (SDB)	05	9,775	9,623	19,574	U

DEPARTMENT OF THE NAVY
FY 2009 RDT&E PROGRAM

EXHIBIT R-1

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

Date: 22 JAN 2008

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2007	FY 2008	FY 2009	SEC
101	0604366N	Standard Missile Improvements	05	177,128	226,841	234,653	U
102	0604373N	Airborne MCM	05	57,126	55,979	39,882	U
103	0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	14,359	14,829	10,533	U
104	0604501N	Advanced Above Water Sensors	05		118,900	153,558	U
105	0604503N	SSN-688 and Trident Modernization	05	105,706	118,713	143,453	U
106	0604504N	Air Control	05	4,587	4,072	8,191	U
107	0604512N	Shipboard Aviation Systems	05	32,294	27,499	42,843	U
108	0604518N	Combat Information Center Conversion	05	7,502	18,365	14,792	U
109	0604558N	New Design SSN	05	197,539	244,135	167,357	U
110	0604561N	SSN-21 Developments	05	2,548	2,403		U
111	0604562N	Submarine Tactical Warfare System	05	53,148	55,728	58,592	U
112	0604567N	Ship Contract Design/ Live Fire T&E	05	50,947	62,068	72,932	U
113	0604601N	Mine Development	05	5,410	2,048	2,008	U
114	0604603N	Unguided Conventional Air-Launched Weapons	05	44,146			U
115	0604610N	Lightweight Torpedo Development	05	33,047	26,502	50,732	U
116	0604654N	Joint Service Explosive Ordnance Development	05	9,849	10,165	10,858	U
117	0604703N	Personnel, Training, Simulation, and Human Factors	05	19,754	8,631	5,263	U
118	0604727N	Joint Standoff Weapon Systems	05	26,768	29,112	22,510	U
119	0604755N	Ship Self Defense (Detect & Control)	05	33,948	34,941	35,999	U

DEPARTMENT OF THE NAVY
FY 2009 RDT&E PROGRAM

EXHIBIT R-1

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

Date: 22 JAN 2008

Line No	Program Element Number	Item	Act	Thousands of Dollars FY 2007	FY 2008	FY 2009	SEC
120	0604756N	Ship Self Defense (Engage: Hard Kill)	05	49,337	72,670	36,238	U
121	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	26,627	38,365	57,574	U
122	0604761N	Intelligence Engineering	05	3,878	1,927	13,750	U
123	0604771N	Medical Development	05	33,063	42,779	7,833	U
124	0604777N	Navigation/ID System	05	45,044	41,226	49,007	U
125	0604784N	Distributed Surveillance System	05	59,049			U
126	0604800N	Joint Strike Fighter (JSF)	05	2,109,426	1,868,046	1,532,748	U
127	0605013M	Information Technology Development	05	15,516	25,100	30,238	U
128	0605013N	Information Technology Development	05	116,702	69,053	72,497	U
129	0605172N	Multinational Information Sharing (MNIS)	05	19,252			U
130	0605212N	CH-53K RDTE	05	338,087	388,380	570,484	U
131	0605430N	C/KC-130 Avionics Modernization Program (AMP)	05			24,407	U
132	0605450N	Joint Air-to-Ground Missile (JAGM)	05			62,324	U
133	0605500N	Multi-mission Maritime Aircraft (MMA)	05	1,099,998	862,303	1,132,026	U
134	0304785N	Tactical Cryptologic Systems	05	32,720	39,819	16,678	U
		System Development & Demonstration		8,774,390	7,977,139	8,682,052	
		Total Research, Development, Test & Eval, Navy		8,774,390	7,977,139	8,682,052	

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604212N, OTHER HELO DEVELOPMENT		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	96.809	40.862	58.210	10.936	8.392	8.553	8.732	
1109 CH/MH-53	15.357	2.736	2.901	3.003	3.065	3.119	3.179	
2415 CH-60 DEVELOPMENT	81.453	38.126	47.268	7.933	5.327	5.434	5.553	
2460 VH-3/VH-60			8.041					

* Totals may not add due to rounding

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

1109 - The H-53 helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. Through FY2013, H-53 efforts will continue to develop and qualify components, prior to production and approval decisions, in order to replace obsolete system components. Emphasis will be placed on supportability improvement modifications that will sustain the H-53 aircraft until the transition of the H-53K is complete. These efforts combined, will significantly improve the readiness of the H-53 fleet while reducing long term operational and supportability costs. H-53 RDT&E efforts will focus on trade studies and risk reduction measures to identify candidate survivability, safety, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life. A one-time supplemental add in FY07 of $13M funded laser warning development and integration on the AAR-54 Missile Warning system (MWS). The AAR-54 is the MWS of the Directed Infrared Countermeasures (DIRCM) System. DIRCM fielding was accelerated in the FY07 supplemental due to in theater survivability requirements. The laser warning development upgrades the DIRCM system to current laser warning requirements. 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-53 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.

2415 - 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 Countermeasuers (OAMCM) and Armed Helo. The MH-60S Operational Requirements Document (ORD) was modified in May 2000 to add Organic Airborne Mine Countermeasures (OAMCM) as a capability. The Armed Helo will provide Combat Search and Rescue (CSAR), Surface Warfare (SUW) and Maritime Interdiction Operations (MIO) 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.

2460 - 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). Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission - the VH-3D and the VH-60N. Project Unit 2460 represents a new start in Fiscal Year 2009. This project will fund a Service Life Assessment Program (SLAP) for both the VH-3D and the VH-60N and will also upgrade the safety of the fuel system on the VH-3D only.

in GWOT supplemental.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	85.872	46.815	36.759
FY 2009 President's Budget:	96.809	40.862	58.210
Total Adjustments	10.937	-5.953	21.451
Summary of Adjustments			
Congressional Reductions		-5.000	
Congressional Undistributed Reductions	-1.693	-0.266	
Congressional Increases	13.000		
Economic Assumptions			-0.263
Miscellaneous Adjustments	-0.369	-0.687	21.714
Subtotal	10.938	-5.953	21.451

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604212N, OTHER HELO DEVELOPMENT

Schedule:
1109 - Added Safety Upgrades to schedule.

2415 AMCM - Full Operational Capability (FOC) moved from FY10 to FY14 to align with the current Multi Mission Helicopter (MMH) ORD. AMCM 2B Ground Test for RAMICS with Common Console and CSTRS was delayed from 4th quarter FY07 to 2nd quarter FY08 due to technical issues experienced during sensor development. With the addition of Correction of Deficiencies (COD) testing, Developmental Testing (DT) for Block 2A has slipped, extending DT completion through 4th quarter FY07. Operational Testing (OT) will now be completed in 2nd quarter FY08. Initial Operating Capability (IOC), Interim Program Review (IPR) IV and Full Rate Production (FRP) have slipped from 4th quarter FY07 to 3rd quarter FY08 as a result. Block 2B Airborne Mine Neutralization System (AMNS) and Airborne Laser Mine Detection System (ALMDS) sensor/integration schedules have been separated due to individual sensor schedules. Sensor development schedules have driven changes/delays to the integration schedules as reflected. Organic Airborne & urface Influence Sweep (OASIS) is realigned with Rapid Airborne Mine Clearance System (RAMICS) testing due to technical issues experienced by PMS-495/EDO during the development of the OASIS tow cable which has delayed integration testing.

2415 Link 16 - IPR2 has been removed from the schedule because it relates to Armed Helo Block 3A acquisition milestones, not Block 3B Link 16. Aircraft Block 3B Mod Delivery slipped from 4th quarter FY07 into the 1st quarter FY08 because of delays in aircraft integration efforts. Prioritized testing for CSG-3 resulted in delays of Contractor Testing (CT-IIJ) completion from 2nd quarter to 3rd quarter FY07 and Developmental Testing (DT-IIJ) from 1st quarter FY07 to 3rd quarter FY07. Operational Test Readiness Review (OTRR) moves to 3rd quarter FY08 and Operational Testing (OT-IIJ) is delayed from 4th quarter FY07 to 3rd quarter FY08 due to development and integration time increases and source lines of code.

2415 Fixed Forward Weapons/Rockets - Operational Testing (OT-IIK) will complete in 4th quarter instead of 3rd quarter FY09 due to NRE/design and integration beginning in the 2nd quarter versus the 1st quarter FY08.

Technical: N/A

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N, OTHER HELO DEVELOPMENT	PROJECT NUMBER AND NAME 1109, CH/MH-53	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
1109 CH/MH-53	15.357	2.736	2.901	3.003	3.065	3.119	3.179	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The H-53 helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. Through FY2013, H-53 efforts will continue to develop and qualify components, prior to production and approval decisions, in order to replace obsolete system components. Emphasis will be placed on supportability improvement modifications that will sustain the H-53 aircraft until the transition of the H-53K is complete. These efforts combined, will significantly improve the readiness of the H-53 fleet while reducing long term operational and supportability costs. H-53 RDT&E efforts will focus on trade studies and risk reduction measures to identify candidate survivability, safety, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life. Modeling and simulation will be used to the maximum practical extent throughout this effort. MFS will be utilized to develop, install and test interim modifications to existing H-53 legacy avionics, while maintaining the original basic system footprint and functionality. As a part of this effort, a complete EMV assessment will be required for the affected and/or modified systems.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.339	.383	.392
RDT&E Articles Qty			

H-53 Avionics: Trade studies, risk reduction, design, development, model, integration and test activities for cockpit and avionics improvements for the H-53 avionics systems and associated subsystems. Integrate software applique for cockpit and avionics improvements, to include the development of new sensors and the impact in flight control computers. Conduct Business Case Analyses to determine impact of high Operation and Support (O&S) cost drivers and address alternatives for obsolescence issues.

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	12.181	.193	.198
RDT&E Articles Qty			

H-53 Survivability: Trade studies, risk reduction, design, development, model, integration and test activities for H-53 survivability systems to include effectiveness of the ballistic vulnerability (armor) package.

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.206	1.317	1.451
RDT&E Articles Qty			

H-53 Propulsion: Trade studies, risk reduction, design, development, integration and test activities for H-53 T64 engine and related systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N, OTHER HELO DEVELOPMENT	PROJECT NUMBER AND NAME 1109, CH/MH-53

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.156	.629	.642
RDT&E Articles Qty			

Project Management Support: In-house, field activities, and contractor support of Integrated Product Teams (IPTs) to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program.

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.475	.214	.218
RDT&E Articles Qty			

H-53 Airframe: Trade studies, risk reduction, design, development, integration and test activities for the H-53 airframe to include, but not limited to, main rotorhead, cowlings, aircraft structure, drive train, and various dynamic components.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
0528000 APN-5 H-53 Series	236.969	51.651	56.381	36.326	45.434	46.497	46.626	217.597	737.481

D. ACQUISITION STRATEGY: This is a non-ACAT program with no specific acquisition strategies.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604212N, OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME 1109, CH/MH-53					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
AHD (Avionics - Design & Analy	VARIOUS	TBD	1.284			.076	Various	.077	Various	Cont.	Cont.	
PHD (Avionics - Design & Analy	VARIOUS	VARIOUS	1.157	.058	Sep 2007	.257	Various	.264	Various	Cont.	Cont.	
SE (Engine - Design & Analysis	WX	NAWCAD, PATUXENT RIVER MD				.516	Nov 2007	.554	Nov 2008	Cont.	Cont.	
AI (Surviv - Design & Analysis	T&M	NORTHOP GRUMMAN, CHICAGO IL		12.010	Aug 2007						12.010	12.010
SUBTOTAL PRODUCT DEVELOPMENT			2.441	12.068		.849		.895		Cont.	Cont.	

Remarks:

SUPPORT												
GFE (Avionics - Design&Analysi	VARIOUS	NAWCAD, PATUXENT RIVER MD	.125			.381	Nov 2007	.378	Nov 2008	Cont.	Cont.	
SD (Avionics - Design & Analys	VARIOUS	TBD	.327	.786	Jul 2007	.194	Various	.199	Various	Cont.	Cont.	
SUBTOTAL SUPPORT			.452	.786		.575		.577		Cont.	Cont.	

Remarks:

TEST & EVALUATION												
DT&E (Survivability - Design &	VARIOUS	TBD	2.033	.025	Various	.682	Various	.787	Various	Cont.	Cont.	
SUBTOTAL TEST & EVALUATION			2.033	.025		.682		.787		Cont.	Cont.	

Remarks:

MANAGEMENT												
Contractor Eng Sup	BOA, T&M	SIKORSKY, STRATFORD, CT	2.213	.712	Nov 2006						2.925	2.925
Govt Supt (Survivability - Des	WX	NAWCAD, PATUXENT RIVER MD	1.226	.975	Oct 2006	.160	Nov 2007	.163	Nov 2008	Cont.	Cont.	
Program Management Support	VARIOUS	VARIOUS	.380	.010	Various	.359	Various	.366	Various	Cont.	Cont.	
Contract Management	MP	CECOM, FT MONMOUTH NJ		.600	Jul 2007						.600	
Travel	TO	TRAVEL VENDOR, LEXINGTON PARK, MD	.878	.182	Various	.111	Various	.113	Various	Cont.	Cont.	
SUBTOTAL MANAGEMENT			4.697	2.479		.630		.642		Cont.	Cont.	

Remarks:

Total Cost			9.623	15.357		2.736		2.901		Cont.	Cont.	.000

Remarks:Dollars may not add due to rounding.

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5									PROGRAM ELEMENT NUMBER AND NAME 0604212N, OTHER HELO DEVELOPMENT														PROJECT NUMBER AND NAME 1109, CH/MH-53									
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Engineering Milestones																																
Obsolescence Issues/Studies																																
Survivability Analysis																																
Legacy P3I Efforts																																
Safety Upgrades																																
Test & Evaluation Milestones																																
Production Milestones																																
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604212N, OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME 1109, CH/MH-53			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Obsolescence Issues/Studies	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Survivability Analysis	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Legacy P3I Efforts	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Safety Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N, OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME 2415, CH-60 DEVELOPMENT				
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2415 CH-60 DEVELOPMENT	81.453	38.126	47.268	7.933	5.327	5.434	5.553	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
2415 - 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 Airborne Mine Countermeasures (AMCM) mission will provide Carrier Strike Groups (CSGs) and Expeditionary Strike Groups (ESGs) with an OAMCM capability. The Armed Helo will provide Combat Search and Rescue (CSAR), Surface Warfare (SUW) and Maritime Interdiction Operations (MIO) 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.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

MH-60S Airframe Development and Integration	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	31.900	12.150	12.259
RDT&E Articles Qty			

The design, development, integration, and support of the AMCM unique items into the MH-60S airframe. Design, develop, integrate and support the interoperability of Automatic Flight Control System (AFCS). T&E on AMCM Mission Kits as each weapon system is introduced to the MH-60S. AMCM training situation analysis and instructional system development (ISD) documentation. Design, develop, integrate and support the Link 16
development. Integrate Link 16 training situation analysis, instructional system development (ISD) document. RTOC initiative: weight reduction. Conduct trade studies and analysis, develop and qualify components in order to replace obsolete system components on the MH-60S. Environmental Data Recorder effort for OAMCM. Design, integrate, test (CT, DT, OT), and support Fixed Forward Weapons/Rockets.

MH-60S Avionics Development and Integration	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	29.928	11.817	17.256
RDT&E Articles Qty			

Developmental efforts on the avionics architecture and systems of the MH-60S helicopter. Development of the operator consoles, as well as software modifications, to support AMCM systems. Continue AMCM training situational analysis, and instructional system development (ISD) documentation. Design, develop, integrate and support the Link 16 software development. Integrate Link 16 training situation analysis, instructional system development (ISD)document. Develop capability for MH-60S Joint Mission Planning System (JMPS) networking. Design, integrate, test (CT, DT, OT), and support Fixed Forward Weapons/Rockets.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604212N, OTHER HELO DEVELOPMENT	2415, CH-60 DEVELOPMENT

MH-60S Engineering, Logistics , Mgt Support	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	19.625	14.159	17.753
RDT&E Articles Qty			

Navy field activity systems engineering, logistics support, management and travel for the AMCM MH-60S Weapons System Integration Team (WSIT) for airframe and avionics, Fixed Forward Weapons/Rockets integration, and Link 16 development effort. Support/conduct MH-60S aircraft integration testing for AMCM sensor systems and Link 16, Rockets. Engineering and integration effort to incorporate AMCM requirements into the ship C4I structure. Provide JMPS networking requirements and validate software updates.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
017900 APN-1 MH-60S	546.254	500.173	549.670	494.204	543.007	492.188	459.509	758.955	4,343.960
060510 APN-6 MH-60S	7.939	8.256	2.005	1.973	1.277				21.450
053000 APN-5 H-60 Mods (OSIPs 016-04, 009-07, 009-09)	10.153	28.357	36.963	37.681	35.648	30.292	19.621	40.718	239.433

D. 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 Upgrades. 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 upgrades are as follows.
-Block 1 - Combat Support Helicopter
-Block 2 - Airborne Mine Countermeasures
-Block 3 - Armed Helo

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604212N, OTHER HELO DEVELOPMENT				PROJECT NUMBER AND NAME 2415, CH-60 DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
GFE - Rockets	TBD	TBD				.500	Mar 2008	.250	Dec 2008		.750	0.750
Primary Hdw Dev - Airframe	*SS/CPIF	SIKORSKY A/C CORP, STRATFORD, CT	126.062	27.100	Dec 2006	3.900	Jan 2008	9.796	Dec 2008	4.385	171.243	171.243
Primary Hdw Dev - Airframe Rkt	TBD	SIKORSKY A/C CORP, STRATFORD, CT				3.000	Mar 2008	2.213	Dec 2008		5.213	5.213
Primary Hdw Dev - Avionics	*SS/CPIF	LOCKHEED MARTIN CORP, OWEGO, NY	132.095	29.928	Dec 2006	9.817	Jan 2008	15.256	Dec 2008	4.252	191.348	191.348
Primary Hdw Dev - Avionics Rkt	TBD	LOCKHEED MARTIN CORP, OWEGO, NY				2.000	Mar 2008	2.000	Dec 2008		4.000	4.000
Primary Hdw Dev - CSTRS	**SS/CPFF	VARIOUS	37.668								37.668	37.668
Primary Hdw Dev - CSTRS	RX	NSWC, PANAMA CITY FL	6.480	4.800	Dec 2006	4.750	Jan 2008				16.030	
All Product Dev Cost from FY97-FY06	VARIOUS	VARIOUS	11.128								11.128	
SUBTOTAL PRODUCT DEVELOPMENT			313.433	61.827		23.967		29.515		8.637	437.380	

Remarks: * PYs SS/CPAF - $2,88
FY05-FY07 SS/CPIF
** PYs SS/CPAF, FY05-FY06 CPFF

SUPPORT												
ILS - MSS (NON-FFRDC)	VARIOUS	VARIOUS	.559	.394	Jan 2007	.255	Jan 2008	.260	Dec 2008		1.468	
ILS - Rockets	WX	VARIOUS				.475	Mar 2008	.500	Dec 2008		.975	
Integrated Logistics Sup	WX	VARIOUS	2.301	1.427	Nov 2006	.610	Nov 2007	.424	Nov 2008	.191	4.953	
Integrated Logistics Sup	VARIOUS	VARIOUS	4.417								4.417	
All Support Cost from FY97-FY06	VARIOUS	VARIOUS	4.172								4.172	
SUBTOTAL SUPPORT			11.449	1.822		1.340		1.184		.191	15.986	

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	6.920	6.805	Nov 2006	5.595	Dec 2007	7.198	Nov 2008	3.500	30.018	
Dev Test & Eval	WX	VARIOUS	13.681	.081	VARIOUS						13.762	
Dev Test & Eval - Rockets	WX	NAWCAD, PATUXENT RIVER MD				.500	Mar 2008	1.500	Dec 2008		2.000	
Oper Test & Eval	WX	OPER T & E FOR CD 30, NORFOLK VA		1.000	Feb 2007			2.000	Nov 2008	2.315	5.315	
Oper Test & Eval	WX	VARIOUS	.776								.776	
All Test & Eval Costs from FY97-FY06	VARIOUS	VARIOUS	5.383								5.383	
SUBTOTAL TEST & EVALUATION			26.760	7.886		6.095		10.698		5.815	57.254	

Remarks: Totals may not add due to rounding.

Exhibit R-3 Cost Analysis (page 1)			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604212N, OTHER HELO DEVELOPMENT	PROJECT NUMBER AND NAME 2415, CH-60 DEVELOPMENT	

MANAGEMENT												
Eng & Tech Srvc (NON-FFRDC)	VARIOUS	VARIOUS	8.088	.875	VARIOUS	.499	VARIOUS	.520	VARIOUS	1.425	11.407	
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD	3.510	1.765	Nov 2006	1.200	Dec 2007	1.200	Nov 2008	3.240	10.914	
Government Eng Sup	WX	NSWC, PANAMA CITY FL	11.863	5.050	Nov 2006	3.400	Nov 2007	2.500	Nov 2008	2.475	25.287	
Government Eng Sup	WX	VARIOUS	23.173	.403	VARIOUS	.375	VARIOUS	.375	VARIOUS		24.325	
Program Mgmt CSS	VARIOUS	VARIOUS	3.166	.633	VARIOUS	.550	VARIOUS	.554	VARIOUS	1.207	6.110	
Program Mgmt Govt Sup	WX	VARIOUS	10.899	.727	VARIOUS	.500	VARIOUS	.522	VARIOUS	.858	13.506	
Travel	WX	VARIOUS	1.639	.450	Nov 2006	.200	Dec 2007	.200	Nov 2008	.400	2.889	
Travel	WX	OPER T & E FOR CD 30, NORFOLK VA		.015	Dec 2006						.015	
All Mgmt Costs from FY97-FY06	VARIOUS	VARIOUS	.984								.984	
SUBTOTAL MANAGEMENT			63.320	9.918		6.724		5.871		9.604	95.438	

Total Cost			414.963	81.453		38.126		47.268		24.247	606.057	

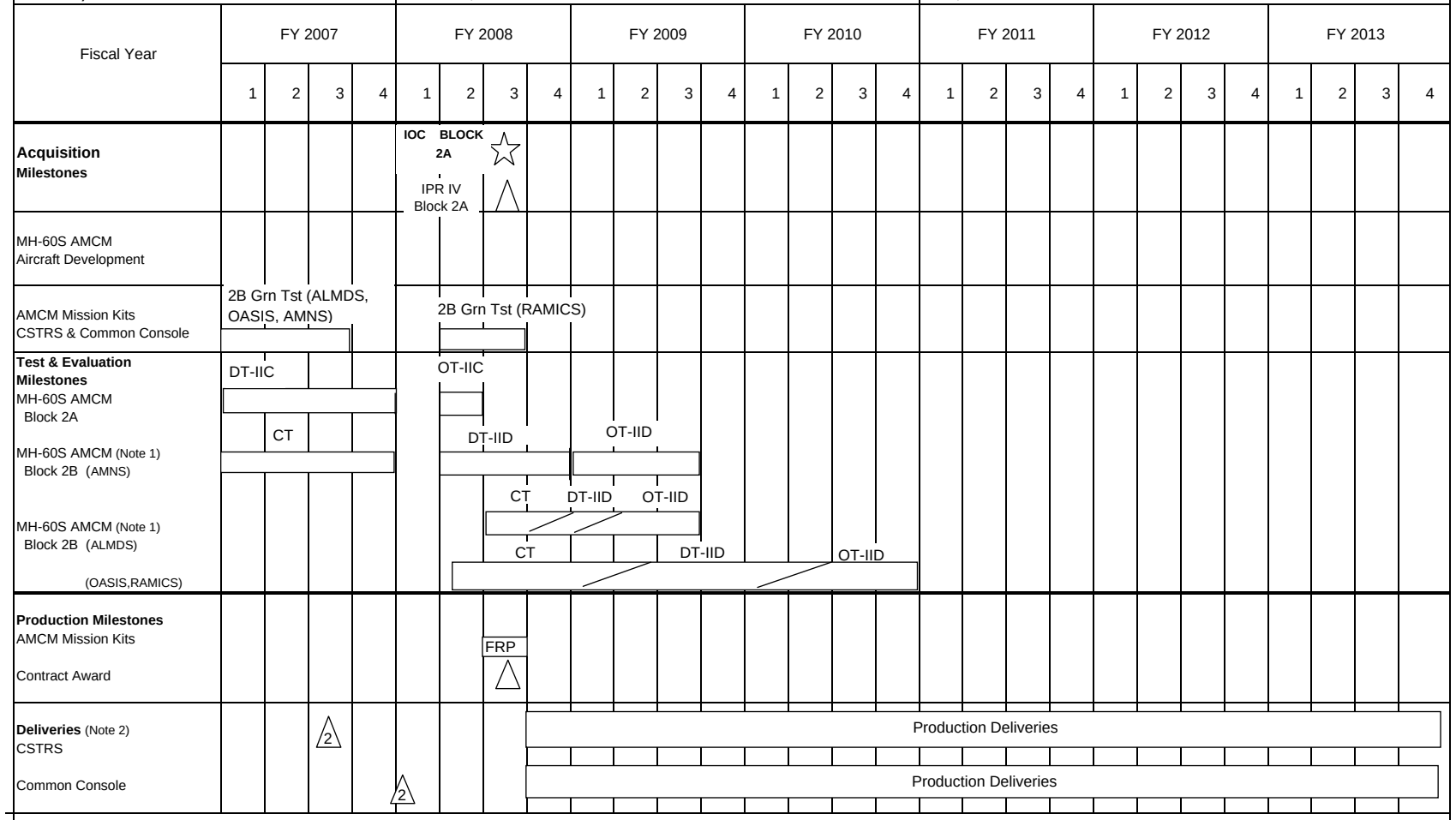
Remarks: Totals may not add due to rounding.

CLASSIFICATION:

Profile

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N, OTHER HELO DEVELOPMENT	2415, CH-60 DEVELOPMENT



Notes:
1. Block 2B timebar uses slant lines to depict the overlap of CT/DT and DT/OT test periods for the three separate systems (OASIS, ALMDS, AMNS).
2. Nine initial production CSTRS and Common Consoles were procurred in FY02, FY03 and FY04. All nine CSTRS were delivered in FY04 and FY05, six Common Consoles were delivered in FY04 and FY05. The remaining 3 were delivered in the 4th QTR of FY06. Two Low Rate Production CSTRS and Common Consoles were procurred in third quarter FY06 and delivered in FY07/FY08.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604212N Other Helo Development			PROJECT NUMBER AND NAME 2415, CH-60 DEVELOPMENT			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Block 2A							
Developmental Testing (DT-IIC)	1Q-4Q						
Operational Testing (OT-IIC)		2Q					
Initial Operational Capability-Block 2A		3Q					
Block 2B							
Ground Testing (ALMDS, OASIS, AMNS)	1Q-3Q						
RAMICS Ground Testing		2Q-3Q					
Contractor Test (AMNS)	1Q-4Q						
Contractor Test (ALMDS)		3Q-4Q					
Developmental Testing (DT-IID)(AMNS)		2Q-4Q					
Developmental Testing (DT-IID)(ALMDS)		4Q	1Q				
Operational Testing (OT-IID)(AMNS)			1Q-3Q				
Operational Testing (OT-IID)(ALMDS)			1Q-3Q				
Contractor Test (OASIS, RAMICS)		2Q-4Q	1Q-2Q				
Developmental Testing (DT-IID) (OASIS, RAMICS)			1Q-4Q	1Q-2Q			
Operational Testing (OT-IID)(OASIS, RAMICS)				1Q-4Q			
Full Rate Production (FRP) Decision / IPR IV		3Q					
Contract Award - Production		3Q					
Full Rate Production Delivery (Common Consoles & CSTRS)		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Full Operational Capability - Block 2B (FY14)							

CLASSIFICATION:

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

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5** | 0604212N, OTHER HELO DEVELOPMENT

PROJECT NUMBER AND NAME: 2415, CH-60 DEVELOPMENT

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones								IOC																				
(Block 3B Link-16)								IPR 3																				
Design/Build/Integration																												
Block 3B Link-16	Design & Int																											
Fixed Forward Weapon/Rockets						Design & Int																						
MH-60S Block 3B Development Milestones	PDR																											
Aircraft Block 3B Mod Delivery					△																							
Test & Evaluation Milestones	DTRR						OTRR																					
Block 3B Link-16	CT-IIJ		DT-IIJ				OT-IIJ																					
Fixed Forward Weapon/Rockets							CT-IIK		DT-IIK		OT-IIK																	

CLASSIFICATION:

Exhibit R-4a, Schedule Detail

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N Other Helo Development	2415 CH-60 Development

Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
BLOCK 3B - Link 16							
System Design, Build, and Integration	1Q-3Q						
Aircraft Block 3B Mod Delivery		1Q					
Contractor Test (CT-IIJ)	1Q-3Q						
Developmental Test Readiness Review (DTRR)	1Q						
Developmental Testing (DT-IIJ)	3Q-4Q	1Q-3Q					
Operational Test Readiness Review (OTRR)		3Q					
Operational Testing (OT-IIJ)		3Q-4Q					
IPR 3		4Q					
IOC		4Q					
Fixed Forward Weapon / Rockets							
System Design, Build, and Integration		2Q-4Q					
Contractor Test (CT-IIK)		3Q-4Q	1Q				
Developmental Testing (DT-IIK)		4Q	1Q-3Q				
Operational Testing (OT-IIK)			2Q-4Q				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N, Other Helo Development	PROJECT NUMBER AND NAME 2460 VH-3/VH-60	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2460 VH-3/VH-60			8.041					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

2460 - 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). Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. Project Unit 2460 represents a new start in Fiscal Year 2009. This project will fund a Service Life Assessment Program for both the VH-3D and the VH-60N and will also upgrade the safety of the fuel system on the VH-3D only.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Begin VH-3D / VH-60N service life assessment			4.000
RDT&E Articles Qty			

In-house, field activity, and contractor support of the Service Life Assessment (SLAP) for the both the VH-3D and VH-60N.

	FY 2007	FY 2008	FY 2009
Begin safety upgrade to VH-3D fuel system			4.041
RDT&E Articles Qty			

In-house, field activity, and contractor support to upgrade the safety of the fuel system on the VH-3D.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
056600; Exec Helo Series	40.470	46.904	31.819	43.381	45.577	18.777	11.551	11.600	250.079

D. ACQUISITION STRATEGY: Not Applicable.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604212N, Other Helo Development				PROJECT NUMBER AND NAME 2460 VH-3/VH-60						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Systems Eng	VARIOUS	VARIOUS						5.250	Nov 2008	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT								5.250				

Remarks:

SUPPORT												
Studies & Analyses	VARIOUS	VARIOUS						0.400	Nov 2008	Continuing	Continuing	
SUBTOTAL SUPPORT								0.400				

Remarks:

TEST & EVALUATION												
Dev Test & Eval	VARIOUS	VARIOUS						1.488	Mar 2009	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION								1.488				

Remarks:

MANAGEMENT												
Contractor Eng Sup	VARIOUS	VARIOUS						0.378	Dec 2008	Continuing	Continuing	
Government Eng Sup	TBD	TBD						0.320	Nov 2008	Continuing	Continuing	
Program Mgmt Sup	VARIOUS	VARIOUS						0.155	Nov 2008	Continuing	Continuing	
Travel	VARIOUS	NAVAIR, PAXTUXENT RIVER MD						0.050	Oct 2008	Continuing	Continuing	
SUBTOTAL MANAGEMENT								0.903				

Remarks:

Total Cost								8.041		Continuing	Continuing	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604212N, Other Helo Development	2460 VH-3/VH-60

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Development of FSU																												
Qualification LFT																												
VH-3D & VH-60N SLAP																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604212N, Other Helo Development			PROJECT NUMBER AND NAME 2460 VH-3/VH-60			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Development of Fuel Safety Upgrade (FSU)			1Q-4Q	1Q-2Q			
Qualification LFT			3Q-4Q	1Q-3Q			
VH-3D & VH-60N Service Life Assessment Program (SLAP)			1Q-4Q				

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604214N, AV-8B A/C - ENGINEERING DEV.		
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		20.902	17.011	29.924	18.086	12.313	12.547	12.818
0652 AV-8B		20.902	17.011	25.915	14.571	12.313	12.547	12.818
Ejector Rack				4.009	3.515			

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The program provides AV-8B Design, Development, Integration and Test of the following improvements: The Engine Life Management Program (ELMP), Escape System, Joint Mission Planning System (JMPS), Block upgrade H6.0 to various Mission Systems such as Tactical Aircraft Moving Map Capability (TAMMAC), communications system, navigation equipment, H4.0/Weapons carriage expansion and countermeasures, and Aircraft Handling/Readiness Management Plan (RMP). The JMPS/AVJMPS 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 replaced the aging/obsolete AN/ASQ-196 digital map set and the AN/ASQ-194 data storage set presently installed. A/C Handling and performance is all engineering activities for development and design to support aircraft safety flight clearance and concept exploration to support POM objectives. PMA-257's Evolutionary Acquisition Strategy includes Design, Development, Integration and Test activity under the consolidated effort of Block Developments: H4.0, H5.0, H6.0, H7.0 H8.0 and follow-on systems. TAMMAC is planned for incorporation into Block H4.0. H6.0 block upgrade will provide upgrades to the aircraft communications system for interoperability within the Network-centric warfare operational area. Additionaly, the program provides weapons carriage expansion by design, development, integration and testing of additional precision guided and linked programmable weapon capabilities, digital close air support improvements, and video and data link improvements. The H5.0 also provides weapons carriage capability of the litening pod on centerline/station 4. This is an upgrade to the standard AV-8B aircraft capability. H7.0 Block upgrade will provide additional communications/data link upgrades and weapon expansion. H8.0 provides the follow-on step toward an integrated air picture within the Battle Space Network via Multifunctional Information Distribution System (MIDS)MIDS/RS-Link-16 particiption within the Global Information Grid (GIG). The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine and accessories. PMA-257 will accomplish this mission by conducting Engineering Project Description (EPD) investigations and performing a series of planned Accelerated Simulated Mission Endurance Test (ASMET) to derive engineering improvements to the engine. The Escape System qualifies an improved ejection seat to reduce the risk of injury to aircrew. The RMP is required to ensure the AV-8B air vehicle's sustained mission availability, and safe and reliable operational readiness until end of service. Air vehicle sustainment requires component and system analyses, technical planning, identification and diagnosis of problems and the development, testing and flight clearance of engineering solutions in the areas of flight and crew safety, structural integrity, obsolescence, systems reliability and maintainability, inventory preservation, or other emergent material or equipment conditions affecting AV-8B systems readiness. Activities include research/analysis for system safety deficiency corrections, fuel system safety improvements, structural analyses, monitoring and integrity analysis, component obsolesence analyses including development of display computer and air data computer replacement, alternatives explorations for aging equipment, reliability improvement analyses and design developments.

FY 2007 Title IX GWOT Supplemental funding was provided for the AV-8B Litening on Centerline Development ($6.6M) and AV-8B Low Pressure Compressor LPC1 Blade ($1.2M). FY2008 funding totals do not include $6.4M previously requested for current FY2008 GWOT requirements. FY2009 and FY2010 funding in the amount of $4.009 and $3.515, respectively was realigned from P.E. 0205633N, PU 3189, for Digital Improved Triple Ejector Rack (D-ITER).

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	13.826	17.360	26.277
FY 2009 President's Budget:	20.902	17.011	29.924
Total Adjustments	7.076	-0.349	3.647
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.454	-0.110	
Congressional Increases	7.856		
Economic Assumptions			-0.157
Miscellaneous Adjustments	-0.326	-0.239	3.804
Subtotal	7.076	-0.349	3.647

Schedule: The H4.0 development schedule had a 2-3 QTR slip due to GPS Software issues and the H5.0 development schedule has a month slip due to ALE-47 Software requirements. The display computer OT, OTRR schedule has slipped approximately 2 months due to leadtime required for display computers to be used in OT. RMP's Air Data Computer (ADC) milestones have been added. Schedule added for Digital I-TER.

Technical: N/A

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604214N, AV-8B AIRCRAFT - ENGINEERING DEVELOPMENT	PROJECT NUMBER AND NAME 0652, AV-8B	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
0652 AV-8B	20.902	17.011	25.915	14.571	12.313	12.547	12.818	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:The program provides AV-8B Design, Development, Integration and Test of the following improvements: The Engine Life Management Program (ELMP), Escape System, Tactical Aircraft Moving Map Capability (TAMMAC) and Aircraft Handling/Readiness Management Plan (RMP). The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine and Gas Turbine Starter (GTS). PMA-257 will accomplish this mission by the Component Improvement Program and conduct Engineering Project Description investigations and performing a series of planned Accelerated Simulated Mission Endurance Tests (ASMET) to derive engineering improvements to the engine. The Escape System qualifies an improved ejection seat to reduce the risk of injury to aircrew. The JMPS/AVJMPS is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system and TAMMAC functionality in H4.0 blockdevelopment. H5.0 Block Upgrade provides Dual Mode Laser Guided Bombs (DMLGB) H6.0 includes weapons carriage expansion efforts and provides the first step toward Battle Space Networking interoperability within the Netcentric OP-area. PMA-257 is working closely with PMA-209 common avionics and the Allies (Spain, Italy and the UK) on this effort. A/C Handling and performance is all engineering activities for development and design to support aircraft safety flight clearance and concept exploration for resolution of emergent service life and readiness issues.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Development of RMP ECP's	FY 2007	FY 2008	FY 2009	
Accomplishments / Effort / Sub-total Cost	3.836	7.763	12.609	
RDT&E Articles Qty				

Conduct system analyses, identification and diagnoses of problems and the development and testing of engineering solutions in the areas of flight and crew safety, structural integrity, obsolescence, systems reliability and maintainability, inventory preservation, or other emergent material or equipment conditions affecting AV-8B systems readiness. Address known and emergent readiness improvements and correction of deficiencies and issues including obsolesence and structural fatigue. Activities include: component obsolescence analyses including development of display computer and air data computer replacement and alternatives explorations for the air data computer and other aging equipment, crew ejection system and other safety deficiency corrections; fuel system safety improvements; structural analyses, monitoring, and integrity modifications; reliability improvement analyses and design developments.

Completion of ASMET IV Testing	FY 2007	FY 2008	FY 2009	
Accomplishments / Effort / Sub-total Cost	7.522	7.042	9.449	
RDT&E Articles Qty				

Testing, analysis and integration to improve safety of flight and operational readiness of the AV-8B Engine and accessories. Plan and complete ASMET V testing and develop new engine design efforts. Research, analysis, and develop design changes for engine accessories. Formalize Engine design development efforts based off of ASMET IV and incorporate into the engine. Address performance, reliability and obsolescence of F402 Engine Monitoring System by improving operator awareness and troubleshooting capability for maintainers. Conduct flight tests of the F402-RR-408 engine Low Pressure Compresser (LPC1) blade failures to mitigate blade stress. This testing assist is providing an immediate solution to the blade failures to increase safety of flight issues occuring in deployed squadrons in support of GWOT.

Completed Development and DT Testing of H4.0/	FY 2007	FY 2008	FY 2009	
Accomplishments / Effort / Sub-total Cost	9.544	2.206	3.857	
RDT&E Articles Qty				

H4.0 Block Upgrade Development including AV-8B Joint Mission Planning System (AVJMPS) improvements and integration of the Tactical Moving Map Capability (TAMMAC). H5.0 Block Upgrade provides Dual Mode Laser Guided Bombs (DMLGB), Litening Centerline/Station 4 support the movement of the Litening targeting pod to the AV-8B centerline station allowing carriage of both left and right hand configured pods.(Improvement of current weapons carriage capability), Early Variable Message Format (VMF) Communication Development, H4.0/TAMMAC Software Trouble Reports (STRs).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604214N, AV-8B AIRCRAFT - ENGINEERING DEVELOPMENT	0652, AV-8B

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN BLI 051400, AV-8B Series Modification	67.854	36.004	51.093	36.380	28.403	22.195	21.946	116.100	379.975
RDTE PE 0604215N PU 0572 Joint Services Stand	56.057	90.714	59.142	25.435	19.301	18.942	15.883		285.474

D. ACQUISITION STRATEGY: All efforts under Aircraft Handling/RMP provide investigations and analysis of testing and flight clearance authorization necessary to assess overall system capability and integration of projects. 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. PMA-257's Evolutionary Acquisition Strategy includes Design, Development, Integration and Test activity under the consolidated effort of Block Developments: H2.0, H4.0, H5.0, H6.0, H7.0 H8.0 and following systems. The development and integration of JMPS/AVJMPS occured concurrently with H2.0. Additional improvements are included in H.40 TAMMAC is planned for incorporation into Block H4.0. H6.0 provides weapons carriage expansion efforts and the first step toward Battle Space Networking interoperability within the Netcentric OP-area. H7.0 provides the follow-on step toward an integrated air picture within the Battle Space Network via MIDS/RS-Link-16 particiption within the GIG. H5.0 Block Upgrade provides Dual Mode Laser Guided Bombs (DMLGB), Litening Centerline/Station 4 (Improvement of current weapons carriage capability), PMA-257 is working closely with the Allies (Spain, Italy, UK) and PMA-209 Common Avionics on this effort for H6.0 and H8.0.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604214N, AV-8B AIRCRAFT - ENGINEERING DEVELOPMENT				PROJECT NUMBER AND NAME 0652, AV-8B							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
PRODUCT DEVELOPMENT													
Primary Hdw Development	C-CPFF	MANAGEMENT SCIENCES, INC				.849	Various	3.569	Various	1.482	5.900		
Primary Hdw Development	C-CPFF	ROLLS-ROYCE PLC, BRISTOL GB	10.714	2.590	Jan 2007	3.458	Dec 2007	2.972	Dec 2008	14.353	34.087	34.087	
Primary Hdw Development	C-CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	.216	.216	Dec 2006	3.465	Dec 2007	1.807	Dec 2008	1.251	6.955	6.955	
Primary Hdw Development	VARIOUS	Goodrich Power Systems, PITSTONE, BU		1.300	Various	.851	Various	1.500	Various	11.978	15.629	15.629	
Primary Hdw Development	WX	NAWCWD, CHINA LAKE CA	37.473			.443	Nov 2007	1.205	Nov 2008	.690	39.811		
Primary Hdw Development	VARIOUS	VARIOUS	9.387	.142	Various	.142	Various			11.719	21.390		
Systems Engineering	VARIOUS	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	1.781	1.494	Various	1.435	Various	.223	Various		4.933	4.933	
Systems Engineering	VARIOUS	VARIOUS	.350	.100	Various	.070	Various	.070	Various	.289	.879	.879	
Systems Engineering	VARIOUS	NAWCWD, CHINA LAKE CA		.520	Dec 2006						.520		
SUBTOTAL PRODUCT DEVELOPMENT			59.920	6.362		10.713		11.346		41.762	130.103		

Remarks: Added Managmenet Sciences, Inc. Totals may not add due to rounding.

SUPPORT													
Configuration Mgmt	VARIOUS	VARIOUS	.169	.187	Various	.041	Various	.043	Various	.192	.632		
Engineering Technical Services	C-CPFF	EDO PROFESSIONAL SERVICES INC., ARLINGTON, VA	1.018	.719	Apr 2007						1.737	1.737	
Integrated Logistics Sup	WX	NAWCAD, PATUXENT RIVER MD	.731	.374	Nov 2006	.261	Nov 2007	.254	Nov 2008	Continuing	Continuing		
Software Development	VARIOUS	DCMA BOEING ST LOUIS, ST LOUIS, MO		1.148	Various		Various	1.474	Various		2.622	2.622	
Software Development	WX	NAWCWD, CHINA LAKE CA	.662	3.893	Feb 2007	.307	Nov 2007	1.359	Nov 2008	2.209	8.430	8.430	
Software Development	VARIOUS	VARIOUS	17.474	1.401	Various						18.875	18.875	
Studies & Analysis	VARIOUS	VARIOUS	.388	.817	Various	.614	Various	.420	Various	Continuing	Continuing		
Support	VARIOUS	DCMA BOEING ST LOUIS, ST LOUIS, MO	5.190	.300	Various						5.490	5.490	
Technical Data	C-CPFF	VARIOUS	.823	.460	May 2007	.465	May 2008	.485	May 2009	2.338	4.570	4.570	
SUBTOTAL SUPPORT			26.455	9.299		1.688		4.035		Continuing	Continuing		

Remarks: Totals may not add due to rounding.

TEST & EVALUATION													
Developmental Test & Eval	CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO						3.112	Various	5.689	8.801	8.801	
Developmental Test & Eval	WX	NAWCWD, CHINA LAKE CA	35.488	.377	Various	.355	Various	1.334	Various	2.499	40.053		
Operational Test & Eval	WX	OPER T & E FOR CD 30, NORFOLK VA	19.458	1.294	Feb 2007	1.420	Mar 2008			1.847	24.018		
Operational Test & Eval	WX	NAWCWD, CHINA LAKE CA		.404	May 2007	.095	May 2008				.499		
Test Assets	CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO				.972	Jan 2008	3.820	Jan 2009	2.225	7.017	7.017	
SUBTOTAL TEST & EVALUATION			54.946	2.075		2.842		8.266		12.260	80.388		

Remarks: Totals may not add due to rounding.

MANAGEMENT													
ENGINEERING & TECH SRVC (NON-F	C-CPFF	VARIOUS	.625	.701	Nov 2006						1.326	1.326	
Government Engineering Support	WX	VARIOUS	3.730	.679	Nov 2006	.385	Nov 2007	.370	Nov 2008	Continuing	Continuing		
MGT & PROF SUPPT SRVC (NON-FFF	C-CPFF	VARIOUS	1.071	1.201	Nov 2006	.619	Nov 2007	1.168	Nov 2008	Continuing	Continuing		
Program Management Support	WX	VARIOUS	1.452	.455	Various	.709	Various	.675	Various	Continuing	Continuing		
Travel	TO	VARIOUS	.352	.130	Various	.055	Various	.055	Various	Continuing	Continuing		
SUBTOTAL MANAGEMENT			7.231	3.166		1.768		2.268		Continuing	Continuing		

Total Cost			148.552	20.902		17.011		25.915		Continuing	Continuing		

Remarks: Totals may not add due to rounding.

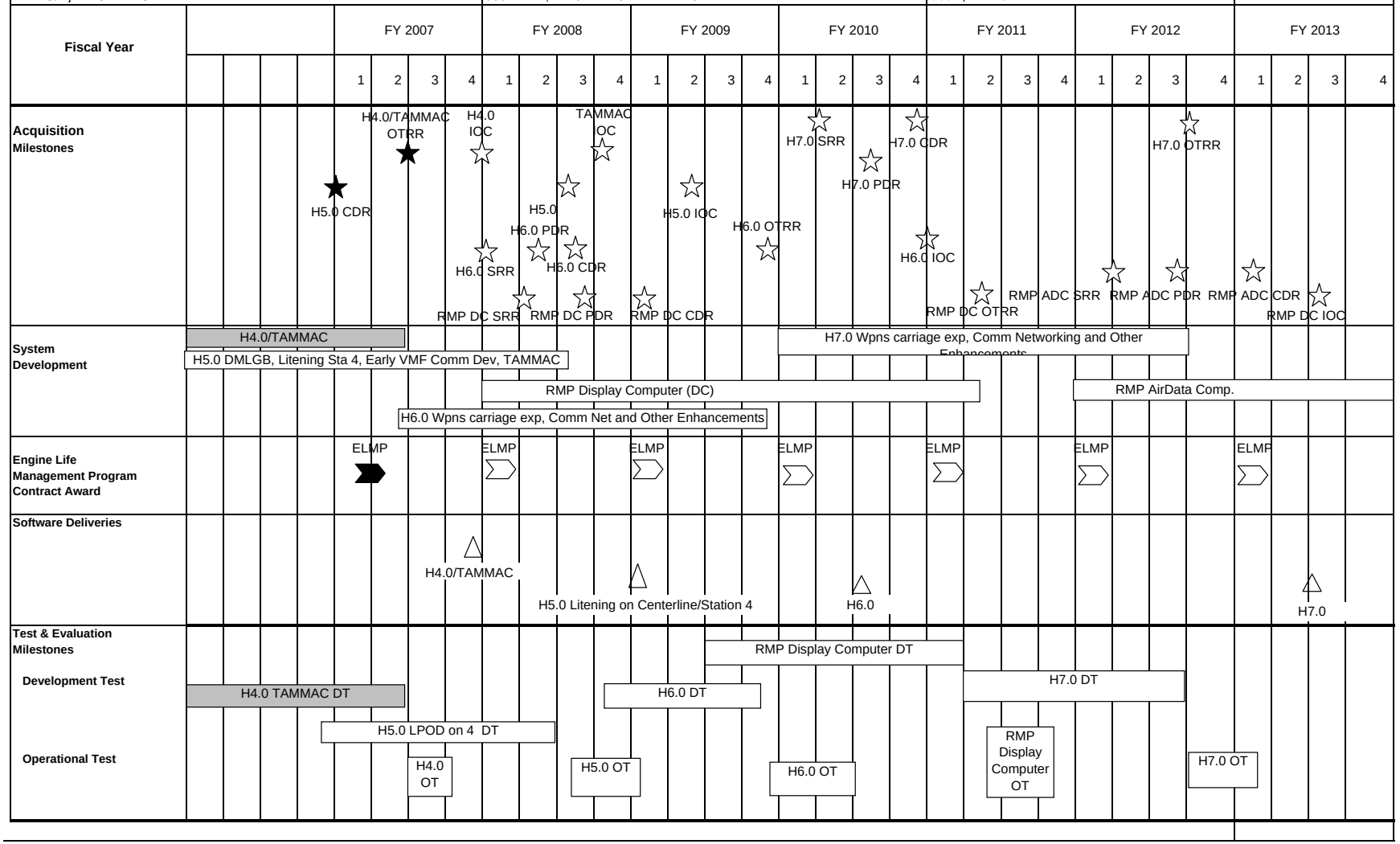
CLASSIFICATION:

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

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

PROGRAM ELEMENT: 0604214N, AV-8B AIRCRAFT - ENG DEV

PROJECT NUMBER AND NAME: 0652, AV-8B



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604214N, AV-8B AIRCRAFT - ENG DEV				PROJECT NUMBER AND NAME 0652, AV-8B			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
ELMP CONTRACT AWARD		2Q	1Q	1Q	1Q	1Q	1Q	1Q
H4.0 TAMMAC SYSTEM DEVELOPMENT		1Q-2Q						
H 4.0/TAMMAC DT		1Q-2Q						
H4.0/TAMMAC OTRR		2Q						
H4.0/TAMMAC OT		3Q-4Q						
H4.0/TAMMAC S/W DELIVERY		4Q						
H4.0 TAMMAC IOC			4Q					
H5.0 DMLGB,LITSTA4,VMF,STR SYS DEVELOPMENT		1Q-4Q	1Q-3Q					
H5.0 CDR		1Q						
H5.0 DT		1Q-4Q	1Q-2Q					
H5.0 OTRR			3Q					
H5.0 OT			3Q-4Q	1Q				
H5.0 S/W DELIVERY				1Q				
H5.0 IOC				2Q				
H6.0 WPNS CARRIAGE EXP COMM NETWORK SYS DEV		2Q-4Q	1Q-4Q	1Q-4Q				
H6.0 SRR			1Q					
H6.0 PDR			2Q					
H6.0 CDR			3Q					
H6.0 DT			4Q	1Q-4Q				
H6.0 OTRR				4Q				
H6.0 OT				4Q	1Q-2Q			
H6.0 S/W DELIVERY					3Q			
H6.0 IOC					4Q	1Q		
H7.0 WPNS CARRIAGE EXP COMM NETWORK SYS DEV					1Q-4Q	1Q-4Q	1Q-3Q	
H7.0 SRR					2Q			
H7.0 PDR					3Q			
H7.0 CDR					4Q			
H7.0 DT						2Q-4Q	1Q-3Q	
H7.0 OTRR							4Q	
H7.0 OT							4Q	1Q
H7.0 S/W DELIVERY								3Q
RMP DISPLAY COMPUTER SYSTEM DEVELOPMENT			1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		
RMP DISPLAY COMPUTER SRR			2Q					
RMP DISPLAY COMPUTER PDR			3Q					
RMP DISPLAY COMPUTER CDR				1Q				
RMP DISPLAY COMPUTER DT				3Q-4Q	1Q-4Q	1Q		
RMP DISPLAY COMPUTER OTRR						2Q		
RMP DISPLAY COMPUTER OT						3Q		
RMP DISPLAY COMPUTER IOC								3Q
RMP AIR DATA COMPUTER SYSTEM DEVELOPMENT							1Q-4Q	1Q-4Q
RMP AIR DATA COMPUTER SRR							1Q-2Q	
RMP AIR DATA COMPUTER PDR							3Q	
RMP AIR DATA COMPUTER CDR								1Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604214N, AV-8B AIRCRAFT - ENGINEERING DEVELOPMENT	PROJECT NUMBER AND NAME 2634 AV-8B (OSCAR)/Digital Improved Triple Ejector Rack	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2634 AV-8B (OSCAR)/DITER*			4.009	3.515				
RDT&E Articles Qty								

* Prior years funding was reported under Program Element 0205633N, PU 3189.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Development of Digital I-TER	FY 2007	FY 2008	FY 2009	
Accomplishments / Effort / Sub-total Cost			4.009	
RDT&E Articles Qty				

The Open Systems Core Avionics Requirements (OSCAR) initiative replacing the Mission Computer and Store Management System with Commerical components and continued development of the common integrated Night Attack/Radar software to include integration of the 1000lb Joint Direct Attack Munitions (JDAM) weapon. The Dig Improved Triple Ejector Rack (I-TER) provides for the increased capability to the existing BRU-42 I-TER for the AV-8B platform. This provides for multiple carriage capability for Smart weapons such as Joint Direct Attack Munition (JDAM).

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
RDTE PE 0205633N Aviation Improvements	97.012	117.805	122.906	105.116	95.090	75.958	77.469		691.356

D. 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. Acquisition documentation will be updated accordingly to include the funding in FY2009 and FY2010 for the incorporation of Dig I-TER within OSCAR.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604214N, AV-8B AIRCRAFT - ENGINEERING DEVELOPMENT				PROJECT NUMBER AND NAME 2634, AV-8B (OSCAR)/Digital Improved Triple Ejector Rack						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	C-CPAF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	64.806								64.806	64.806
Primary Hdw Development	C-CPFF	DCMC, Draper Laboratory	.285								.285	.285
Primary Hdw Development	C-FFP	DSC, KMX Norfolk	.406								.406	.406
Systems Engineering	WX	NAWCWD, CHINA LAKE CA	40.893								40.893	
Systems Engineering	WX	NAWCAD, PATUXENT RIVER MD	3.239								3.239	
Systems Engineering	VARIOUS	PMA-209	4.448								4.448	
Award Fees	C-CPAF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	8.967								8.967	8.967
SUBTOTAL PRODUCT DEVELOPMENT			123.044								123.044	

Remarks: Totals may not add due to rounding.

SUPPORT												
Development Support Equipment	VARIOUS	VARIOUS	.284								.284	
Integrated Logistics Sup	VARIOUS	VARIOUS	.323								.323	
Configuration Mgmt	VARIOUS	VARIOUS	.143								.143	
Software Development	WX	NAWCWD, CHINA LAKE CA						1.666	Nov 2008		1.666	
Other Support	WX	VARIOUS						.775	Nov 2008		.775	
SUBTOTAL SUPPORT			.750					2.441			3.191	

Remarks: Totals may not add due to rounding.

TEST & EVALUATION												
Developmental Test & Eval	WX	NAWCWD, CHINA LAKE CA	17.554					1.568	Nov 2008		19.122	
Developmental Test & Eval	WX	OPER T & E FOR CD 30, NORFOLK VA	2.813								2.813	
SUBTOTAL TEST & EVALUATION			20.367					1.568			21.935	

Remarks: Totals may not add due to rounding.

MANAGEMENT												
Contractor Engineering Support	C-CPFF	NAWCAD, PATUXENT RIVER MD	.402								.402	.402
Travel	WX	NAWCAD, PATUXENT RIVER MD	.031								.031	
SBIR Assessment			.165								.165	
SUBTOTAL MANAGEMENT			.598								.598	

Remarks: Totals may not add due to rounding.

Total Cost			144.759					4.009			148.768	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															
DATE: **February 2008**																															
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT												PROJECT NUMBER AND NAME													
RDT&E, N / BA-5					0604214N, AV-8B AIRCRAFT - ENG DEV												2634, AV-8B (OSCAR)/Digital Improved Triple Ejector Rack													
Fiscal Year					FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones							☆ Dig I-TER SRR			☆ Dig I-TER PDR	☆ Dig I-TER CDR					☆ Dig I-TER OTRR				☆ Dig I-TER IOC											
System Development							Dig I-TER																									
Engine Life Management Program Contract Award																																
Software Deliveries																			△ Dig I-TER													
Test & Evaluation Milestones																																
Development Test											Dig I-TER DT																					
Operational Test																	Dig I-TER OT															

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604214N, AV-8B AIRCRAFT - ENG DEV				PROJECT NUMBER AND NAME 2634, AV-8B (OSCAR)/Digital Improved Triple Ejector Rack			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Dig I-TER WPNS CARRIAGE EXP COMM NETWORK SYS DEV		2Q-4Q	1Q-4Q	1Q-4Q				
Dig I-TER SRR			1Q					
Dig I-TER PDR			2Q					
Dig I-TER CDR			3Q					
Dig I-TER DT			4Q	1Q-4Q				
Dig I-TER OTRR				4Q				
Dig I-TER OT					1Q-2Q			
Dig I-TER S/W DELIVERY					3Q			
Dig I-TER IOC					4Q	1Q		

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

front to reduce acquisition costs through larger procurement quantities that satisfy multi-aircraft customer requirements and that reduce life cycle costs in the areas of reliability, maintainability, and training. Several examples of past successful tasks under this project include the Standard Central Air Data Computer, Solid State Barometric Altimeter,and Downed Aircraft Location System, jointly developed with the Air Force and Army and currently installed on numerous Navy, Air Force and Army aircraft. This project also funds the C/KC-130T Avionics Modernization Program (AMP), and Navy chairmanship and participation in the Joint Services Review Committee (JSRC) for Avionics Standardization. The RDT&E Articles include Advanced Mission Computer & Display (AMC&D) Engineering Manufacturing Development (EMD) units for 8X10 High Resolution Recorder Interface, Image Processing Modules and Fiber Channel Network Switches with Processors, GPWS/TAWS test articles, Common Avionics Display and the KC-130T AMP test article.

Project 1857, Calibration Standards: This project is a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Hull, Mechanical and Electrical (HM&E) systems as well as Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of Navy Hull, Mechanical and Electrical (HM&E) as well as Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology. Includes FY07 Congressional Add - DOD Metrology Research 2.200. Includes FY08 Congressional Add - Advanced Measurement 3.180.

Project 2311, Stores Planning and Weaponeering Module: The Naval Aircraft Weaponeering Components (NAWC) project, now referred to as the Weaponeering and Stores Planning (WASP) components, are integrated software products that allow pilots to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by N88 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D, E, F, and G (RC) aircraft, and for all future aircraft T/M/S in the Joint Mission Planning System (JMPS). As a flight clearance system, WASP components will alert pilots if their planned weapon release conditions will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weaponeering capabilities are fundamental requirements for Interdiction, Armed RECCE and Close Air Support mission planning, therefore WASP product availability is critical to successful deployment of the Joint Mission Planning System (JMPS) Combat 1 OT&E for AV-8B JMPS framework; 1.4 OT&E for F/A-18 A-G. The WASP product encompasses a multitude of Government-Off-The-Shelf (GOTS) and Commerical-Off-The-Shelf (COTS) software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators), which are delivered as new targets are identified as emergent requirements for new aircraft T/M/S, stores and weapons are approved by N88, and new flight clearances and flight restrictions are issued by NAVAIRSYSCOM.

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

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

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

B. PROGRAM CHANGE SUMMARY

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

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

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

Schedule:

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

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

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

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

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

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

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

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

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

1857 - Not Applicable.

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

2312 - Not Applicable.

9999 - Not Applicable.

Technical:

0572 - Not Applicable.

1857 - Not Applicable.

2311 - Not Applicable.

2312 - Not Applicable.

9999 - Not Applicable.

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

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

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

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

COMMON AVIONICS DISPLAYS - Initial efforts wil focus on acquisition planning and display prioritization in conjunction with a Trade Study resulting in development of independent cost estimates, request for proposals, and award of a common display development contract. Conduct Initial Baseline Review (IBR), Systems Requirements Review (SRR), Preliminary Design Review (PDR), and Critical Design Review (CDR). Begin development of the first of a family of common displays for Naval Aviation which provides performance enhancements over current LCD and CRT technology for tactical cockpit and mission console displays.

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

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

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

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

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

D. ACQUISITION STRATEGY:

Advanced Mission Computer & Display (AMC&D) is utilizing a cost plus contract to McDonnell Douglas Corp (MDC), a wholly owned susbidiary of the Boeing Company, for EMD. MDC conducted a competition to potential suppliers and selected General Dynamics Information Systems for the AMC, Honeywell for Displays, and Harris for Fibre Channel Network Switch. Aircrew Wireless Internal Communication System (AWICS) acquisition strategy is aligned with the Army Wireless ICS developmental program resulting in a common system for use aboard multiple assault, logistics, Rotary Wing and Fixed Wing aircraft. Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) program is a systems of systems. The program will encompass the integration of various systems that are currently post-MS III. Systems will be procured utilizing existing contracts for integration on forward-fit and retrofit platforms to provide CNS/ATM functionality. Tactical Communications is utilizing a firm fixed price contract to Rockwell Collins for research and development of the ARC-210 Gen 5 and other Navy contract vehicles for integration studies. The Navy will integrate systems and components to satisfy platform requirements to achieve tactical communication capability as determined by analyses. GPWS/TAWS software modules will be developed by the existing PMA209 government software product team. The software modules will be integrated into the platform host computer by the platform's prime integrator. MFOQA Government activities include integrating a combination of existing aircraft hardware, ground support equipment, commercial off the shelf/government off the shelf hardware and software products. MFOQA program interfaces will be created to share data captured by the automated maintenance systems (e.g., AME, HUMS) and existing databases. The Navy will conduct a full and open competition for both the MFOQA S/W development, integration and support contract as well as the commercial off the shelf S/W data analysis product and enterprise license contract.

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

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

Remarks: Dollars may not add due to rounding.

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

Remarks: Dollars may not add due to rounding.

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

Remarks: Dollars may not add due to rounding.

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

Remarks: Dollars may not add due to rounding.

Total Cost			495.605	56.057		90.714		59.142		Continuing	Continuing	

Remarks: Dollars my not add due to rounding.

EXHIBIT R4, Schedule Profile

AMC&D

DATE: February 2008

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

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
8x10 HRRI Redesign	▼																											
8x10 HRRI Redesign Lab Test		▼																										
8x10 HRRI Redesign Flight Test		▲	▼																									
FCNS Trade Study		▲			▽																							
FCNS Redesign/Lab Test				▲		▽																						
FCNS Redesign Flight Test							▲	▽																				
FCNS Redesign Fleet Release															△													
OSP Obs Redesign					▲				▽																			
OSP Obs Redesign/Lab Test									△			▽																
OSP Obs Redesign Flight Test												△				▽												
OSP Obs Redesign Fleet Release																		△										

Exhibit R-4a, Schedule Detail **AMC&D**					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604215N, Standards Development				PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
8x10 HRRI Redesign	1Q							
8x10 HRRI Redesign Lab Test	1Q-2Q							
8x10 HRRI Redesign Flight Test	1Q-3Q							
FCNS Trade Study	1Q-4Q	1Q-2Q						
FCNS Redesign/Lab Test	4Q	1Q-4Q						
FCNS Redesign Flight Test		4Q	1Q-4Q					
FCNS Redesign Fleet Release				3Q				
OSP Obs Redesign		1Q-4Q	1Q-2Q					
OSP Obs Redesign/Lab Test			1Q-4Q					
OSP Obs Redesign Flight Test			4Q	1Q-4Q				
OSP Obs Redesign Fleet Release					2Q			

EXHIBIT R4, Schedule Profile	AWICS																												DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5					PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT												PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB													
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Product Development																												
Test & Evaluation Milestones																												
Production Milestones																												
Deliveries																												

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

EXHIBIT R4, Schedule Profile

CNS/ATM

DATE: February 2008

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

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
F/A-18E/F Integration Mode S					Systems Integration																							
					DT/OT																							
RNP/RNAV									Requirements Analysis																			
MH-60S Integration Mode S					Systems Integration																							
					DT/OT																							
MH-60R Integration Mode S					Systems Integration																							
					DT/OT																							
AH-1Z Integration Mode S					Systems Integration																							
					DT/OT																							
UH-1Y Integration Mode S					Systems Integration																							
					DT/OT																							
Production Milestones																												
Platform Procurements (S/W upgrades ONLY)																												
Deliveries (S/W upgrades)																												

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

EXHIBIT R4, Schedule Profile
TACTICAL COMMUNICATIONS

DATE: February 2008

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

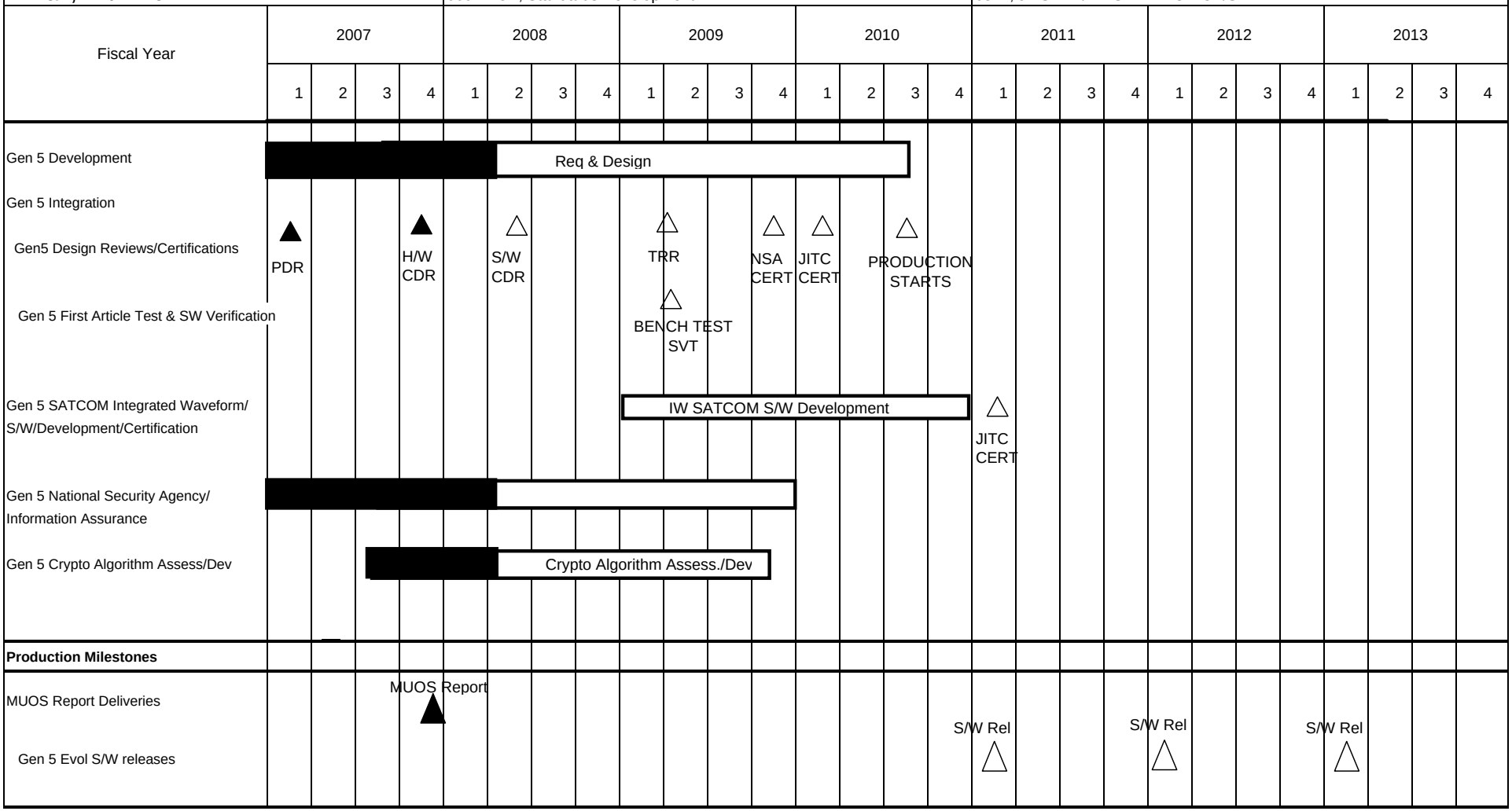


Exhibit R-4a, Schedule Detail
TACTICAL COMMUNICATIONS

DATE: February 2008

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

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

EXHIBIT R4, Schedule Profile

GPWS/TAWS

DATE: February 2008

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

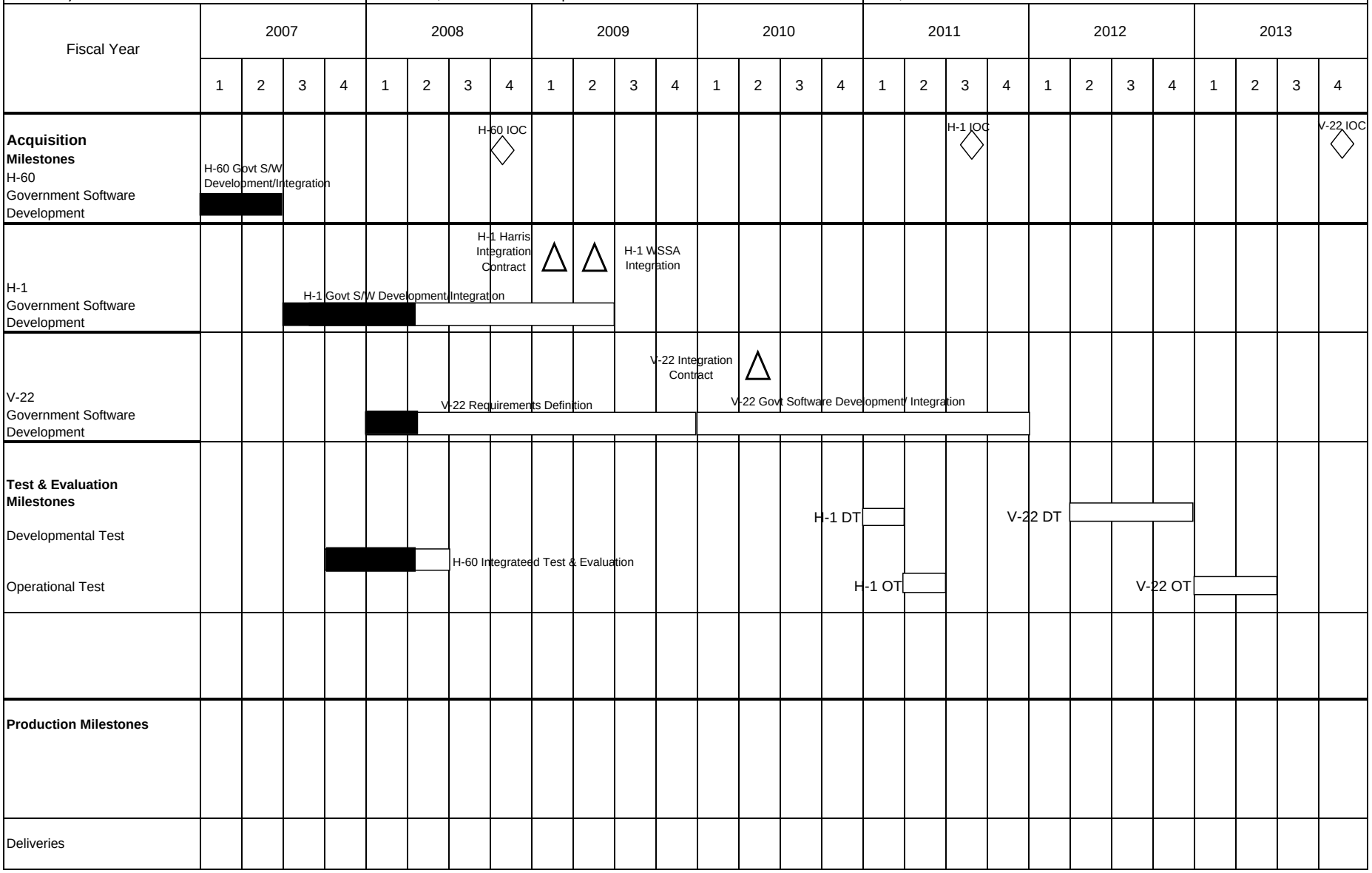


Exhibit R-4a, Schedule Detail

GPWS/TAWS

DATE: February 2008

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

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

EXHIBIT R4, Schedule Profile

MFOQA

DATE: February 2008

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

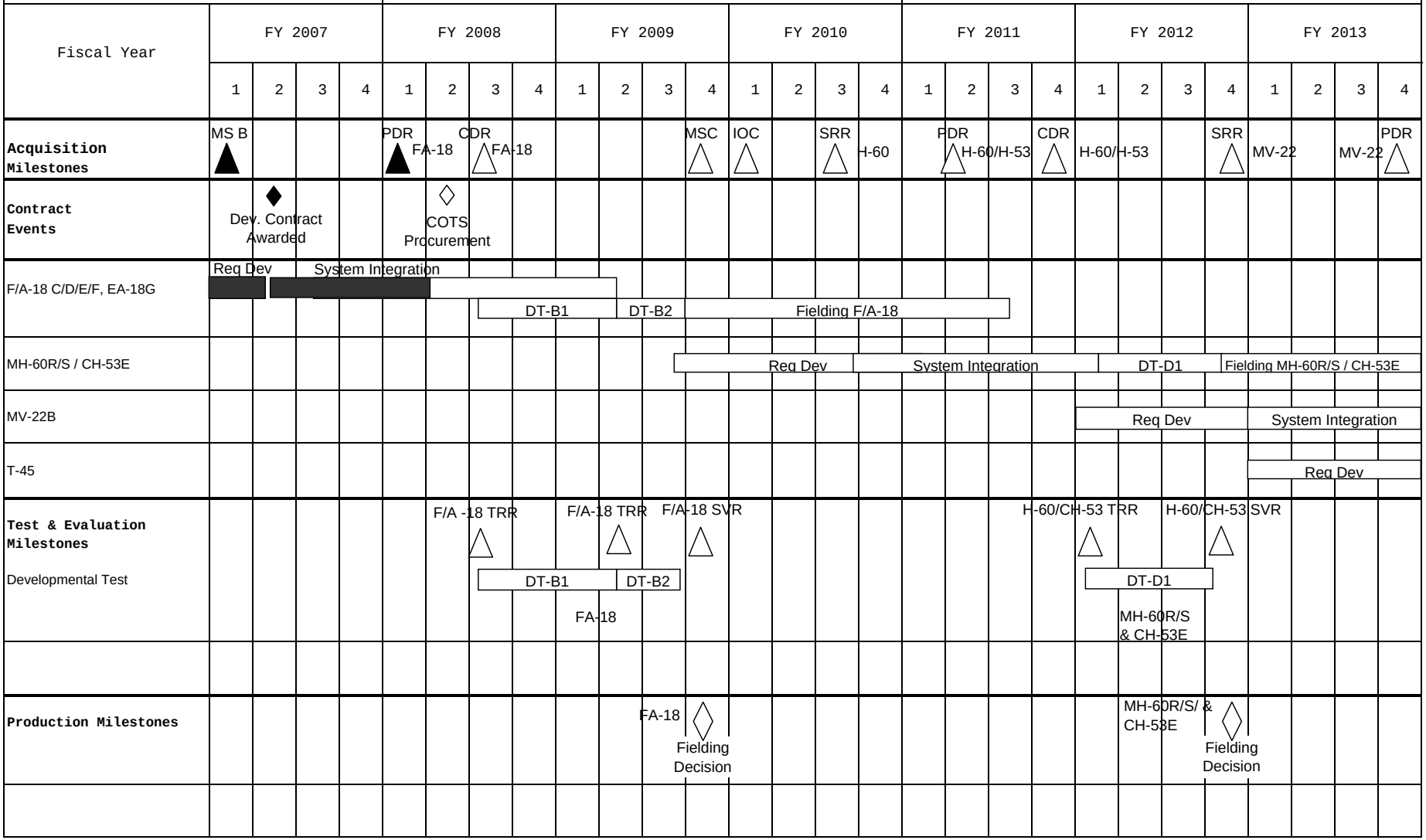


Exhibit R-4a, Schedule Detail						DATE:		
	MFOQA					February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E,N / BA-5	0604215N, STANDARDS DEVELOPMENT				0572, JT SERV/NV STD AVION CP/SB			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013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

EXHIBIT R4, Schedule Profile

COMMON AVIONICS DISPLAYS (CAD)

DATE: February 2008

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

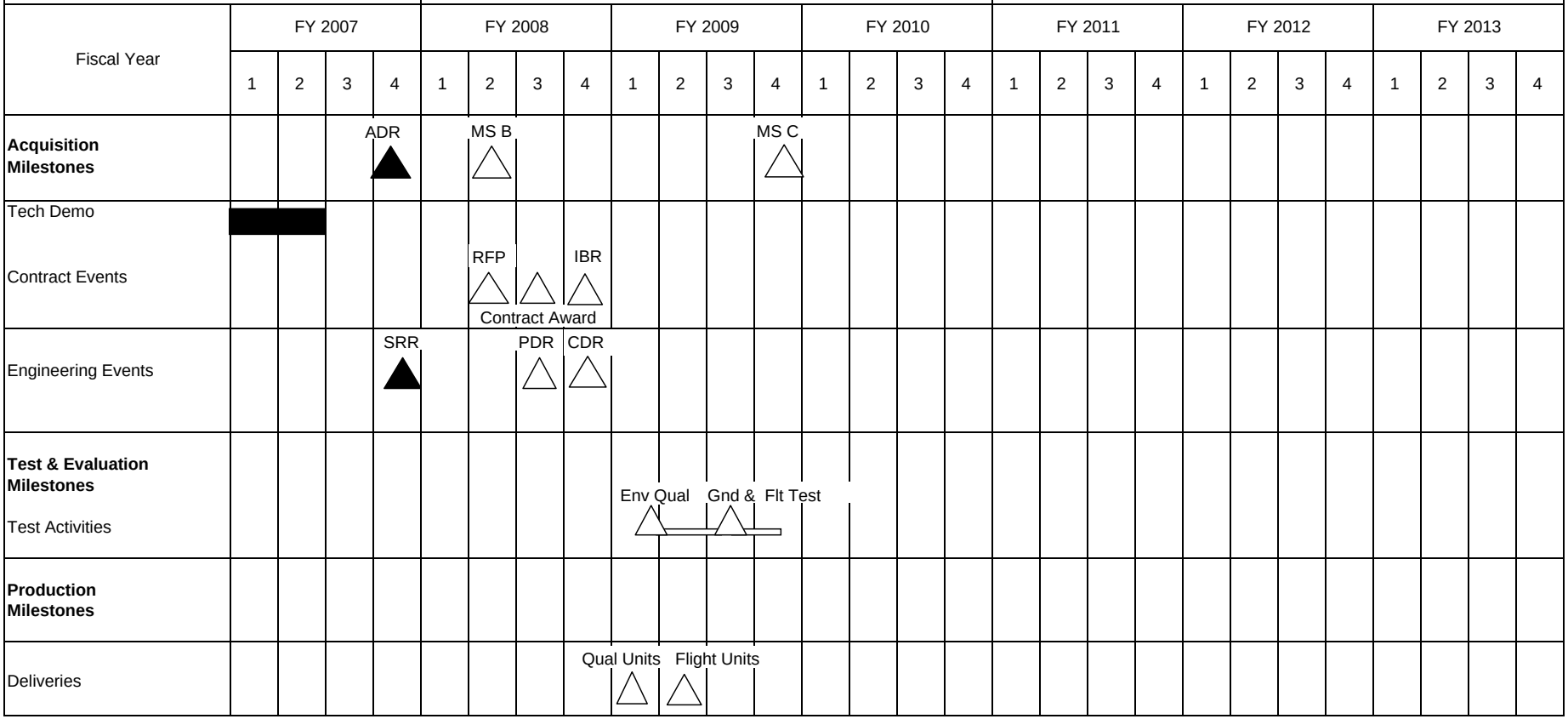


Exhibit R-4a, Schedule Detail **COMMON AVIONICS DISPLAYS (CAD)**					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT				PROJECT NUMBER AND NAME 0572, JT SERV/NV STD AVION CP/SB			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011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

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

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Contract Events RFP/SDD Contract Award Test Kit Procurement Test Kit Installation			▲ RFP			△ SDD Contract Award	△ Test Kit Procurement																					
Engineering Events SRR/PDR/CDR/TRR/OTRR						△ SRR		△ PDR																				
Test & Evaluation Milestones																												
Deliveries																												
Production Deliveries																												

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

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

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

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604215N, STANDARDS DEVELOPMENT				PROJECT NUMBER AND NAME 1857, CALIBRATION STANDARDS			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost	1.432	1.442	1.518	2.051	1.491	1.529	2.068	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project S1857, Calibration Standards: This project is a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Hull, Mechanical and Electrical (HM&E) systems as well as Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of Navy Hull, Mechanical and Electrical (HM&E) as well as Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

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

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

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

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

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

C. OTHER PROGRAM FUNDING SUMMARY:

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

D. ACQUISITION STRATEGY: *

Not Applicable

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT			PROJECT NUMBER AND NAME 1857, CALIBRATION STANDARDS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	NSWC, Corona Division	0.145	0.880		0.847		0.916			2.788	
Ancillary Hardware Development												
Component Development												
Ship Integration												
Ship Suitability												
Systems Engineering												
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.145	0.880		0.847		0.916			2.788	
Remarks:												
Development Support												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Award Fees												
Subtotal Support												
Remarks:												

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604215N, STANDARDS DEVELOPMENT			PROJECT NUMBER AND NAME 1857, CALIBRATION STANDARDS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E												
Remarks:												
Contractor Eng Supt (Metcal Stds)			0.250	0.222		0.248		0.295			1.015	
Government Eng Supt (MetCal Stds)			0.950	0.312		0.327		0.287			1.876	
Contractor Eng Supt (AVITS)												
Government Eng Supt (AVITS)												
Program Management Support												
Travel				0.018		0.020		0.020			0.058	
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			1.200	0.552		0.595		0.602			2.949	
Remarks:												
Total S1857 Cost			1.345	1.432		1.442		1.518			5.737	
Remarks:												

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

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

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Project 2311, Stores Planning and Weaponeering Module: The Naval Aircraft Weaponeering Components (NAWC) project, now referred to as the Weaponeering and Stores Planning (WASP) components, are integrated software products that allow pilots to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapons delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by N88 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D, D(RC), E, F, and G aircraft, and for all future aircraft T/M/S in the Joint Mission Planning System (JMPS). As a flight clearance system, WASP components will alert pilots if their planned weapon release conditions will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weaponeering capabilities are fundamental requirements for Interdiction, Armed RECCE and Close Air Support mission planning, therefore WASP product availability is critical to successful deployment of the Joint Mission Planning System (JMPS) Combat 1 OT&E for AV-8B and JMPS framework, 1.4 OT&E for F/A-18 A-G. The WASP product encompasses a multitude of Government-Off-The-Shelf (GOTS) and Commercial-Off-The Shelf (COTS) software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.), which are delivered as new targets, are identified as emergent requirements for new aircraft T/M/S, stores and weapons are approved by N88, and new flight clearances and flight restrictions are issued by NAVAIRSYSCOM.

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

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

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

Test and Evaluation (T&E) - Provide test and evaluation for unit and system level testing; functional qualification testing; safety of flight certification testing; integration and standards compliance testing for WASP versions (WASP V1.2, V2.0, V2.1 and WASP V3.0). Provide T&E support for guided weapons and Joint Munitions Effectiveness Manual (JMEM) accreditation. Provide JMPS Mission Planning Environment (MPE) Integration test support. Provide testing and test support to ensure all (to include internally developed software, externally developed GOTS components and COTS products) complies with DoN and DoD software mandates and directives. These include ISNS (IT-21), DITSCAP C&A, NMCI, DII COE, and FAM. All Fleet released software must comply with DoN and DoD software directives or will not be allowed to run on ship LANs or NMCI.

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

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

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

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

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

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

Remarks: Dollars may not add due to rounding.

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

Remarks: Dollars may not add due to rounding.

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

Remarks: Dollars may not add due to rounding.

Total Cost			67.761	10.606		10.851		10.297		Continuing	Continuing	

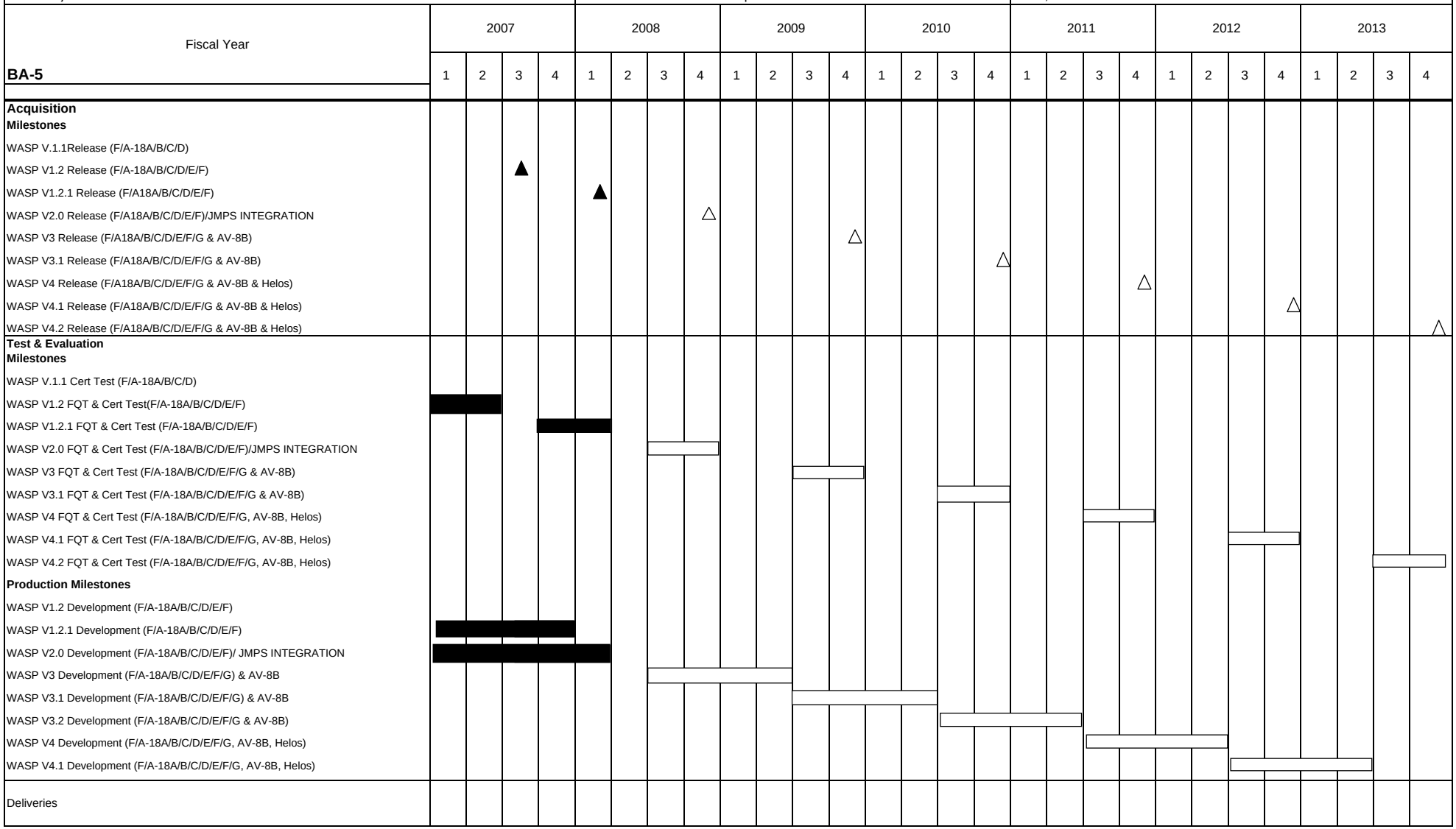
Remarks: Dollars may not add due to rounding.

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

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

PROGRAM ELEMENT NUMBER AND NAME: 0604215N Standards Development

PROJECT NUMBER AND NAME: 2311, WASP



CLASSIFICATION:

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

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

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

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Project 2312, Common Helicopters: Automated mission planning systems to date have focused on developing planning capabilities for fixed-wing aircraft, while the unique planning requirements for helicopters have not been fully addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover, etc.) manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, target zone, and threat analyses. The following type/model/series aircraft are supported by this PE: AH-1W/Z, UH-1N/Y, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. Common helicopter functionality will be developed for implementation in the Joint Mission Planning System (JMPS) after JMPS initial fielding.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

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

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

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

D. ACQUISITION STRATEGY: Not Applicable

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

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

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

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

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

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

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

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5						R-1 ITEM NOMENCLATURE 0604216N, MULTI-MISSION HELICOPTER UPGRADE		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	28.881	76.482	70.329	45.649	32.004	4.615	.673	
1707 MMH UPGRADE DEV RDT&E	28.881	76.482	70.329	45.649	32.004	4.615	.673	

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

The MH-60R primary mission areas include Anti-Submarine Warfare (ASW) and Surface Warfare (SUW). Secondary mission areas include Search and Rescue (SAR), Vertical Replenishment (VERTREP), Naval Surface Fire Support (NSFS), logistics support, personnel transport and Medical Evacuation (MEDEVAC). The MH-60R provides direct support to the Carrier Strike Group and provides Link Communications Relay (COMREL) via VHF/UHF Link-16 and Common Data Link (CDL) with the incorporation of Interface Design Specification (IDS) (SAU-07-000) full data exchange via CDL. Ku-Band will be provided to DDG-1000, CVX and LCS platforms. Aircraft Ship Integrated Secure and Traverse (ASIST) reduces manning/maintenance and operational requirements aboard DDG-1000 ships by eliminating need for hauldown capability and providing automatic movements and aircraft on deck. The MH-60R is Post-Milestone III and executing Pre-Planned Product Improvements (P3I) to Air Vehicle and Mission systems. P3I includes upgrades to communication, navigation, Identification Friend or Foe (IFF), Multi-Spectral Targeting System (MTS)/Forward Looking Infrared Radar (FLIR) to include Automatic Radar Periscope Detection and Discrimination (ARPDD), weapons, data link, safety, maintenance, airframe and mission planning systems. ARPDD funding prior to FY2008 is in PE 0604261N/4017.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	19.186	78.151	58.062
FY 2009 President's Budget:	28.881	76.482	70.329
Total Adjustments	9.695	-1.669	12.267
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.256	-1.669	
Congressional Increases			
Economic Assumptions			-0.339
Miscellaneous Adjustments	9.951	0.000	12.606
Subtotal	9.695	-1.669	12.267

Schedule: 1707

Schedule added: Multi Year Award (Lots V-IX) moved from 3Q/07 to 4Q/07.
Schedule added: Common Data Link (CDL) Deployment 4Q/11.
Schedule added: Automatic Radar Periscope Detection and Discrimination (ARPDD) IOC 4Q/12.
Schedule added: Common Data Link (CDL) Integrated Test 3Q/08-3Q/09.
Schedule added: Automatic Radar Periscope Detection and Discrimination (ARPDD) Integrated Test 3Q/10-2Q/12.

Technical:
Not Applicable

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604216N, MULTI-MISSION HELICOPTER UPGRADE			PROJECT NUMBER AND NAME 1707, MMH UPGRADE DEV RDT&E			

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1707 MMH UPGRADE DEV RDT&E	28.881	76.482	70.329	45.649	32.004	4.615	.673
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The MH-60R primary mission areas include Anti-Submarine Warfare (ASW) and Surface Warfare (SUW). Secondary mission areas include Search and Rescue (SAR), Vertical Replenishment (VERTREP), Naval Surface Fire Support (NSFS), logistics support, personnel transport and Medical Evacuation (MEDEVAC). The MH-60R provides direct support to the Carrier Strike Group and provides Link communications Relay (COMREL) via VHF/UHF Link-16 and Common Data Link (CDL) with the incorporation of Interface Design Specification (IDS) (SAU-07-000) full data exchange via CDL Ku-Band will be provided to DDG-1000, CVX and LCS platforms. Aircraft Ship Integrated Secure and Traverse (ASIST) reduces manning/maintenance and operational requirements aboard DDG-1000 ships by eliminating need for hauldown capability and providing automatic movements and aircraft on deck. The MH-60R is Post-Milestone III and executing Pre-Planned Product Improvements (P3I) to Air Vehicle and Mission systems. P3I includes upgrades to communication, navigation, Identification Friend or Foe (IFF), Multi-Spectral Targeting System (MTS)/Forward Looking Infrared Radar (FLIR), Radar to include Automatic Radar Periscope Detection and Discrimination (ARPDD), weapons, data link, safety, maintenance, airframe and mission planning systems. ARPDD funding prior to FY08 is in PE 0604261N/4017.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Avionics H/W and S/W Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	5.157	43.274	45.035
RDT&E Articles Qty			

Supports aircraft integration, problem investigation and resolution, lab management and upgrades, hardware investigations, and repairs in support of the test program. Provides for ILS support and Program Management Board Support and subvendor support. Avionics hardware and software development and integration to include: P3I/Link-16 Radar (ARPDD), Communications, GPS, Acoustics and post processing. Mission planning, MTS/FLIR, Weapons, Stores and self defense, Data fusion, and Logistics products including Integrated Electronic Technical Manuals (IETMS). ARPDD Project provides a fully automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from clutter and confusion targets. This capability is suitable for air and surface platforms.

Engineering, Integration, and Testing	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.602	1.000	1.800
RDT&E Articles Qty			

Common Data Link	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	11.818	8.240	5.000
RDT&E Articles Qty			

Avionics P3I Upgrade for the Common Data Link (CDL) and reversability between C-Band and KuBand Software design interface (SAU-07-000) provides connectivity and full data exchange with DDG-1000, LCS and CVX.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604216N, MULTI-MISSION HELICOPTER UPGRADE	1707, MMH UPGRADE DEV RDT&E

Engineering and Logistics	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.694	9.179	8.429
RDT&E Articles Qty			

Engineering specialists, integrated logistics support, Government Furnished Equipment (GFE), Systems Engineering, Program Management, Contractor Support Services, Travel as required to support the MH-60R development program and test activities.

Avionics Testing and Evaluation	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	8.610	14.789	10.065
RDT&E Articles Qty			

MH-60R Mission Avionics testing, Avionics Mission P3I testing and Evaluation efforts.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN-1 BLI: 018200	912.972	990.819	1,185.763	1,048.228	1,140.010	992.204	1,010.631	1,323.996	8,604.623
APN-6 BLI: 060510	4.247	1.354	4.268	2.349	1.453				112.179
APN-5 OSIPs 001-06, 004-11, & 009-09	4.694	24.442	25.413	34.987	44.811	45.181	50.031	287.500	517.059

Related RDT&E
0604507N Enhanced Modular Signal Processor
0604212N Other Helo Development
0604261N Acoustics Search Sensors

D. ACQUISITION STRATEGY:

Initial Operating Capability (IOC) was achieved in Dec 05 and the MSIII, Full Rate Production (FRP) decision occurred in March 2006. As the SH-60B and SH-60F reach the end of their service life, the MH-60R serves as the replacement weapon system. The MH-60R weapon system began fielding in FY2006. The mission systems include Common Cockpit, ALFS, sonobuoy launcher, COTS AP, ESM, MTS/FLIR system, MMR, ARPDD, CDL Hawklink, ISD and weapons capability.

Pre-Planned Product Improvement (P3I) upgrades will be integrated, tested, and fielded to ensure increased capabilities are provided to the Fleet User.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604216N, MULTI-MISSION HELICOPTER UPGRADE				PROJECT NUMBER AND NAME 1707, MMH UPGRADE DEV RDT&E						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
GFE	VARIOUS	VARIOUS	4.688								4.688	
Primary Hdw Dev, Airframe (SAC)	SS-CPAF	SIKORSKY A/C CORP, STRATFORD, CT	76.975	1.602	Feb 2007	1.000	Feb 2008	1.800	Feb 2009	.200	81.577	81.577
Primary Hdw Dev, Avionics (LMSI)	SS-CPAF	LOCKHEED MARTIN CORP, OWEGO, NY	679.438	5.157	Feb 2007	43.274	Mar 2008	45.035	Feb 2009	48.900	821.804	821.804
Primary Hdw Dev, Avionics CDL	SS-CPAF	HARRIS CORPORATION, MELBOURNE, FL		11.818	Dec 2006	8.240	Nov 2007	2.000	Nov 2008		22.058	22.058
Primary Hdw Dev, Avionics CDL	SS-CPIF	LOCKHEED MARTIN CORP, OWEGO, NY						3.000	Feb 2009	2.850	5.850	5.850
All Product Dev't Cost from FY93-FY06		Various	172.497								172.497	
SUBTOTAL PRODUCT DEVELOPMENT			933.598	18.577		52.514		51.835		51.950	1,108.474	

Remarks:

SUPPORT												
Government Eng Technical Services	WX	NAWCAD, PATUXENT RIVER MD	.332			2.500	Nov 2007	4.100	Nov 2008	1.500	8.432	
Government Eng Technical Services	WX	NAWCWD, CHINA LAKE CA				4.900	Nov 2007	2.200	Nov 2008	4.361	11.461	
Government Eng Technical Services	WX	VARIOUS	.839					.300	Nov 2008	2.000	3.139	
All Support Cost from FY93-FY06		Various	123.294								123.294	
SUBTOTAL SUPPORT			124.465			7.400		6.600		7.861	146.326	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	92.865	8.229	Nov 2006	13.025	Nov 2007	8.565	Nov 2008	21.130	143.813	
Oper Test & Eval	WX	COMOPTEVFOR	7.377	.381	Jan 2007	1.764	Nov 2007	1.500	Nov 2008	2.000	13.022	
All T&E Cost from FY93-FY06		Various	11.687								11.687	
SUBTOTAL TEST & EVALUATION			111.929	8.610		14.789		10.065		23.130	168.522	

Remarks: Dollars may not add due to rounding.

MANAGEMENT												
Contractor Engr Sup - ETS (NON-FFRDC)		VARIOUS	21.696	.879	Dec 2006	.879	Nov 2007	.879	Nov 2008		24.333	
Travel	WX	NAWCAD, PATUXENT RIVER MD	1.841	.815	Oct 2006	.900	Oct 2007	.950	Oct 2008		4.506	
All Management Cost from FY93-FY06		Various	9.667								9.667	
SUBTOTAL MANAGEMENT			33.204	1.694		1.779		1.829			38.506	

Remarks:

Total Cost			1,203.196	28.881		76.482		70.329		82.941	1,461.828	

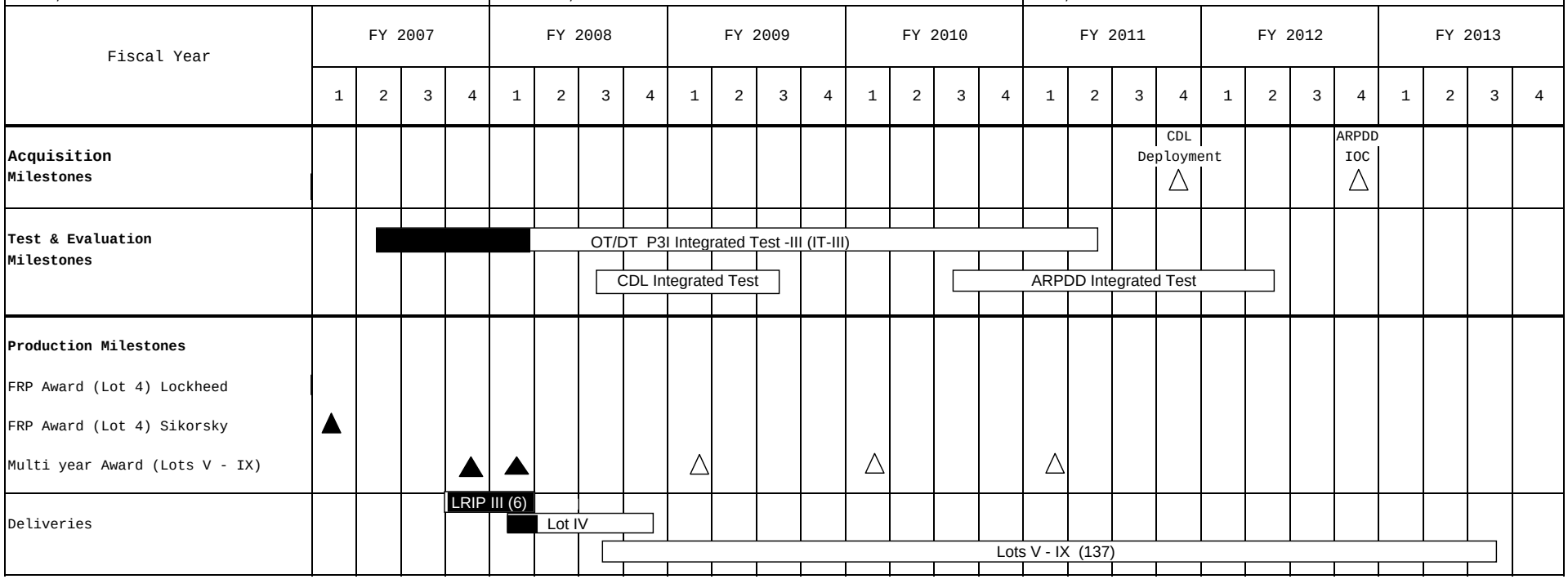
Remarks: Total cost may not add due to rounding.

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604216N, MULTI-MISSION HELICOPTER UPGRADE	1707, MMH UPGRADE DEV RDT&E



CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604216N, MULTI-MISSION HELICOPTER UPGRADE			PROJECT NUMBER AND NAME 1707, MMH UPGRADE DEV RDT&E			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Full Rate Production (Lot IV) (SAC)	1Q						
Multi-Year Award (Lots V - IX) (Lockheed/SA	4Q	1Q	1Q	1Q	1Q		
P3I Integrated Test (IT-III)	2Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 2Q		
CDL Integrated Test		3Q - 4Q	1Q - 3Q				
ARPDD Integrated Test				3Q-4Q	1Q - 4Q	1Q-2Q	
CDL Deployment					4Q		
ARPDD IOC						4Q	

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE 0604218N Air/Ocean Equipment Engineering			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**5.431**	**5.054**	**5.750**	**6.167**	**6.789**	**7.110**	**6.728**
2345 Fleet METOC Equipment	3.853	3.438	4.078	4.478	5.066	5.351	4.935
2346 METOC Sensor Engineering	1.578	1.616	1.672	1.689	1.723	1.759	1.793
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 war fighters' situational awareness of the operational effects of the physical environment are made more certain.

This budget reflects a reorganization by program/project to better support the acquisition process.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5	R-1 ITEM NOMENCLATURE 0604218N Air/Ocean Equipment Engineering

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2007	FY 2008	FY 2009
FY08/09 President's Budget	5.557	5.162	5.784
FY09 President's Submit	5.431	5.054	5.750
Total Adjustments	(0.126)	0.108	(0.034)
Summary of Adjustments			
Small Business Innovative Research (SBIR) Tax	(0.126)	(0.075)	0.000
Misc. Congressional Adjustments	0.000	(0.033)	0.000
Misc. Adjustments	0.000	0.000	(0.034)
Subtotal	(0.126)	(0.108)	(0.034)

(U) Schedule:

This budget reflects a reorganization by program/project to better support the acquisition process. Schedules are now presented separately for each program/project.

(U) Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air/Ocean Equipment Engineering				PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**3.853**	**3.438**	**4.078**	**4.478**	**5.066**	**5.351**	**4.935**
RDT&E Articles Qty							

(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), NITES Next Generation (Next), the Marine Corps Meteorological Mobile Facility Replacement (METMF(R)), METMF(R) Next Generation (NEXGEN), the Environmental Satellite Receiver Processor (ESRP) (comprised of AN/SMQ-11 (sea and shore configuration) and AN/FMQ-17 (shore configuration)) satellite data receiver/recorder. This project also exploits new government off-the-shelf (GOTS)/commercial off-the-shelf (COTS) technologies, tactical sensors 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. This project includes development of warfare specific mission planning modules to support unmanned systems with integration of data from environmental and tactical sensor systems, model forecast information and Geospatial Information & Services Databases. This project also supports development of autonomous environmental sensing systems for situational awareness and tactical decision aid/mission planner support, as well as iridium and advanced satellite communication integration in meteorological and oceanographic (METOC) sensor, vehicle control and mission planning systems that will be required to achieve full reach back capability.

This budget reflects a reorganization by program/project to better support the acquisition process.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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

Meteorlogical and Oceanographic (METOC) Future Misson Capabilities (FMC)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.445	1.079
RDT&E Articles Quantity			

FY08 - Begin technical evaluation and selection of autonomous ocean and atmospheric sensor packages; perform sensor package capability demonstration testing. Efforts formerly located in "Fleet System Engineering/TDA/Mission Planning." Develop Hazardous Weather Detection and Discplay Capability (HWDDC), and Tactical Environmental Processor (TEP) data collection and fusion systems.

FY09 - Continuation of FY08 efforts. Conduct system development and demonstration for environmental equipment to include associated engineering and support efforts. Continue development advanced tools and techniques for METOC asset allocation, METOC decision support applications and interfaces to tactical and strategic decision aids. Develop the Hazardous Weather Detection and Display Capability (HWDDC), Tactical Environmental Processor (TEP), and Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV) data collection and fusion systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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

Littoral Battlespace Sensing, Fusion and Integration (LBSF&I)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.117	0.100
RDT&E Articles Quantity			

FY08 - Develop unmanned system mission modules for forward deployed oceanographers and system operators to improve deployment effectiveness. Begin technical evaluation and selection of autonomous ocean and atmospheric sensor packages; perform sensor package capability demonstration testing. Efforts formerly located in "Fleet System Engineering/TDA/Mission Planning." Develop Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV) data collection and fusion systems.

FY09 - Complete sensor based atmospheric sensing Analysis of Alternatives (AoA) for both stationary and expeditionary applications (including application of UAV's (Unmanned Airborne Vehicle's) and airborne sensors). Complete selection of potential solutions. Complete related testing. Begin PLCCE (Program Life Cycle Cost Estimate). Develop system integration requirements, system performance specifications, and begin CDD (Capabilities Development Document) development. Begin interoperability and system security studies and identify related requirements. Complete UUV prototype development, including the launch and recovery system, the mission planning and tracking and telemetry system, the sensor system, and the shipping/storage system. Begin definition of the LBSF&I UUV Spiral 2 system. Begin development of the Increment 2 system. Conduct studies as required.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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) B. Accomplishments/Planned Program

USMC Meteorological Mobile Facility (Replacement) Next Generation (METMF(R) NEXGEN)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.554	2.374	0.600
RDT&E Articles Quantity			

FY07 - Conducted System Development (Integration) phase activities of METMF(R) NEXGEN (formerly METMF(R) NG) prototypes to include: Systems Requirement Review (SRR), Systems Functional Review (SFR), Preliminary Design Review (PDR), Critical Design Review, Design Readiness Review (DRR). Began System Development (Demonstration) phase activities. Funds realigned from the Future Meteorological and Oceanographic (METOC) Capabilities program in execution.

FY08 - Conduct verification & validation testing of METMF(R) NEXGEN (formerly METMF(R) NG) prototypes and prepare for delivery. Funds realigned from the Future Meteorological and Oceanographic (METOC) Capabilities program. Efforts formerly located in "USMC Acquisition."

FY09 - Conduct Engineering Change Proposals (ECPs) to the METMF(R) NEXGEN (formerly METMF(R) NG) prototype systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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

Naval Integrated Tactical Environmental System Next Generation (NITES-Next)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.197	1.982
RDT&E Articles Quantity			

FY08 - Engineering for Naval Integrated Tactical Environmental System Next Generation (NITES-Next) (formerly NITES NG). Efforts formerly located in "Fleet System Engineering/TDA/Mission Planning."

FY09 - Software test and integration (developed in PE 0603207N, project 2343 Tactical METOC Applications) related to equipment and infrastructure in support of system engineering activities for Naval Integrated Tactical Environmental System Next Generation (NITES-Next). Efforts include extensive integration and test efforts on infrastructure for developmental test and evaluation (DT&E) required in preparation for Milestone decision for NITES-Next. Efforts formerly located in "Fleet System Engineering/TDA/Mission Planning."

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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

Environmental Satellite Receiver Processor (ESRP)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.299	0.305	0.317
RDT&E Articles Quantity			

FY07 - Formerly "Off-the-shelf Technology/METOC in IT Enterprise Environment".

* Continued and completed software integration of new satellite sensors for Geostationary Operational Environmental Satellites (GOES) Low Rate Information Transmission (LRIT) and Alternative Study for the Next Generation mobile Met Sensors.

* Continued software integration of new Satellite Sensors for Polar Orbiting Environmental Satellite (POES) and completed technical support and analysis to determine impacts of future satellite telemetries on the ESRP systems.

FY08 - Continue software integration of new Satellite Sensors and Polar Orbiting Environmental Satellite (POES).

* Commence and complete development and integration to provide new functionality and capability to the ESRP System and provided technical support and analysis to determine impacts of future satellite telemetries on the ESRP systems.

FY09 - Continue and complete software integration of new Satellite Sensors for Polar Orbiting Environmental Satellite (POES).

* Commence Software development in support of Polar Orbiting Environmental Satellite (POES) National Preparatory Project (NPP) for Environmental Satellite Receiver Processors (ESRP).

* Commence and complete engineering research to determine prospective candidate technologies and/or products to augment the capabilities of ESRP and provided technical support and analysis to determine impacts of future satellite telemetries on the ESRP systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN 4226 METEOROLOGICAL EQUIPMENT	21.387	11.903	24.742	37.674	38.259	41.591	38.879

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

(U) D. ACQUISITION STRATEGY:

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Naval Research Laboratories (NRL) and miscellaneous contractors, with management oversight by the Program Executive Officer for Command, Control, Communications, Computers and Intelligence (PEO C4I).

(U) E. MAJOR PERFORMERS:

N/A

(U) F. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

Exhibit R-3 Cost Analysis (page 1)												DATE: February 2008
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software/Product Development	WX	NRL	9.524	1.381	N/A		N/A		N/A	CONT	CONT	
	WX	SSCs	4.204	0.590	N/A	1.151	N/A	0.750	N/A	CONT	CONT	
	CP	RAYTHEON	1.960	0.299	N/A	0.300	N/A	0.317	N/A	CONT	CONT	
	NA	MISC	13.211	1.583	N/A		N/A		N/A	CONT	CONT	
	CP	MISC			N/A	1.987	N/A	3.011	N/A	CONT	CONT	
Subtotal Software/Product Development			28.899	3.853	N/A	3.438	N/A	4.078	N/A	CONT	CONT	
Remarks:												
Systems Engineering	CP	SSA/CSC	1.312		N/A		N/A		N/A	CONT	CONT	
Subtotal Systems Engineering			1.312	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	
Remarks:												

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2008		
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	PD	OPTEVFOR	0.394		N/A		N/A		N/A	CONT	CONT	
Subtotal Developmental T & E			0.394	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	
Remarks:												
Management												
Subtotal Management			0.000	0.000		0.000		0.000				
Remarks:												
Total Cost			30.605	3.853	N/A	3.438	N/A	4.078	N/A	CONT	CONT	

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

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 - Program: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)

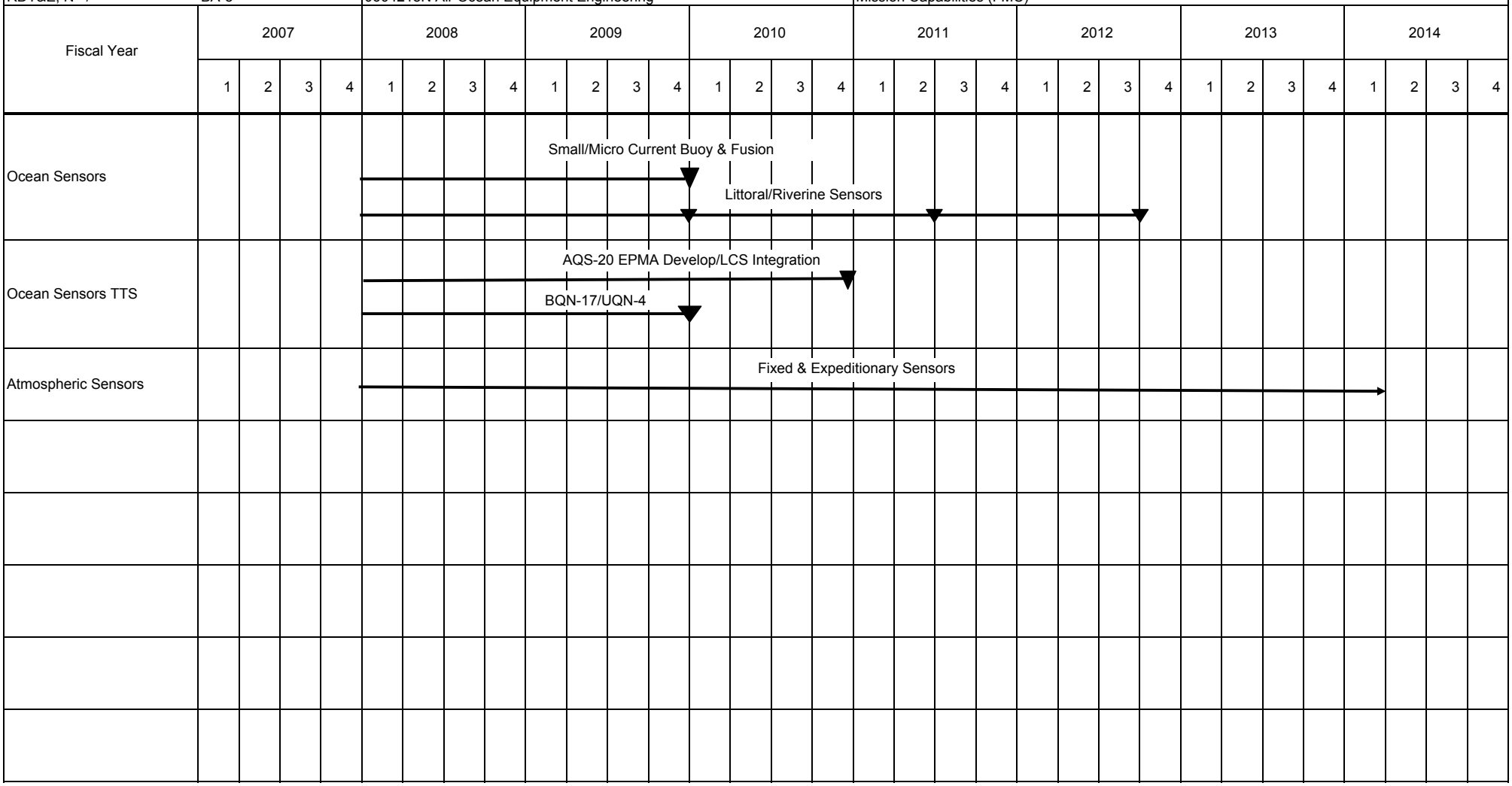


Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Ocean Sensors			4Q		2Q	3Q		
Ocean Sensors TTS			4Q	4Q				
Atmospheric Sensors								

EXHIBIT R4, Schedule Profile																															**DATE:** February 2008
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 - Program: Littoral Battlespace Sensing, Fusion and Integration															
Fiscal Year	2007				2008				2009				2010				2011				2012				2013				2014			
	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
LBSF&I UUV						SDD			←				BLK II Prototype/EDM Dev				→				→	←			BLK III Prototype/EDM				→			
								MS C								IOC				FOC		BLK II - MS C										BLK III MS - C

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: Littoral Battlespace Sensing, Fusion and Integration (LBSF&I)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
LBSF&I UUV		4Q		1Q	4Q	2Q		4Q

EXHIBIT R4, Schedule Profile			DATE: February 2008
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 - Program: USMC Meteorological Mobile Facility (Replacement) Next Generation (METMF(R) NEXGEN)	

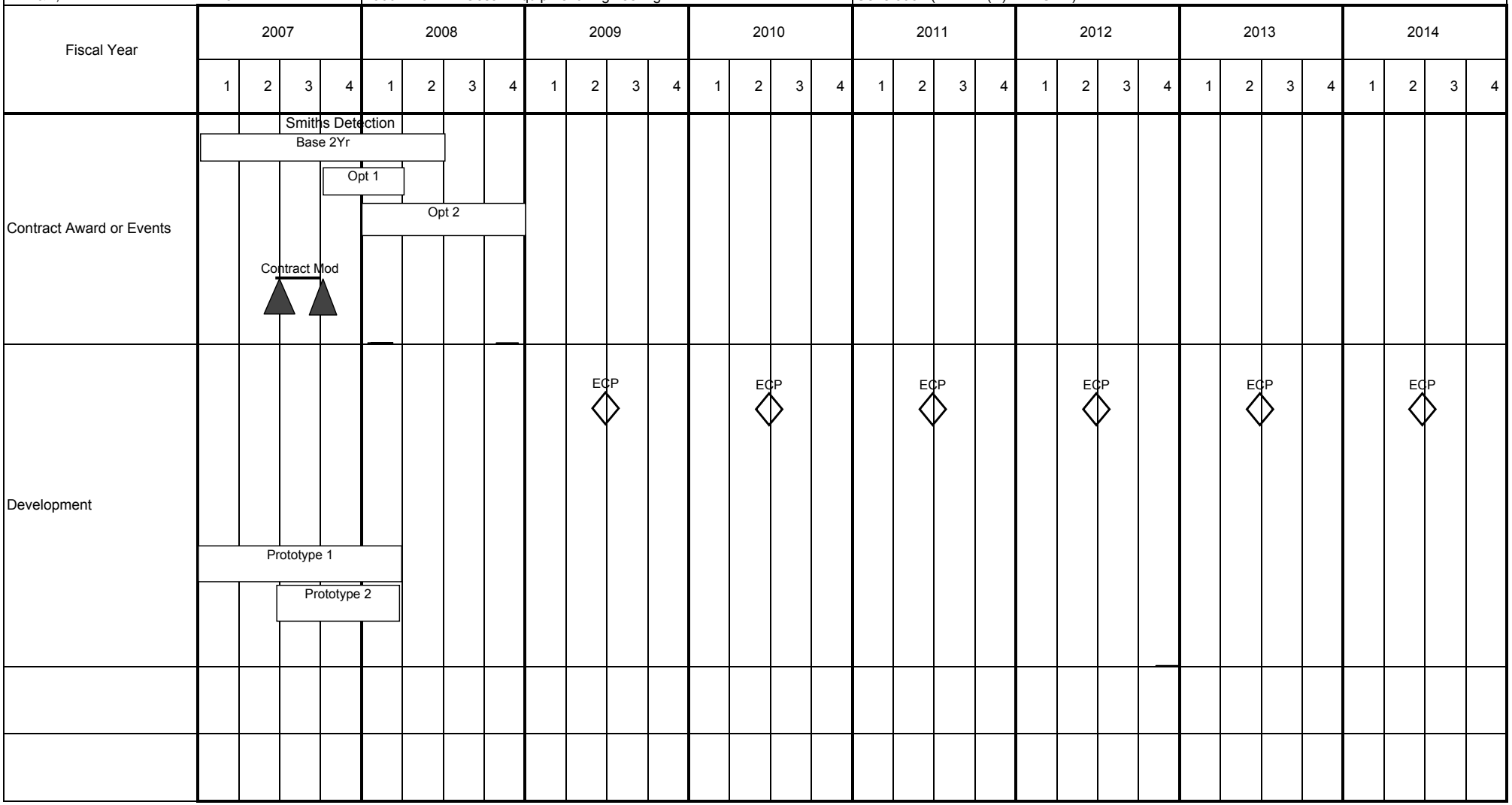


Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: USMC Meteorological Mobile				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Contract Award or Events								
Base	1Q - 4Q	1Q - 2Q						
Modification	3Q							
Option 1	4Q	1Q						
Option 2		1Q - 4Q						
Development								
Prototype 1	1Q - 4Q	1Q						
Prototype 2	3Q - 4Q	1Q						
Engineering Change Proposal (ECP)		2Q	2Q	2Q	2Q	2Q	2Q	2Q

EXHIBIT R4, Schedule Profile																															
																													DATE: February 2008			
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 - Program: Naval Integrated Tactical Environmental System Next													
Fiscal Year	2007				2008				2009				2010				2011				2012				2013				2014			
	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
Infrastructure Engineering & Development									Arch/Design Engineering																							
Development and Test (DT&E)of Netcentric Enterprise Hardware Solutions in NITES-Next										DT&E							Net-centric METOC integration								NITES-next SOA infrastructure							

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: Naval Integrated Tactical Environmental System Next Generation (NITES-Next)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Infrastructure Engineering & Development			1Q, 4Q					
Development and Test (DT&E)of Netcentric Enterprise Hardware Solutions in NITES-Next			2Q	1Q, 2Q	1Q	2Q		

EXHIBIT R4, Schedule Profile

DATE: February 2008

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 - Program: Environmental Satellite Receiver Processor (ESRP)

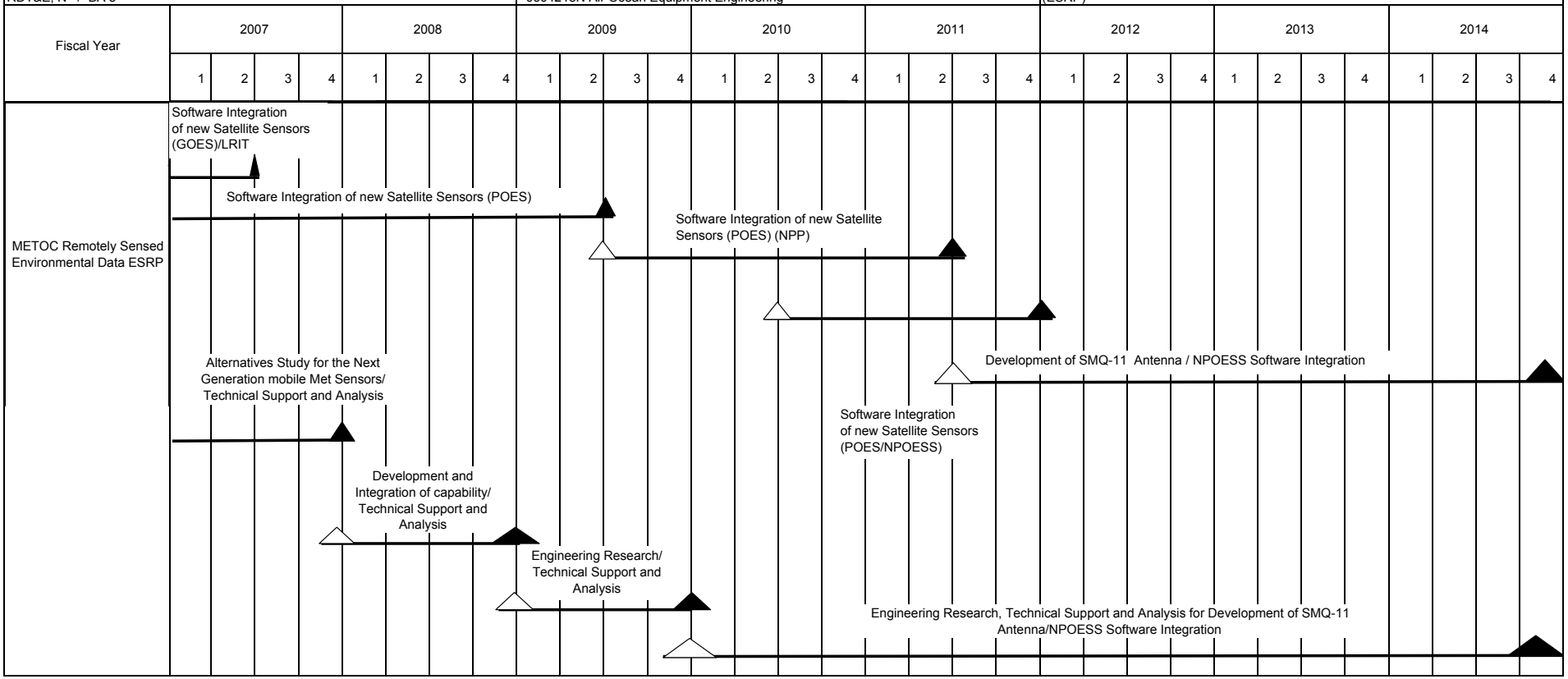


Exhibit R-4a, Schedule Detail					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment - Program: Environmental Satellite Receiver Processor (ESRP)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
METOC Remotely Sensed Environmental Data ESRP	4Q	4Q	4Q	4Q	4Q	4Q	2Q/4Q	2Q/4Q

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
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)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.578**	**1.616**	**1.672**	**1.689**	**1.723**	**1.759**	**1.793**
RDT&E Articles Qty							

(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, remote, and denied areas. The project's objectives are to engineer near-term future mission sensing capabilities that are intended 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 engineered for electronic communications transmissions, human interface displays, and inputs to predictive models.

This budget reflects a reorganization by program/project to better support the acquisition process.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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

Meteorlogical and Oceanographic (METOC) Future Mission Capabilities (FMC)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.480	1.427	1.436
RDT&E Articles Quantity			

FY07 - Developed and demonstrated sensor integration and compatibility with Network. Developed follow-on UAV Meteorological sensors using evolving technologies. Delivered initial engineering plan including Total Ownership Cost (TOC) estimates. Developed of Unmanned Underwater Vehicle (UUV) Sensor engineering plans. Flight tested air-deployed micro-sensors and delivered Final Report. Began investigating Network integration. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

FY08 - Develop Architecture and document UAV Meteorological and Oceanographic sensors using evolving technologies. Proceed with verification and validation tests of air-deployed micro-sensors and deliver Test Report. Extend strategy definition on network integration studies for insitu environmental sensor systems. Upgrade Navy buoys and expand capabilities to acquired hydrodynamic characteristics in the littoral for production center use. Develop follow-on tactical through-the-sensor oceanographic and acoustic data collection system engineering plans. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

FY09 - Continue system development and demonstration of METOC manned, unmanned and automated sensors (to include integration of environmental sensors into a larger environmental sensing strategy) Continue the development of advanced sensor system support technologies and techniques for sensor deployment, data processing and performance metrics to optimize sensor performance. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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

Tactical Oceanographic Capabilities / UnderSea Warfare (TOC/USW)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.098	0.189	0.236
RDT&E Articles Quantity			

FY07 - Delivered Technical Reports on Buoy. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

FY08 - Upgrade Navy buoys and expand capabilities to acquired hydrodynamic characteristics in the littoral for production center use. Modify existing Naval Oceanographic Office acoustic and oceanographic data collection buoys to allow them to collect geo-acoustic and seabed properties via covert, passive methods and geo-acoustic inversion techniques. Develop follow-on tactical through-the-sensor oceanographic and acoustic data collection system engineering plans. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

FY09 - Conduct Verification and Validation tests on insitu oceanographic and acoustic buoys. Deliver sensor upgrade for prototype acoustic and oceanographic data collection buoy to expand geoacoustic data collection to active methods. Continue design of an end-to-end ASW Reconstruction and Analysis (R&A) System Architecture. Test buoy at sea and deliver report. Continue modification of existing Naval Oceanographic Office acoustic and oceanographic data collection buoys to allow them to collect geo-acoustic seabed properties via covert, passive methods and geoacoustic inversion techniques to include SESSS and SRFLOS modules. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013

Not applicable

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

(U) D. ACQUISITION STRATEGY:

Acquisition and contracting strategies are to support engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement techniques for obtaining nea 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 the Program Executive Officer for Command, Control, Communications, Computers and Intelligence (PEO C4I).

(U) E. MAJOR PERFORMERS:

N/A

(U). F. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software/Product Development	WX	NRL	1.423	0.766	N/A	1.116	N/A	0.915	N/A	CONT	CONT	
	NA	MISC	8.863	0.812	N/A		N/A		N/A	CONT	CONT	
	CP	MISC			N/A	0.500	N/A	0.757	N/A	CONT	CONT	
Subtotal Software/Product Development			10.286	1.578	N/A	1.616	N/A	1.672	N/A	CONT	CONT	
Remarks:												
Systems Engineering												
Subtotal Systems Engineering			0.000	0.000		0.000		0.000				
Remarks:												

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2008
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Subtotal Developmental T & E			0.000	0.000		0.000		0.000				
Remarks:												
Management												
Subtotal Management			0.000	0.000		0.000		0.000				
Remarks:												
Total Cost			10.286	1.578	N/A	1.616	N/A	1.672	N/A	CONT	CONT	

EXHIBIT R4, Schedule Profile																																
																																DATE: February 2008
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 - Program: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)										
Fiscal Year	2007				2008				2009				2010				2011				2012				2013				2014			
	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
Atmospheric Sensors	Helicopter Temperature & Relative Humidity												Atmospheric Microsensors/Expendables																			
Oceanographic Sensors	Wave & current Buoy												Oceanographic Sensing Systems/Microsensors/Expendables																			

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2346 METOC Sensor Engineering - Program: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Atmospheric Sensors		2Q	3Q, 4Q	4Q		2Q		
Oceanographic Sensors		2Q	4Q		2Q	4Q		

EXHIBIT R4, Schedule Profile																																
																																DATE: February 2008
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 - Program: Tactical Oceanographic Capabilities / UnderSea Warfare (TOC/USW)							
Fiscal Year	2007				2008				2009				2010				2011				2012				2013				2014			
	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
Acoustic and Oceanographic Data Collection Buoys						Buoy Sea Test	▲			Follow-on Tactical TTS Demo		▲						NEXGEN Acoustic Buoy Development		▲						NEXGEN Acoustic Buoy At Sea Test		▲					

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2346 METOC Sensor Engineering - Program: Tactical Oceanographic Capabilities / UnderSea Warfare (TOC/USW)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Acoustic and Oceanographic Data Collection Buoys		3Q	4Q		4Q		Q4	

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604221N, P-3 MODERNIZATION PROGRAM		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	19.601	4.461	3.589	3.705	3.826	3.896	3.971	
1152 P-3 SENSOR INTEGRATION	16.653	3.078	1.460	1.522	1.574	1.603	1.634	
3016 FATIGUE LIFE MANAGEMENT PROGRAM	1.972	1.383	2.129	2.183	2.252	2.293	2.337	
9999 CONGRESSIONAL ADDS	.976							

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

This program provides for P-3C aircraft systems development in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21. The P-3C Sensor Integration project integrates advanced and future AntiSubmarine Warfare (ASW) and AntiSurface Warfare (ASuW) sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Analyzer Sub-Unit and System Controller Technology Insertions, "Extended Echo Ranging" (EER) family of Multi-Static active systems, Acoustic Rapid COTs Insertion (ARCI), Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. Develop interface control for ASW weapon improvement solutions. The Over the Horizon (OTH) Wideband system will provide the P-3C AIP aircraft the capability to conduct OTH Satellite communications which will allow the on-station aircraft to transmit real time sensitive acoustic intelligence data which will maximize enemy detections, tracking, and engagement opportunities.

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.

Congressional Add for Personal Digital Assistant Manintenance Application.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	17.072	8.621	3.630
FY2009 President's Budget:	19.601	4.461	3.589
Total Adjustments	2.529	-4.160	-0.041
Summary of Adjustments			
Congressional Reductions		-4.000	
Congressional Rescissions			
Congressional Undistributed Reductions		-0.031	
Congressional Increases			
Economic Assumptions			-0.013
Miscellaneous Adjustments	2.529	-0.129	-0.028
Subtotal	2.529	-4.160	-0.041

Schedule: Not Applicable

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N, P-3 MODERNIZATION PROGRAM	PROJECT NUMBER AND NAME 1152, P-3 SENSOR INTEGRATION	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
1152 P-3 SENSOR INTEGRATION	16.653	3.078	1.460	1.522	1.574	1.603	1.634	
RDT&E Articles Qty	3	3						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides for P-3C aircraft systems development in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21. The P-3C Sensor Integration project integrates advanced and future ASW and ASuW sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. The program also advances Air Acoustic Rapid COTs Insertion (ARCI) efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, COTS-based architecture. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Analyzer Sub-Unit (ASU) and System Controller (SC) Technology Insertions, "Extended Echo Ranging" (EER) family of Multi-Static active systems, Acoustic Rapid Cots Insertion (ARCI), Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. Develop interface control for ASW weapon improvement solutions. The Over the Horizon (OTH) Wideband system will provide the P-3C AIP aircraft the capability to conduct OTH Satellite communications which will allow the on-station aircraft to transmit real time sensitive acoustic intelligence data which will maximize enemy detections, tracking and engagement opportunities.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

P-3 integration of ASW and ASuW sensors/weapon systems	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	8.058		1.460
RDT&E Articles Qty			

This program provides for P-3C aircraft systems development in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21. The P-3C Sensor Integration project integrates advanced and future ASW and ASuW sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. The program also advances Air ARCI efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, COTS-based architecture. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Analyzer Sub-Unit (ASU) and System Controller (SC) Technology Insertions, "Extended Echo Ranging" (EER) family of Multi-Static active systems, Acoustic Rapid Cots Insertion (ARCI), Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. Develop interface control for ASW weapon improvement solutions.

Conduct P-3C OTH Satelitte communications	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	8.595	3.078	
RDT&E Articles Qty	3	3	

The OTH Wideband program will provide P-3C AIP aircraft the capability to conduct OTH Satelitte communications. Specifically, this program will design, develop, integrate and evaluate this capability on the P-3C AIP aircraft.

C. OTHER PROGRAM FUNDING SUMMARY:
Not Applicable

D. ACQUISITION STRATEGY:
The Air Deployable Active Receiver/Improved Extended Echo Ranging (IEER) Operational Requirements Document (Ser# 297(1)-05-97)) for 1152 was approved on 29 December 1997. The P-3 ASUW Improvement Program (AIP) ORD (Ser#355-88-94) for 2417 was approved on 30 March 1994. The Acquisition Plan (AIR-93-08A Rev 2) was approved on 30 March 1998. The ASR (AIR-ASR-26A Rev 3) was approved 29 Nov 1999 which includes Over the Horizon (OTH) Wideband system.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604221N, P-3 MODERNIZATION PROGRAM				PROJECT NUMBER AND NAME 1152, P-3 SENSOR INTEGRATION							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
PRODUCT DEVELOPMENT													
Primary Hdw Develop-LM St Paul	C-FP	LOCKHEED MARTIN CORP, ST PAUL, MN		6.678	8/07	2.000	10/07				8.678	8.678	
Systems Eng - LOCKHEED-MARTIN	SS-CPFF	LOCKHEED MARTIN CORP, MANASSAS, VA	3.732	7.834	2/07			1.382	1/09	6.364	19.312	19.312	
SUBTOTAL PRODUCT DEVELOPMENT			3.732	14.512		2.000		1.382		6.364	27.990		

Remarks:

SUPPORT													
Software Development-NAWC PAX	WX	NAWCAD, PATUXENT RIVER MD		.253	2/07						.253		
Software Development-NAWC PAX	WX	NAWCAD, PATUXENT RIVER MD	4.027								4.027		
Software Development-NAWC TSD ORLANDO	WX	NAWCTSD, ORLANDO				.060	01/08				.060		
SUBTOTAL SUPPORT			4.027	.253		.060					4.340		

Remarks:

TEST & EVALUATION													
Test Support	WX	NAWCAD, PATUXENT RIVER MD				.768	01/08				.768		
SUBTOTAL TEST & EVALUATION						.768					.768		

Remarks:

MANAGEMENT													
Contractor Eng Support	WX	SPAWARSYSCOM CHARLESTON SC		.133	5/07						.133		
Government Tech Support-SPAWAR	WX	SPAWARSYSCEN SAN DIEGO CA		.524	7/07						.524		
Goverment Eng Sup-NAWC PAX	WX	NAWCAD, PATUXENT RIVER MD				.100	01/08				.100		
Government Eng Sup-SPAWAR	WX	SPAWARSYCEN SAN DIEGO CA		.750	7/07						.750		
Goverment Tech Support	WX	NAWCAD, PATUXENT RIVER MD			2/07	.100	01/08				.100		
Logistics Support	WX	NAWCAD, PATUXENT RIVER MD				.050	01/08				.050		
Program Management Support	WX	NAWCAD, PATUXENT RIVER MD											
Travel - NAWC PAX	WX	NAWCAD, PATUXENT RIVER MD	.200	.481	10/06			.078	10/08	Continuing	Continuing		
SUBTOTAL MANAGEMENT			.200	1.888		.250		.078		Continuing	Continuing		

Remarks:

Total Cost			7.959	16.653		3.078		1.460		Continuing	Continuing		

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / 5**	PROGRAM ELEMENT NUMBER AND NAME 0604221N, P-3 MODERNIZATION PROGRAM	PROJECT NUMBER AND NAME 1152, P-3 SENSOR INTEGRATION	

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EER Multi-Static Active Sensor System Support																												
EER Fleet Technology Insertion																												
P-3 Critical Obsolesence Program Kits & Installation																												
P-3 ARCI program and Future Fleet Technology Insertion																												
OTH Wideband																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604221N, P-3 MODERNIZATION PROGRAM				PROJECT NUMBER AND NAME 1152, P-3 SENSOR INTEGRATION		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
EER Multi-Static Active Sensor System Support	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
EER Multi-Static Fleet Technology Insertion	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
P-3 Critical Obsolescence Program APN Procurement	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
P-3 ARCI and Future Fleet Technology Insertion	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
P-3 OTH Wideband	2Q-4Q	1Q-4Q					

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N, P-3 MODERNIZATION PROGRAM	PROJECT NUMBER AND NAME 3016, FATIGUE LIFE MANAGEMENT PROGRAM	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3016 FATIGUE LIFE MANAGEMENT PROGRAM	1.972	1.383	2.129	2.183	2.252	2.293	2.337	
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.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

P-3/EP-3 Fatigue Life Management	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.972	1.383	2.129
RDT&E Articles Qty - Not Applicable			

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.

C. OTHER PROGRAM FUNDING SUMMARY:
Not Applicable

D. ACQUISITION STRATEGY:
The Fatigue Life Management Program leverages off of prior work done under P-3 SLAP (2451). 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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604221N, P-3 MODERNIZATION PROGRAM				PROJECT NUMBER AND NAME 3016, FATIGUE LIFE MANAGEMENT PROGRAM						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
SYSTEMS ENGINEERING LM	C-CPIF	LOCKHEED MARTIN CORPORATION, MARIETTA, GA	1.585	1.363	2/07	1.068	1/08	1.433	1/09	6.397	11.846	11.846
SUBTOTAL PRODUCT DEVELOPMENT			1.585	1.363		1.068		1.433		6.397	11.846	

Remarks:

SUPPORT												
SUBTOTAL SUPPORT												

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

MANAGEMENT												
Government Eng Sup	WX	VARIOUS	3.261	.609	10/06	.065	1/08	.596	12/08	2.622	7.153	
Travel	WX	NAWCAD, PATUXENT RIVER MD	.183			.250	1/08	.100	12/08	.100	.633	
SUBTOTAL MANAGEMENT			3.444	.609		.315		.696		2.722	7.786	

Remarks:

Total Cost			5.029	1.972		1.383		2.129		9.119	19.632	

Remarks:

CLASSIFICATION:

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

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604221N P-3 Modernization Program	3016, FATIGUE LIFE MANAGEMENT PROGRAM

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inventory Fatigue Life Management/Sustainment																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604221N, P-3 MODERNIZATION PROGRAM				PROJECT NUMBER AND NAME 3016, FATIGUE LIFE MANAGEMENT PROGRAM		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Inventory Fatigue Life Management/Sustainment	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **0604221N, P-3 MODERNIZATION PROGRAM**				PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost	0.976							
RDT&E Articles Qty - Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	**0604221N, P-3 MODERNIZATION PROGRAM**	9999, CONGRESSIONAL ADDS

B. Accomplishments/Planned Program

9551C	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.976		
RDT&E Articles Quantity - Not Applicable			

PERSONAL DIGITAL ASSISTANT MAINTENANCE APPLICATION

The Personal Digital Assistant Maintenance Application Program (PDA MAP) will reduce paper data collection and manual data entry process associated with scheduled maintenance inspections. PDA MAP will improve effiency, increase data collection accuracy, and reduce Naval Aviation Logistics Command Management Information System (NALCOMIS) data entry time.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604230N/WARFARE SUPPORT SYSTEM**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	9.753	6.228	8.611	3.232	3.483	4.416	8.553
3140 / SEA EAGLE ACTD	0.667	0.924	0.000	0.000	2.014	2.913	7.017
3184 / Regional Maritime Awareness Capability (RMAC)	0.000	0.528	0.302	0.000	0.000	0.000	0.000
4011 / Naval Coastal Warfare Surv and C4I Sys	8.115	1.397	8.309	3.232	1.469	1.503	1.536
9999 / CONGRESSIONAL ADDS	0.971	3.379	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

The Naval Coastal Warfare (NCW) community consists of 22 Mobile Inshore Undersea Warfare (MIUW) units and 8 Harbor Defense Command (HDC) units operating Mobile Ashore Support Terminal IIIs (MAST IIIs). 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 MAST III is the C4ISR hub for the NCW Commander. MAST IIIs 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 area of responsibility (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 into 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.

Sea Eagle is an Advanced Concept Technology Demonstration (ACTD) with USN as lead service and USSOCOM as the Combatant Command sponsor. Sea Eagle will provide integrated and enhanced technologies in order to provide persistent, clandestine, and unattended monitoring of denied and sensitive maritime, littoral, and harbor areas. These sensors and systems will be deliverable by Special Operational Forces (SOF) and networked in a multi-media (sea, air, land) system of systems approach. Sea Eagle will focus on close access networking, both wireless through air and underwater, to support networked tactical sensors. The special operations warfighter will tactically emplace Sea Eagle systems to provide targeted, tactical information that complements national and theater intelligence assets to enable a layered intelligence collection strategy.

Riverine Force will integrate and employ a variety of surface and air assets, special vehicles, weapons and appropriately trained personnel. Mission assets needed to support the operational capabilities will vary widely dependant on the Host Nations involved. The Riverine Squadron will deploy with inherent, but limited, force protection capabilities .

Regional Maritime Awarness Capability (RMAC) - support GWOT by providing other USG Agencies with maritime traffic information that is not currently available. RMAC also provides enhanced regional security, saftey, economic stability and environmental protection through shared maritime domain awarness (MDA).

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
President's Budget (PB08)	2.194	2.911	1.738
Current BES/FMB08/OSD (FY08.09 Pres Bud Control)	9.753	6.228	8.611
Total Adjustments	7.559	3.317	6.873
Congressional Adjustment	1.000	3.400	
Undistributed General Reductions	-0.088	-0.083	-0.044
Execution Realignment	6.647		
MDA Augmentation			5.117
AT/FP Biometrics Realignment			1.800

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**				PROJECT NUMBER AND NAME **3140/SEA EAGLE ACTD**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.667	0.924	0.000	0.000	2.014	2.913	7.017
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

Sea Eagle is an FY05 Advanced Concept Technology Demonstration (ACTD) with USN as lead service and USSOCOM as the Combatant command sponsor. Sea Eagle will provide integrated and enhanced technologies in order to provide persistent, clandestine, and unattended monitoring of denied and sensitive maritime, littoral, and harbor areas. These sensors and systems will be deliverable by Special Operational Forces(SOF)and networked inn a multi-media (sea, air, land) system of systems approach. Sea Eagle will focus on close access networking, both wireless through air and underwater, to support networked tactical sensors. The special operations warfighter will tactically emplace SeaEagle systems to provide targeted, tactical information that complements national and theater intelligence assets to enable a layered intelligence collection strategy.

Demonstrates and transitions technologies to provide persistent, clandestine, unattended monitoring of maritime, littoral and harbor areas in a Special Operations Forces (SOF) deliverable "system of systems". These funds will be used to support technical downselect, systems integration, and demonstration for the first spiral of the Sea Eagle ACTD and for ongoing technical assessments of sensor and communication technologies for future spirals. The funds will support JohnsHopkinsUniversity Applied Physics Lab (the technical integrator for Sea Eagle), Operational Managers support and demonstration costs, and procurement and integration of components for the demonstrations. Systems will be demonstrated when a new capability can be demonstrated to allow an incremental transition strategy. USSOCOM is the CoCom/User Sponsor.

FY2007/2008 - For already demonstrated capabilities, iterate and demonstrate a second spiral with enhanced capability. Demonstrate improved networking capability. Demonstrate underwater acoustic sensors to detect and classify maritime vessels, and communicate via underwater close access network through clandestine maritime device with land based sensors and the MSC. Refine CONOPS and TTPs. Transition capabilities with military utility. Complete the Navy funded portion of the Sea Eagle ACTD.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**	PROJECT NUMBER AND NAME **3140/SEA EAGLE ACTD**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.667	0.924	0.000
RDT&E Articles Quantity	0	0	0

FY07/08 - The SEA Eagle ACTD effort supports development of technical, programmatic and contractual documentation required for analysis of technologies and downselect, procurement of residuals, and demonstration of Sea Eagle systems.

C. OTHER PROGRAM FUNDING SUMMARY:

D. ACQUISITION STRATEGY:
FY07 Technical assessments, Spiral Two technical downselect and demonstration, FY08-09 final military utility assessment.

E. MAJOR PERFORMERS:
Field Activities & Locations - Work Performed

NSWC
Demonstration Support
NSWC Panama City
SPAWAR San Diego

Contractors & Locations - Work Performed
TBD

Universities & Locations - Work Performed
JHU Applied Physics Lab
Technical assessment, systems engineering

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**				PROJECT NUMBER AND NAME **3184/Regional Maritime Awareness Capability (RMA**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	0.528	0.302	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Regional Maritime Awarness Capability (RMAC) - support GWOT by providing other USG Agencies with maritime traffic information that is not currently available. RMAC also rovides enhanced regional security, saftey, economic stability and environmental protection through shared maritime domain awarness (MDA). Capabilities include the ablity to detect, track, identify and display information on a cooperative and non-cooperative surface vessels to enable maritime security operations.

The Regional Maritime Awareness Capability (RMAC) Joint Capabilities Technology Demonstration (JCTD) is a coordinated Department of Defense (DoD) and Department of State project. The goal of the US European Command, as the Combatant Command sponsor for this JCTD, is to establish a maritime domain awareness (MDA) system that can be propagated to allied nations and is compliant with US Navy afloat and expeditionary systems. The RMAC incorporates data models that enable the US Navy to leverage data from indigenous sensors as policy and the situation dictates. The Navy is the sponsoring branch of DoD for the RMAC JCTD because of their vested interest in sensors and surveillance throughout the maritime domain. The RMAC JCTD will demonstrate and, possibly, transition a regional maritime awareness solution set, consisting of sensors and their indigenous processors, communication systems, and software. The initial application of the capability will enable friendly nations in the Gulf of Guinea region to develop maritime domain awareness in the regional waters, and share their data with each other and US government users (including the US Navy), as authorized by RMAC JCTD coalition partners. This solution set will be equally applicable to local sensor sites, national operations centers, regional coordination centers, and external users. The sensors and processors include Automated Identification System (AIS), radar, video cameras, and night vision devices. The RMAC JCTD outputs and efficiencies include: surveillance; tracking; correlation and analysis; and multi-national information sharing and collaboration capabilities. The US Navy is directly contributing approximately 17% of the total RMAC JCTD cost, as directed by OPNAV N6. The Navy funding is directed to the performing activities as outlined in the Office of the Secretary of Defense coordinated RMAC JCTD Management Plan via a program element line executed by the Program Executive Officer, Littoral and Mine Warfare's (PEO LMW) Anti-Terrorism Afloat Program Office (PMS 480).

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**	PROJECT NUMBER AND NAME **3184/Regional Maritime Awareness Capability (RMAC)**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.528	0.302
RDT&E Articles Quantity	0	0	0

FY08/09: develop an increased Maritime Domain Awareness through improved integration with interagency and international parters. Funding will provide site survey participation in Nigeria.

C. OTHER PROGRAM FUNDING SUMMARY:

D. ACQUISITION STRATEGY:
Not Applicable.

E. MAJOR PERFORMERS:
NUWC Keyport. These activities perform systems analysis and integration activities associated with site survey.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**				PROJECT NUMBER AND NAME **4011/Naval Coastal Warfare Surv and C4I Sys**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	8.115	1.397	8.309	3.232	1.469	1.503	1.536
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Naval Coastal Warfare (NCW) community is in the process of a major realignment to the Maritime Expeditionary Security Force (MESF). NCW currently consists of 20 Mobile Inshore Undersea Warfare (MIUW) units and 8 Harbor Defense Command (HDC) units operating Mobile Ashore Support Terminal IIIs (MAST IIIs). 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 - Radar Sonar Surveillance Center (RSSC) is the primary system used by the NCW MIUW Units and 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-RSSCs are: OCONUS and INCONUS Force Protection, protecting port areas, high value assets, and surveilling the near shore areas. The MAST III is the C4ISR hub for the NCW Commander. MAST IIIs deploy to support Force Protection/Force Security Officer for Commander, Amphibious Group in its Harbor Defense and Coastal Sea Control missions.

As stated in the Maritime Expeditionary Security Force(MESF) CONOPS dated 11 April 2007: The MESF organization will be established through realignment of the Naval Coastal Warfare (NCW) organizations (NCW Squadrons, Mobile Inshore Undersea Warfare Units, Inshore Boat Units, Mobile Security Squadrons, Mobile Security Detachments, Embarked Security Detachments, and Embarked Security Teams) into the MESF structure. Further realignment will result in the integration of intelligence, VBSS, and additional waterborne and security detachments to support new mission capability and provide additional NCC / JFMCC capacity. In addition to enhancing readiness of the current force, MESF will deploy adaptive force packages (AFPs) tailored for the specific missions to achieve greater efficiency and combat readiness than the current NCW force. By establishing a professional warfare community and dedicated Maritime Expeditionary Security Force capable of meeting the full range of security requirements, MESF closes a critical gap essential to full mission readiness for MSO. MESF provides a structure that establishes a single integrated maritime security force with one standard for training, certification, employment, and tactics, techniques, and procedures (TTP).

This RDT&E exhibit supports the future direction of the MESF 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. The associated developmental efforts will ultimately transition into an adaptive force package Navy Expeditionary Security System (NESS). MESF forces currently field legacy systems designed to counter more traditional military threats in a two Major Theater War scenario. Future MESF units will develop into 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.

Replacing the current GDFS software with the Tactically Integrated Sensors (TIS) software constitutes an upgrade to the MIUW-RSSC and is being executed as a separate Abbreviated Acquisition Program. The AAP will enable the deployment of a currently fielded Program Of Record (POR) combat system (AN/SQQ-34C) known as Tactically Integrated Sensors (TIS) to the MESF units. One of the key initial new sensors envisioned to be linked with this TIS system is a wide field Mid-Wave Infra-Red (MWIR) sensor that is the focus of the Improved Imaging Technology Future Naval Capability (IIT FNC).

The RDT&E exhibit also supports the initiation of the Identity Dominance System program starting in FY09. OPNAV N857 conducted the NCW CBA and MES ICD. MESF forces have a mobile security mission that requires methodologies, procedures, equipment and the communications capacity to identify individuals who represent a potential threat as a means to deter and eliminate individuals from conducting asymmetric/non-traditional attacks upon friendly forces, high value assets and coastal areas that NCW is charged with protecting. The Vessel Boarding Search and Seizure (VBSS) teams conducting Expanded Maritime Interception Operations also have a similar requirement to identify individuals. The development of a device to support identity functions is captured in the Identity Dominance System Capability Development Document (IDS CDD). IDS will be used in the following environments: aboard ship and ashore in ports, the littorals and extended inland field environments worldwide. IDS will be employed in maritime and very austere ashore environments and carried by individuals who are part of ship boarding parties and dismounted patrols. This dictates a portable, lightweight, rugged, and reliable system with intuitive and user friendly features. IDS biometric modalities may differ by mission profile, requiring the authoritative response to the On-Scene Commander on whether to detain or further investigate an individual.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**	PROJECT NUMBER AND NAME **4011/Naval Coastal Warfare Surv and C4I Sys**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	6.647	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07: Maritime Domain Awareness (MDA) - Develop a MDA capability, SECNAV efforts.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.468	1.397	3.709
RDT&E Articles Quantity	0	0	0

FY07: NCW Upgrades - Research and develop next generation NCW surveillance and C4I systems capabilities, to include new or improved Tactical Command and Control system, Electronic Systems Management, Under-Sea surveillance, Acoustic tracking of surface contacts, Data Fusion, Autonomous Sensors, Small Craft Situational Awareness/Combat ID, improved IR cameras, auto detect and track software, and improved data recording technologies. The next generation capabilities are based on the requirements in the Maritime Expeditionary Security Initial Capability Document (MES ICD).

FY08/09: Initiates the Tactically Integrated Sensors, Abbreviated Acquisition Program (TIS AAP) to modify and transition an ASW combat system software tool to the MESF Forces.

FY09: Provide system engineering and software/system integration activities with next generation C4ISR systems and sensors with a specific focus on the transition of the Improved Imaging Technology (IIT) Future Naval Capability sensor systems. The IIT FNC supports the MESF role in Maritime Domain Awareness.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.000	4.600
RDT&E Articles Quantity	0	0	0

FY09: Identity Dominance System - Program Management acquisition preparations for a Milestone B for the IDS program of record. Additional efforts will focus on the actual systems engineering and hardware/software development of the Identity Dominance System device.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN 8120 NCW (PEs 0203422N/0503372N)	10.129	13.880	13.510	15.596	16.221	17.959	18.035		
Related RDT&E:									
OPN 8128 Physical Security Equipment (PE 0208147N)	1.302	2.510	0.030	0.030	1.830	1.858	1.886		
Related RDT&E:									

D. ACQUISITION STRATEGY:

NCW - FY07 completes the last major update of the MAST system to the MAST III configuration and the MIUW-RSSC to the MIUW v4mod2 configuration. There are eight (8) MESF MAST III systems and twenty (20) MIUW-RSSC systems. The Naval Coastal Warfare systems, the Mobile Ashore Support Terminal (MAST III) and the MIUW Radar Sonar Surveillance Center (RSSC) AN/TSQ-108A(V)4 MOD 2 require the production of Engineering Change Packages (ECPs) for the purposes of technology refresh and to mitigate the impact of obsolescent components. This issue supports the development and testing of the ECP kits as well as the procurement of material of initial kits involved in testing. For the MAST III systems - AN/USC-60 baseband equipment upgrades and GCCS-M upgrades. Timeplex are no longer supported and will need to be replaced with Promina multiplexers. For the MIUW systems - The key effort in FY10 is to provide an IP connectivity path using 1) VSAT for short ops requiring quick set ups using commercial SATCOM and 2) USC-67 (triband SHF) for longer ops using MILSATCOM. This IP capability is required because Navy legacy circuits that MIUW relies on (i.e. OTCIXS, CUDIXS, Fleet Broadcast) are being ceased in FY11 and transitioning to IP circuits (i.e. DMS Proxy, Assured IP). GCCS-M upgrades from 3.x to 4.x (or Maritime Tactical Services) will be required as 3.x will not be supported after FY10.

IDS - The fundamental purpose of the IDS program is to provide the Navy and Marine Corps with an integrated and ruggedized capability to employ individual-oriented identity information in the conduct of maritime and expeditionary operations. A fieldable prototype (the Tactical Biometrics Collection and Matching System (TBCMS)) was developed by the Naval Innovation Laboratory (NaIL) and provided to operational Navy and Marine Corps units for evaluation and comment in August 2007. A market survey conducted by the NaIL concluded that no COTS or GOTS systems could meet the requirements in the IDS CDD so a development effort is deemed necessary. Since the TBCMS prototype design was assessed by SEA05 at TRL 6 the IDS program is planned to enter System Demonstration (SD) at Milestone B in September 2009, and the SD phase is planned to culminate in a Milestone C decision in September 2011. NSWCDD Dahlgren will act as the Technical Direction Agent for PMS-480 in executing the effort, and system design, fabrication, developmental testing, and logistical support preparations will be accomplished via a prime contractor to be selected during a competitive contracting process immediately following the Milestone B decision.

E. MAJOR PERFORMERS:

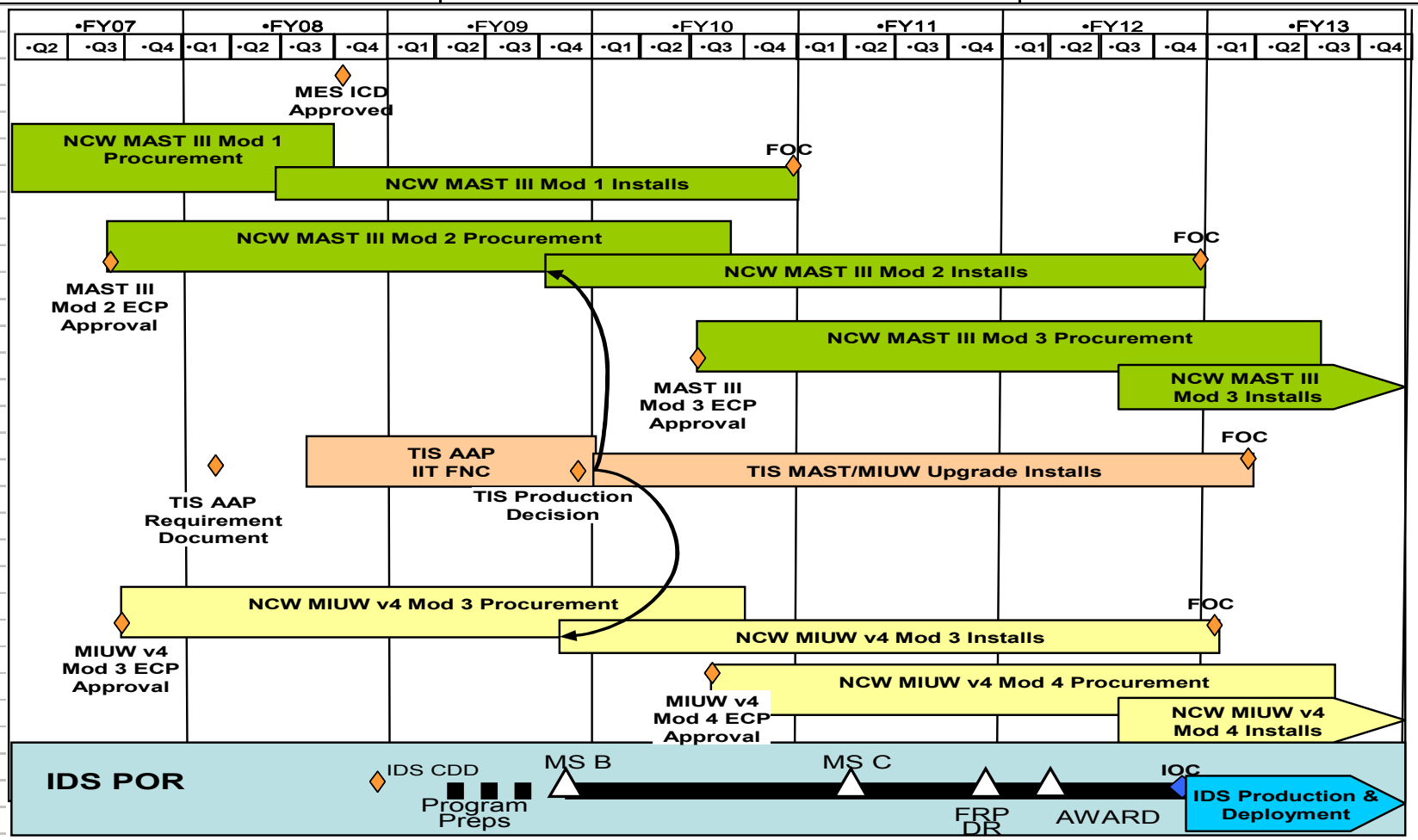
NCW: SSC San Diego and SSC Charleston are the major performers. These activities perform systems engineering analysis and integration activities associated with next generation surveillance and C41 systems with focus on integration of existing joint, service, and non-DoD systems. SSC San Diego is the primary integrator for software and COTS/GOTS equipment.

IDS: NSWC Dahlgren

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**					PROJECT NUMBER AND NAME **4011/Naval Coastal Warfare Surv and C4I Sys**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Hardware/Software Development	C/CPFF	SSC CH/SSC SD	0.100	0.000		0.000		0.000		0.000	0.100	0.000
Hardware/Software Development	WR	NSWC DAHLGREN	0.000	0.000		0.000		1.800	FEB-09	0.000	1.800	0.000
Hardware/Software Development	WR	NSWC CRANE	0.000	0.000		0.000		1.000	FEB-09	0.000	1.000	0.000
Systems Engineering	C/CPFF	SSC CH/SSC SD	0.100	0.447	OCT-06	0.000		0.000		0.000	0.547	0.000
Systems Engineering	WR	SSC CH/SSC SD	0.000	0.000		0.300	FEB-08	0.300	FEB-09	0.000	0.600	0.000
Systems Engineering	WR	NUWC KEYPORT	0.000	0.000		0.400	FEB-08	0.400	FEB-09	0.000	0.800	0.000
Systems Engineering	WR	NSMRL	0.000	0.050	APR-07	0.000		0.000		0.000	0.050	0.000
Systems Engineering	C/CPFF	SSC SD	0.000	6.647	JUN-07	0.000		0.000		0.000	6.647	0.000
Systems Engineering	WR	NSWC DAHLGREN	0.000	0.000		0.000		1.800	FEB-09	0.000	1.800	0.000
Training Develo[pment	WR	SSC CH/SSC SD	0.000	0.201	OCT-06	0.100	FEB-08	0.100	FEB-09	0.000	0.401	0.000
Test Integration	WR	NUWC KEYPORT	0.149	0.670	JAN-07	0.000		0.000		0.000	0.819	0.000
Test Integration	WR	NSWC CRANE	0.000	0.000		0.000		0.500	FEB-09	0.000	0.500	0.000
Subtotal Product Development			**0.349**	**8.015**		**0.800**		**5.900**		**0.000**	**15.064**	**0.000**
Remarks:												
Technical Data	WR	SSC CH/SSC SD	0.000	0.100	OCT-06	0.100	FEB-08	0.100	FEB-09	0.000	0.300	0.000
Technical Data	WR	NSWC CRANE	0.000	0.000		0.000		0.250	FEB-09	0.000	0.250	0.000
Technical Data	WR	NUWC KEYPORT	0.000	0.000		0.150	FEB-08	0.150	FEB-09	0.000	0.300	0.000
Technical Data	MIPR	Coast Guard	0.175	0.000		0.000		0.000		0.000	0.175	0.000
Test Planning	WR	NUWC KEYPORT	0.000	0.000		0.000		0.100	FEB-09	0.000	0.100	0.000
Test Planning	WR	NSWC CRANE	0.000	0.000		0.000		0.250	FEB-09	0.000	0.250	0.000
Test Planning	WR	SSC CH/SSC SD	0.000	0.000		0.100	FEB-08	0.100	FEB-09	0.000	0.200	0.000
Subtotal Support Costs			**0.175**	**0.100**		**0.350**		**0.950**		**0.000**	**1.575**	**0.000**
Remarks:												
Program Management Support	WR	SSC CH/SSC SD	0.000	0.000		0.044	OCT-07	0.032	OCT-08	0.000	0.076	0.000
Program Management Support	WR	NUWC KEYPORT	0.000	0.000		0.131	FEB-08	0.100	FEB-09	0.000	0.231	0.000
Program Management Support	WR	NSWC DAHLGREN	0.000	0.000		0.000		1.000	FEB-09	0.000	1.000	0.000
Program Management Support	WR	NSWC CRANE	0.000	0.000		0.047	FEB-08	0.302	FEB-09	0.000	0.349	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**					PROJECT NUMBER AND NAME **4011/Naval Coastal Warfare Surv and C4I Sys**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Travel	Various	Various	0.000	0.000		0.025	OCT-07	0.025	OCT-08	0.000	0.050	0.000
Subtotal Management Services			**0.000**	**0.000**		**0.247**		**1.459**		**0.000**	**1.706**	**0.000**
Remarks:												
Total Cost			**0.524**	**8.115**		**1.397**		**8.309**		**0.000**	**18.345**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**	PROJECT NUMBER AND NAME **4011/Naval Coastal Warfare Surv and C4I Sys**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**			PROJECT NUMBER AND NAME **4011/Naval Coastal Warfare Surv and C4I Sys**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MES ICD			4TH QTR				
MAST III MOD 1 INITIAL INSTALLS		3RD-4TH	1ST-4TH	1ST-4TH			
MAST III MOD 1 FOC				4TH QTR			
MAST III MOD 2 ECP APPROVAL	3RD QTR						
MAST III MOD 2 INITIAL INSTALLS			3RD-4TH	1ST-4TH	1ST-4TH	1ST-4TH	
MAST III MOD 2 ECP FOC						4TH QTR	
MAST III MOD 3 ECP APPROVAL				3RD QTR			
MAST III MOD 3 INITIAL INSTALLS						3RD-4TH	1ST-4TH
MIUW v4 MOD 3 ECP APPROVAL				3RD QTR			
MIUW v4 MOD 3 ECP INITIAL INSTALLS			4TH QTR	1ST-4TH	1ST-4TH	1ST-4TH	1ST QTR
MIUW v4 MOD 3 ECP FOC							1ST QTR
MIUW v4 ECP APPROVAL				3RD QTR			
MIUW v4 MOD 4 INITIAL INSTALLS						4TH QTR	1ST-4TH
TIS AAP OPNAV REQUIREMENT DOCUMENT		1ST QTR					
TIS AAP PRODUCTION DECISION			4TH QTR				
TIS AAP FOC							1ST QTR
IDS CDD		4TH QTR					
MILESTONE B			4TH QTR				
MILESTONE C					2ND QTR		
FRP DR					4TH QTR		
IDS RFP						2ND QTR	
IDS IOC						4TH QTR	

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604230N/WARFARE SUPPORT SYSTEM**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
9A09N Advanced Composite Riverine Craft	0.971	0.000	0.000
RDT&E Articles Quantity	0	0	0

* Concept trade study and material selections
* Design/fabricate demonstration hull section and test articles
* Validation test data for protection concepts
* Demonstration test reports

	FY 2007	FY 2008	FY 2009
9999 - Agent Based Expeditionary Security System	0.000	0.795	0.000
RDT&E Articles Quantity	0	0	0

	FY 2007	FY 2008	FY 2009
9999 - Wireless Imaging and Sensor Network	0.000	0.994	0.000
RDT&E Articles Quantity	0	0	0

	FY 2007	FY 2008	FY 2009
9999 - Distributed Detection Classification	0.000	1.590	0.000
RDT&E Articles Quantity	0	0	0

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**			R-1 ITEM NOMENCLATURE 0604231N - TACTICAL COMMAND SYSTEM				
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY2012	FY 2013
Total PE Cost	61.747	87.577	128.742	73.215	62.941	64.889	65.327
2213 MISSION PLANNING	21.353	29.725	18.849	11.723	4.159	7.155	7.261
0486 TACTICAL/MOBILE (TACMOBILE) SYSTEMS	1.368	3.694	8.943	5.129	3.896	2.543	2.591
0521 SHIPBOARD TACTICAL INTEL/GCCS-M INTELLIGENCE APPLICATIONS	1.134	3.717	3.813	3.861	3.931	4.009	4.087
0709 GCCS-M MARITIME APPLICATIONS	6.561	21.282	20.800	19.494	17.229	16.762	17.043
2009 TRUSTED INFORMATION SYSTEMS JOINT CROSS DOMAIN EXCHANGE (JCDX) RADIANT MERCURY (RM)	1.684	0.510	1.087	1.309	1.394	1.179	1.410
2305 GCCS-M COMMON APPLICATIONS	7.207	5.620	0.000	0.000	0.000	0.000	0.000
2307 SHIPBOARD LAN/WAN/INTEGRATED SHIPBOARD NETWORK SYSTEM	6.582	6.319	11.354	10.685	11.737	6.226	6.204
3032 NTCSS ENTERPRISE DATABASE AND MLDN	0.045	0.052	0.050	0.050	0.051	0.052	0.053
9123 FORCEnet	14.842	14.174	63.846	20.964	20.544	26.963	26.678
9999 CONGRESSIONAL INCREASES	0.971	2.484	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.

Global Command and Control System - Maritime (GCCS-M): A major component of the TCS is the GCCS-M. GCCS-M is the Navy's fielded Command and Control system, a key component of the FORCEnet Command, Control, Communications, Computers, Intelligence and Reconnaissance (C4ISR) 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 Command, Control, Communications, Computers and Intelligence (C4I) capabilities for GCCS-M Afloat and GCCS-M Ashore Tactical/Mobile and Trusted Information Systems (TIS) users. GCCS-M current phase includes continued usage of the Common Operating Environment (COE), 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 Universal Network Information Exchange (UNIX)/personal computer (PC)/commercial-off -the-shelf (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.

Tactical/Mobile (TacMobile) Systems: The TacMobile program provides evolutionary systems and equipment upgrades to support Maritime Surveillance 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, anti-submarine warfare, mining, search and rescue, and special operations. The missions are supported by the Tactical Support Centers (TSCs), the Mobile Operations Control Centers (MOCCs), the Joint Mobile Ashore Support Terminals (JMASTs), and their equivalents. 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.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0604231N - TACTICAL COMMAND SYSTEM

Trusted Information Systems (TIS): Trusted Information Systems (TIS) is a combination of the Joint Cross Domain eXchange (JCDX) system and Radiant Mercury (RM), incorporating Multi-Level Security (MLS) web technologies and Multiple Levels of Security technologies in order to successfully provide accredited Cross Domain Solutions (CDS). Provides the core on-line, automated, near-real time, multi-level secure, information analysis, dissemination, and receipt capabilities that enable Combatant Commanders 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. JCDX 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. JCDX is a certified, accredited, operational, Multi-Level Secure (MLS), Command, Control, Communications, Computers & Intelligence (C4I) system providing analysis and correlation of near-real time, all source intelligence information. Radiant Mercury provides an automated means to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments and releasabilities. With the aid of a reliable human reviewer, RM can process nonstandard messages, such as messages with National Imagery Transmission Format (NITF) products and other non/semi-formatted file types.

Shipboard Local Area Network (LAN)/Wide Area Network (WAN) : Integrated Shipboard Network System (ISNS): The Integrated Shipboard Network Systems (ISNS) provides Navy ships with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LANs), providing the network infrastructure (switches and drops to the PC), Basic Network Information Distribution Services (BNIDS) and access to the Defense Information Security Network (DISN) Wide Area Network (WAN), Secure and Nonsecure Internet Protocol Router Network (SIPRNET and NIPRNET) which are used by other hosted applications or systems such as Naval Tactical Command Support System (NTCSS), Global Command and Control System - Maritime (GCCS-M), Defense Messaging System (DMS), Navy Standard Integrated Personnel System (NSIPS), Navy/Marine Corps Portal (NMCP), Naval Mission Planning System (NAVMPS), Theater Battle Management Core Systems (TBMCS), and Tactical Tomahawk Weapons Control System (TTWCS). It enables real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders, and is a key factor in the implementation of the Navy's portion of Joint Vision 2020. Funding supports the design, development, and testing of the ISNS LAN for surface ships. ISNS includes integrated core services to provide a Service Oriented Architecture (SOA) which is the mechanism to deliver the FORCEnet interface to the warfighter. The SOA provides a composeable warfighting environment enabling dynamic configuration of capabilities tailored to meet specific warfighting missions. As the warfighting mission changes, the capabilities or services can be re-configured on the fly to meet the new warfighting requirement. This dynamic reconfiguration of services also knowr as "plug and fight" meets the composeable services vision of FORCEnet. SOA also provides the common core enterprise services and framework to allow organizations ubiquitous access to reliable, decision-quality information through a net-based services infrastructure and applications to bridge real-time and near-real-time Communities Of Interest (COI). The SOA will empower the end user to pull information from any available source, with minimal latency, to support the mission. Its capabilities will allow Department of the Navy as well as Global Information Grid (GIG) users to task, post, process, use, store, manage, and protect information resources on demand for warfighters, policy makers, and support personnel. SOA will utilize a spiral process fo delivering capability to the warfighter. The ISNS Inc 1, Sensitive Compartmented Information (SCI) Networks and Combined Enterprise Regional Information Exchange System (CENTRIXS) programs will begin migrating to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Service Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).

Combined Enterprise Regional Information Exchange System (CENTRIXS): The CENTRIXS program provides US Navy ships with secure, reliable, high-speed Local Area Network (LAN) with access to the Coalition Wide Area Network (WAN) to include CENTRIXS Four-Eyes (CFE), Global Counter Terrorism Task Force (GCTF), North Atlantic Treaty Organization (NATO) Information Data Transfer System (NIDTS), Multinational Coalition Force - Iraq (MCFI), bilateral networks such as CENTRIXS-J (Japan) and CENTRIXS-K (Korea), and Communities Of Interest (COI) virtual networks such as Coalition Naval Forces - U.S. Central Command (CENTCOM) (CNFC), and Cooperative Maritime Forces - Pacific (CMFP). The CENTRIXS system provides real-time tactical and operational information sharing at the SECRET and SECRET REL (Releasable) level between naval afloat units, Component Commanders, Fleet Commanders, Numbered Fleet Commanders and Coalition Forces/Allies. When the CENTRIXS network is combined with other subsystems (Radio/Satellite Communications), it delivers an end-to-end network centric warfighting capability. The CENTRIXS program is comprised of Block 0, I, and II systems fielded across the Fleet, and Increment 1 which provides a network infrastructure that allows simultaneous access to multiple Coalition Wide Area Networks (WAN) and incorporates the Common PC Operating System Environment (COMPOSE) which provides a server and client operating system environment for other applications and collaborative tools such as Same time Chat, Domino and Command and Control PC (C2PC) as means to share a Common Operational Picture (COP) and exchange information using Collaboration At Sea (CAS). The CENTRIXS program uses both Commercial Off The Shelf (COTS) hardware and software and Open Standards to maximize commercial technology and support. In-service engineering and technical support ensures existing systems are upgraded and modified to keep pace with current technology and industry.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0604231N - Tactical Command System

CENTRIXS Funding supports the design, development and testing of the CENTRIXS LAN for surface and subsurface platforms and the CENTRIXS Network Operations Center (NOC). The goal of the CENTRIXS program is to provide a cost-efficient, operationally effective network that dramatically reduces current infrastructure requirements while maximizing operational flexibility and war fighter utility in a coalition environment. Multi-Level Thin Client (MLTC) architecture support shipboard Space, Weight and Power (SWAP) reductions and include initiatives for server virtualization (ability to run multiple servers on a single server), drop scalability leveraging existing SIPRNET drops, remote authentication and remote system management. Additionally funding will provide design, development and testing for a Unit Level MLTC system (provides a compressed shipboard rack/client footprint) and initiatives to include Language Translation, Communities Of Interest (COI) and Network Enclave Agility (ability to dynamically shift between all coalition networks and COIs) and Multi-Level Chat (a Cross Domain Solution (CDS) chat capability). The (CENTRIXS) program will start migrating to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Service Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).

Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines with reliable, high-speed Mission Critical SECRET and Mission Essential UNCLASSIFIED Local Area Networks (LANs). When the SubLAN network is combined with other subsystems, it will deliver an end to end network-centric warfare capability. The SubLAN program provides network infrastructure including an Unclassified Wireless Local Area Network (UWLAN), servers, and the Common Personal Computer Operating System Environment (COMPOSE), which provides the server and operating system environment for other applications such as Non-Tactical Data Processing System (NTDPS) and Navy/Marine Corps Portal (NMCP). Funding supports the design, development, and testing of SubLAN for addition of capabilities in support of migration to the Consolidated Afloat Network Enterprise Services (CANES) program effort.

Navy Tactical Command Support System (NTCSS) Enterprise Database and Maritime Logistics Data Network (MLDN): Funding supports design, development and testing of two components of the 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: Initiative's mission is to (a) accelerate the transformation to a Distributed, Networked force; (b) provide Governance/Compliance based on Architectures and Standards; and (c) Experiment with, evaluate and employ the enabling technologies. Effort is a non-acquisition program that is the operational instantiation of FORCEnet. The end-state is a distributed network of weapons, sensors, C2, platforms and warriors.

Maritime Domain Awareness (MDA): Maritime Domain Awareness is the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy or environment. MDA objectives include the persistent monitoring of and ability to access and maintain data on vessels, cargo, people, and infrastructure; and the ability to collect, fuse, analyze, and disseminate information to decision makers to facilitate effective understanding. This initiative will identify, develop and transition data fusion and mining, replication, sharing and assessment tools to achieve MDA. This warfighting enhancement is designed to achieve an all-source MDA capability, leveraging existing MDA initiatives in the developmental phase and ensuring the best products transition to strategic, operational and tactical users as well as further development of MDA prototypes. The products will support all-source data fusion, replication of MDA related data gathered in various operations such as expanded-maritime interdiction operations (E-MIO), sharing information with allies, and developing subject matter expertise and assessment tools to achieve MDA and enhance operational decision making.

Mission Planning: The goal of the Naval Mission Planning System (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) provide 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 United States Navy (USN), United States Air Force (USAF), United States Army (USA), and United States Special Operations Command (USSOCOM) 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.

Congressional Increases: FY07 includes: Congressional increases for Logistics Common Operating Picture (LOGCOP). FY08 includes: Congressional Increase for Mission Planning Distributed Multi-Platform Sensor Support System.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAᵛBA-5**	R-1 ITEM NOMENCLATURE 0604231N - Tactical Command System

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2007	FY 2008	FY 2009
FY08/09 President's Budget	56.406	86.921	79.714
FY09 President's Submit	61.747	87.577	128.742
Total Adjustments	5.341	0.656	49.028
Summary of Adjustments			
Small Business Innovation Research (SBIR) Tax	-0.820	-1.191	
Congressional Adjustments		-0.583	
Miscellaneous Adjustments	6.161	2.430	5.528
Maritime Domain Awareness (MDA) Initiatives			43.500
Subtotal	5.341	0.656	49.028

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0604231N - Tactical Command System

(U) B. PROGRAM CHANGE SUMMARY (Continued):

(U) Schedule:

TACTICAL/MOBILE (TACMOBILE) SYSTEMS (Project 0486)

Acquisition strategy is being revised to reflect a tech refresh in lieu of increment 2B.

Schedule: Acquisition Milestones from JMPS V1.5 became JMPS V1.4 to align with established Air Force naming conventions in FY06 with OTRR scheduled for 4Q FY09. JMPS V 1.2.4 FQT, System Test, OTRR, OT, and IOC efforts experienced a one year schedule slip due to critical performance parameters that were addressed and verified prior to operational fielding.
JMPS V1.4 is being procured under a shared development contract with the USAF. JMPS 1.4 will be divided into four future builds JMPS V1.4.1 through V1.4.4.
JMPS V1.4 FQT moved from 3Q FY09 to 4Q FY08, and System Test was moved from 4Q FY09 and 1Q - 4Q FY10 to 1Q-4Q FY09 to meet the anticipated schedule for analysis of FQT and System Testing prior to Operational Readiness. JMPS V1.4 OTRR was added in order to perform OT, and IOC.

GENERAL INFORMATION

TEST AND EVALUATION MILESTONES
Mission Planning Environment (MPE). MPE System Test and Integration/Validation is an ongoing effort throughout the FYDP. This process is aircraft/platform dependent.

PRODUCTION MILESTONES
JMPS V1.2.3 MPE (V-22 & P-3) IOC: 2Q FY07

CENTRIXS (Project 2307)

Program schedule has been modified to reflect shift in Full Rate Production (FRP) from March, 2009 (2Q FY09) to August, 2009 (4Q FY09) for Increment 1 Force Level (FL) & February, 2010 (2Q FY10) for Increment I Unit Level (UL).

ISNS (Project 2307)

The ISNS program schedule has been updated to align with the new master schedule. Changes include the acceleration of the Fielding Decision (FD) for ISNS' variants A(V)1 and A(V)2 from 2QFY08 to 1QFY07. In addition, there was a slip of the Increment 1Wireless/COMPOSE 3.5 DT/OT from 4QFY08 to 2QFY09, and Fielding Decision milestones were added for C(V)X in 2QFY08 and for Inc1/Wireless in 3QFY09. Full Rate Production (FRP) milestones were added for SOA, Increment 1/Wireless COMPOSE 3.5, and Increment 2/CANES. The COMPOSE software delivery schedule was also updated.

FORCEnet / Maritime Domain Awareness (MDA) (Project 9123)

Program schedule has been modified to reflect increase in FY09 funds.

(U) Technical: Not applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**	
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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**21.353**	**29.725**	**18.849**	**11.723**	**4.159**	**7.155**	**7.261**
RDT&E Articles Qty Not Applicable							

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 conduct post-mission analysis of recorded data. JMPS is a 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 Joint Technical Architecture (JTA) compliant Windows 2000/XP framework, a mission-planning infrastructure of basic databases, management tools, and framework services, as well as common mission planning components. An individual JMPS mission-planning environment (MPE) is a combination of the JMPS framework, common capabilities, and the necessary system hardware required to satisfy mission planning objectives.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

JMPS Version 1.2.3/1.2.4	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	4.647	2.910	
RDT&E Articles Quantity			

JMPS Version 1.2.3 efforts, DOD/CIO mandate for IPV6 with the migration to XP operating system . JMPS Version 1.2.4 efforts: development of common helo tool sets and navigation functionality and common helo transfer device. Future framework and MPE efforts will be developed in Framework 1.4.

JMPS Expeditionary (JMPS-E)	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost		2.329	1.688
RDT&E Articles Quantity			

JMPS Expeditionary (JMPS-E): The goal of the JMPS-E team is to produce a scaleable, tailorable, mission planning environment for both staff and operational levels and an execution-monitoring tool. The primary focus of this capability is the planning and execution of expeditionary ship-to-shore movements. The variety of forces involved in an expeditionary operation amplifies the need for web-based technologies to enable collaborative planning, improve overall situational awareness and enable the monitoring of mission execution from different locations. A staff level planner capability is needed to collaborate and share information in a distributive environment to speed the planning process, provide concurrent planning, and track execution of plans. A tailored operational-level mission planner is needed to plan and analyze expeditionary missions for aircraft, amphibious, naval, and other support craft under various mission configurations and operational threat environments. The primary outputs are tasking orders, course of actions (COAs), route plans, and mission briefs in digital and printed forms. Execution-monitoring tools are required to minimize exposure during ship-to-shore and other force movements. This capability will be initially fielded using Framework Version 1.2.3.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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 (Cont.)

Framework V1.4	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	5.996	12.505	5.937
RDT&E Articles Quantity			

Framework Version 1.4 is scheduled for contract award in 2007. Previous funding constraints prohibited the current Navy MPEs from migrating to FW Version 1.3 with the AF MPEs. The increase in funding for FW 1.4 will be used to support the Navy's Developmental Test/Operational Test (DT/OT) , integration and systems of systems testing of MPEs to capture planned common capabilities. Migration to a .net environment in framework versions 1.3 & 1.4 will enable interoperability improvements through utilization of the service-oriented architecture (SOA) and supported by the Global Information Grid-Enterprise Services (GIG-ES). Additional common capabilities will also include Dynamic replanning and retargeting efforts.

MPE Integration and Test	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	10.710	11.980	11.223
RDT&E Articles Quantity			

Mission Planning Environment (MPE) Integration and Test efforts support the Navy's DT/OT, integration and system of system testing for MPE fielding. Efforts consist of integration components provided by various developers into a platform-centric MPE and testing of the integrated MPE. MPE integration and testing results in a consistent and repeatable system configuration that enables stability and reliability.

Common Capabilities	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost		0.001	0.001
RDT&E Articles Quantity			

Common Capabilities (CC) software augments core mission planning capabilities with capabilities common across multiple aircraft. CC will be developed as common software tools to automate mission planning in the air warfare, expeditionary operations and maritime environments. Requirements for CC include: Mission Rehearsal, Collaboration, Query and Process Imagery, Intel, Communications Planning, Asset Management, Anti-Submarine Warfare (ASW), etc. Continue component development, full documentation, and component installation.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2213 Mission Planning

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 287600 TAC A/C Mission Planning Systems (OPN)	8.121	8.757	9.512	9.151	9.506	9.669	9.611	Continuing	Continuing
PE 0208006F Air Force Mission Planning Support System (total)	129.259	105.371	99.028	99.213	99.964	101.896	103.967	Continuing	Continuing

D. ACQUISITION STRATEGY:

Engineering Manufacturing Development (EMD) efforts. The strategy entails a two-phased evolutionary approach to acquire the initial JMPS development effort. Phase I was a combined USAF/USN effort that obtained various studies, extensive joint requirements analysis, design to cost estimates, an architecture concept, and development statement of work. The Program's Phase I was planned to identify reduced costs strategies through software reuse from both USN Tactical Automated Mission Planning Systems (TAMPS) and USAF Air Force Mission Support Systems (AFMSS) legacy mission planning programs. Additionally, this phase provided a risk reduction plan by identifying the most effective migration of existing mission planning systems. Phase I was awarded to two contractors, Post Phase I during the down select process, one contractor was selected to develop the JMPS architecture work and Version 1.0 basic flight planning components. Phase II focused on strike planning requirements (i.e., support Precision Guided Missions and other tactical data load intensive missions) in order to migrate platforms from legacy mission planning systems to JMPS. The USAF continued development of JMPS Version 1.3 and has contractual control of the program which is facilitated via a Mission Planning Enterprise Contract (MPEC). The USN continued limited development in JMPS Version 1.2 which is focused on helicopter platform migrations. USN integration and fielding strategy changed to support a Mission Planning Environment (MPE) focus, where framework and common components are integrated as bundled packaged and fielded by airwings. The completion of Phase II is targeted for JMPS Version 1.4, which focuses on migration to a .net architecture and rejoins the multi-service enterprise to reduce costs through co-development. JMPS 1.4 will be divided into four builds, numbered 1.4.1 through 1.4.4. As platforms plan their migration to JMPS, the acquisition strategy, plan, and baseline will be updated in order to drive the retirement of legacy mission planning systems.

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Software Development/CC	MIPR	USAF, Hanscom AFB, MA				0.001	Dec-07	0.001	Dec-08	Continuing	Continuing	
Primary Software Development/FW	MIPR	USAF, Hanscom AFB, MA		6.806	Dec-06	10.334	Dec-07	3.979	Dec-08	Continuing	Continuing	
Primary Software Development/ JMPS-E	MIPR	USAF, Hanscom AFB, MA				2.365	Dec-07	1.356	Dec-08	Continuing	Continuing	
Primary Software Development	SS/CPIF	Northorp Grumman, VA	68.091								68.091	68.091
Primary Software Development	VARIOUS	VARIOUS		3.426	Dec-06	4.365	Dec-07	1.380	Dec-08	Continuing	Continuing	
		FY99-06	15.791								15.791	
Subtotal Product Development			83.882	10.232		17.065		6.716		Continuing	Continuing	
Remarks:												
SUPPORT												
Integrated Logistics Support	WX	SPAWAR, Phila, PA	8.815	0.850		0.873		0.900		Continuing	Continuing	
Subtotal Support			8.815	0.850		0.873		0.900		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TEST & EVALUATION												
Syst Eng Integration & Test	WX	NAWCWD, Pt. Mugu, CA	11.652	8.837	Dec-06	9.521	Dec-07	8.884	Dec-08	Continuing	Continuing	
Test & Evaluation	WX	COTF, Norfolk, VA		0.147	Jan-07	0.110	Jan-08	0.100	Jan-09	Continuing	Continuing	
Subtotal T&E			11.652	8.984		9.631		8.984		Continuing	Continuing	
Remarks:												
MANAGEMENT												
Program Management Support	WX	NAWCAD, Pax River, MD	21.852	1.287	Dec-06	2.156	Dec-07	2.249	Dec-08	Continuing	Continuing	
Subtotal Management			21.852	1.287		2.156		2.249		Continuing	Continuing	
Remarks:												
Total Cost			126.201	21.353		29.725		18.849		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 90

CLASSIFICATION:

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

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	2213 MISSION PLANNING

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
JMPS V 1.2.3 OTRR																												
JMPS V 1.2.4 OTRR					▲																							
JMPS V 1.4 OTRR												△																
JMPS V 1.2.4 OT						△																						
JMPS V 1.4 OT																												
Test & Evaluation Milestones																												
MPE Integration/Validation	■	■	■	■	■	■																						
JMPS V 1.2.3 FQT																												
JMPS V 1.2.4 FQT																												
JMPS V 1.2.3 DT																												
JMPS V 1.2.4 DT																												
JMPS V 1.2.3 System Test																												
JMPS V 1.2.4 System Test	■	■	■	■																								
JMPS V 1.4 FQT								△																				
JMPS V 1.4 Systems Test																												
Production Milestones																												
JMPS V 1.2.3 IOC		▲																										
JMPS V 1.2.4 IOC						△																						
JMPS V 1.4 IOC																△												

Exhibit R-2a, Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail			DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2213 Naval Mission Planning		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones							
JMPS V 1.1							
JMPS V 1.2.4 OTRR		1Q					
JMPS V 1.4 OTRR			4Q				
JMPS V 1.2.4 OT		2Q					
JMPS V 1.4 OT				2Q-3Q			
Test & Evaluation Milestones							
MPE Integration/Validation	1Q/4Q	1Q/4Q	1Q/4Q	1Q/4Q	1Q/4Q	1Q/4Q	1Q/4Q
JMPS V 1.2.4 System Test	1Q-4Q						
JMPS V 1.4 FQT		4Q					
JMPS V 1.4 Systems Test			1Q-4Q				
Production Milestones							
JMPS V 1.2.3 IOC	2Q						
JMPS V 1.2.4 IOC		2Q					
JMPS V 1.4 IOC				4Q			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - Tactical Command System		PROJECT NUMBER AND NAME 0486 Tactical/Mobile (TacMobile) Systems				
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.368**	**3.694**	**8.943**	**5.129**	**3.896**	**2.543**	**2.591**
RDT&E Articles Qty							

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

Tactical/Mobile (TacMobile) Systems: The 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), the Mobile Operations Control Centers (MOCCs), and the Joint Mobile Ashore Support Terminal (JMAST). 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 Global Command and Control System - Maritime (GCCS-M) architecture, which is Defense Information Infrastructure (DII) Common Operating Environment (COE) compliant.

TSCs and their equivalents provide Command, Control, Communications, Computers and Intelligence (C4I) capability, air-ground, satellite and point-to-point communications systems; sensor analysis capabilities; avionics and weapons system interfaces and facilities equipment. MOCCs and their equivalents are scalable and mobile versions 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 provide the ground Command and Control capabilities and C4I interfaces for the Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems (FOS) aircraft and systems evolution including P-3C aircraft updates to sensors and weapons systems, such as the Anti-Surface Warfare Maritime Improvement Program (AMIP), and the Command Control Communications Computers for Anti-Submarine Warfare (C4 for ASW) P-3C aircraft upgrades, as well as development of emergent, ground C4I support capabilities for the P-8A Multi-mission Maritime Aircraft (MMA) and Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS).

The Joint Mobile Ashore Support Terminal (JMAST) supports the Fleet Commanders, Joint Task Force (JTF) Commanders, deployed Components, and other military commanders from forward deployed bases or operational sites ashore that are not equipped with C4I facilities. It provides the JTF, Navy Component, and other military commanders with the mobile ability to command, control and communicate with assigned forces via voice, video, and data media forms, during all aspects of military operations, including joint, combined, and coalition operations.

The TacMobile program was designated as an Acquisition Category (ACAT) III weapons system program July 2004 by the Program Executive Officer (PEO) C4I and Space and is no longer directly associated with the GCCS-M program. The TacMobile program follows an Evolutionary Acquisition approach, which provides a mechanism for adding a series of future capabilities that maintain and enhance the operational relevance of the systems provided. Transformation of the TSC/MOCC Force to a more mobile, scaleable configuration, convergence of TSC, MOCC, and JMAST architectures to a single configuration, and operational C4I support for new and upgraded Maritime Patrol and Reconnaissance Aircraft (MPRA) such as MMA (Multi-mission Aircraft), AIP, and BAM UAS are primary objectives.

FY09: Funding increase supports SEA Shield efforts in ASW planning integration efforts with P3, P8A and TacMobile.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - Tactical Command System	0486 Tactical/Mobile (TacMobile) Systems

(U) B. Accomplishments/Planned Program

Net Ready	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.119	0.359	0.800
RDT&E Articles Quantity			

FY07 Accomplishments - Conducted analysis to update TacMobile technical Roadmap documentation to ensure compliance with evolving and emerging Navy and Joint communications interoperability requirements (FORCEnet, Global Information Grid (GIG), etc) and implementations that support Net Centric, Internet Protocol (IP) addressing. Commenced testing of air platform support systems and data exchange devices for incorporation into baseline systems for deployment.

FY08 - Communications: Investigate and evaluate integration of Wide Band Line Of Sight (LOS) and Beyond LOS (BLOS) Tactical Edge Networking Waveforms, to support IP connected end-to-end Net Centric Undersea Warfare (USW) communications between TacMobile units and Maritime Patrol and Reconnaissance Aircraft (MPRA) enabling networked reach back, data sharing and real time collaborative analysis. Investigate and initiate development to enhance Homeland Defense and Disaster Relief communications capabilities compatibility to support interoperability and information sharing.

FY09 - Communications: Integrate Wide Band LOS and BLOS Tactical Edge Networking Waveforms to support IP connected end-to-end Net Centric Undersea Warfare (USW) communications between TacMobile units and MPRA enabling networked reach back, data sharing and real time collaborative analysis. Integrate communications capabilities compatible with Federal, State and Local government agencies and Non Government Organizations (NGO) activities to enhance Humanitarian Assistance/Disaster Relief (HADR) and Homeland Defense (HD) interagency interaction.

FTAS	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.329	1.085	0.732
RDT&E Articles Quantity			

FY07 Accomplishments - Improved the acoustic Fast Time Analysis System (FTAS) to increase reliability of the obsolete proprietary hardware, incorporating Commercial Off The Shelf (COTS) technology, and incorporating new functionality in support of emerging aircraft acoustic replay capabilities. Continued development to incorporate new capabilities to support post-flight analysis of acoustic data collected from similar capabilities development for Maritime Patrol and Reconnaissance Aircraft (MPRA).

FY08 - Analysis: Develop Sea Shield USW, FORCEnet Intelligence, Surveillance & Reconnaissance (ISR) & Common Operational/Tactical Picture (COTP) transformation post flight acoustic analysis capabilities, enhancing the detect to engage sequence for P-3 Anti-surface warfare Improvement Program (AIP), Block Modification Update Program (BMUP), Anti-Submarine Warfare (ASW) Maritime Improvement Program (AMIP) and P-8A by utilizing Enhanced Signal Processing, Advanced Sonobuoy Processing and Networked Data to feed Collaborative Planning and expediting Target Confirmation. Transform TacMobile non-acoustic Electro Optic and Infra Red analysis capabilities for P-3 AIP, BMUP, AMIP and P-8A, incorporating FORCEnet ISR & Common Operational and Tactical Picture (COTP) tenets.

FY09 - Analysis: Integrate Acoustic Analysis capabilities to support post-flight Fast Time Acoustic Analysis and intelligence gathering for Operational Plans (OPLANs) execution to include advanced multi-statics and digital capabilities. Integrate advanced Non-Acoustic Electro Optical/Infrared (EO/IR) Analysis capabilities to support emerging and developing Maritime Patrol and Reconnaissance ISR sensor systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - Tactical Command System	0486 Tactical/Mobile (TacMobile) Systems

(U) B. Accomplishments/Planned Program

Aircraft Interfaces	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.196	0.619	0.549
RDT&E Articles Quantity			

FY07 Accomplishments - Continued evolutionary development of new capabilities to support emerging aircraft weapons and non-acoustic sensors on P-3C Anti-Surface Warfare (ASW) Improvement Program (AIP)/Anti-Submarine Warfare (ASW) Maritime Improvement Program (AMIP), P-3C Block Modification Upgrade Program (BMUP), and other derivative aircraft. Analyzed Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) and Multi-mission Maritime Aircraft (MMA) specifications and concept documents for impact on TSC and MOCC systems. Continued to develop Aircraft Tape Operating System (ATOS) interfaces for emerging aircraft data transport devices. Developed new ground support capabilities concurrently with related, new capabilities developed for Maritime Patrol and Reconnaissance Aircraft (MPRA).

FY08 - Media: Transform TacMobile C4I ground support to include P-8A Multi-mission Maritime Aircraft (MMA) and Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) to ensure platform Warfighting wholeness. Assess and analyze MMA and BAMS UAS data, services, Information Assurance (IA), and transport requirements to develop discovery-search and storage services capable of providing persistent and reliable searchable access and storage as a proxy for the P-8A MMA produced data that satisfies the data sharing and data visibility tenets of the DoD Net-Centric Data Strategy. Engineer and design capability to read/write shipwreck data, bottom contour data, and training scenarios on to one of the P-3C AMIP Data Acquisition Storage Devices (DASDs) (dual load).

FY09 - Media: Continue to develop new ground support capabilities to support capabilities being developed for Maritime Patrol and Reconnaissance Aircraft (MPRA). Continue to transform TacMobile C4I ground support to include P-8A Multi-mission Maritime Aircraft (MMA) and Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) to ensure platform Warfighting wholeness. Integrate and evaluate discovery-search and storage services capable of providing persistent and reliable searchable access and storage as a proxy for the P-8A MMA produced data that satisfies the data sharing and data visibility tenets of the DoD Net-Centric Data Strategy. Design and develop software application that stores shipwreck and bottom contour data for P-3C AMIP and allows the user to segment portions of this for a particular Area of Region (AOR).

Tactical Data Links	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.330	0.354	0.164
RDT&E Articles Quantity			

FY07 Accomplishments - Analyzed TSC/MOCC requirements for advanced data links such as LINK-16, Common Data Link (CDL) and other high bandwidth data transmission paths. Developed new ground workstation software for new and upgraded aircraft sensors. Continued to develop interfaces for emerging aircraft data transport devices. Continued to perform testing on new software and hardware components. Developed, documented and began integration of ground support systems and associated interfaces to support various data exchange devices for air platforms. Developed new ground workstation software for new and upgraded aircraft sensors. Analyzed and began update of TacMobile Roadmap documentation to ensure compliance with Navy and Joint sensor interoperability requirements (FORCEnet, GIG, etc.) and implementations that support Net Centric, IP addressable capabilities.

FY08 -Tactical Data Links: Investigate and initiate development to enable TacMobile support for LINK-16 data and other emerging aircraft data transport devices. Investigate and initiate development to leverage multiple communication transport nodes to enable TacMobile to provide interoperable IP addressable high bandwidth data transmission to support persistent Command and Control (C2), P-3 AMIP & P-8 MMA sensor, and interagency information capabilities.

FY09 -Tactical Data Links: Integrate and test software and communications capabilities to provide interoperable IP addressable high bandwidth data transmission to support persistent C2, sensor, and interagency information capabilities.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - Tactical Command System	0486 Tactical/Mobile (TacMobile) Systems

(U) B. Accomplishments/Planned Program

Enterprise Solutions	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.394	0.777	1.000
RDT&E Articles Quantity			

FY07 Accomplishments - Began Investigation and analysis of transition to Service Oriented Architecture (SOA) and Net Centric Enterprise Services (NCES) elements for TacMobile capabilities. Analyzed and began update of TacMobile Roadmap and documents in support of FORCEnet, GiG (Global Information Grid) and other architectures (Net Ready Key Performance Parameters (NR-KPP), Information Support Plan (ISP), etc. Developed detailed requirements linking TacMobile systems and development directly to FORCEnet, GiG and next generation communications systems. Began analysis for GiG repository capabilities required for existing legacy and future Maritime Patrol and Reconnaissance Aircraft (MPRA) operations. Began investigation and analysis to determine level of support for Distributed Common Ground System-Navy (DCGS-N) capabilities in TacMobile community. Began analysis and coordination to plan and implement network enabled MPRA required components of Undersea Warfare Decision Support System (USW DSS).

FY08 - Enterprise Solutions/Computers: Assess and Analyze TacMobile system for compliance to the data, services, Information Assurance (IA), and transport requirements of FORCEnet Architecture and Standards including Net centric Enterprise Solutions for Interoperability (NESI), DoD Metadata Registry, Internet Protocol version 6 (IPV6), and Common Criteria. Analyze and test interfaces with other related systems for data schemas, data, Information Assurance (IA), and transport interoperability to ensure horizontal integration. Incorporate previous analysis and design in development of a fully secure, adaptive, and networked end-to-end Service Oriented Architecture (SOA) with seamless access to timely assured, accurate, and complete decision-quality information in a dynamic collaborative, information-sharing environment. Develop and analyze a logical data reference model and support registering of MPRA unique data schemas into the DoD Metadata Registry to support data interoperability. Analyze MPRA Information Assurance (IA) requirements and develop adequate IA controls to be interoperable on the GiG with other related systems. Investigate and perform necessary analysis to identify and initiate requisite level of support to implement appropriate integrated Multi-level Security Networking options in TacMobile systems. Analyze GiG Enterprise Services and develop migration plans for integration into the TacMobile architecture. Integrate TSC and MOCC configurations. Develop next generation software and hardware that is modular and scalable, surge able and sustainable, promoting responsiveness to mission requirements. Develop replacement for obsolete, maintenance-intensive hardware, eliminate legacy systems and technologies to reduce logistics tail and ease training burden.

FY09 - Computers/Knowledge Management: Integrate TSC and MOCC configurations. Develop next generation software and hardware that is modular and scalable, surgeable and sustainable, promoting responsiveness to mission requirements. Develop replacement for obsolete, maintenance-intensive hardware, eliminate legacy systems and technologies to reduce logistics tail and ease training burden. Integrate DCGS-N ISR and USW-DSS USW Battle Space Characterization capabilities and GiG Enterprise Services into TacMobile systems architecture.

C2	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.000	0.500	0.200
RDT&E Articles Quantity			

FY07- TacMobile related funding reflected in Project 0709 as the program was part of GCCS-M ACAT I program. TacMobile was designated an ACAT III program in July, 2004, by Program Executive Officer, Command, Control, Communications, Computers, Intelligence and Space (PEO C4I & S).

FY08 Command and Control (C2): Develop necessary technical documentation and make necessary preparations to support fielding and evaluation of GCCS-M 4.1 in TacMobile Systems . Test and evaluate GCCS-M 4.1 in TacMobile Systems. Investigate use of other applicable C2 components such as Under Sea Warfare Decision Support System (USW DSS), environmental and meteorological components, and Joint C2 applications.

FY09 C2: Investigate, initiate, and implement plans to integrate Intelligence Preparation of the Battle Space capabilities to provide access to Signal Intelligence (SIGINT), Electronic Warfare (EW), and General Military Intelligence database products, into TacMobile systems architecture. Investigate, initiate, and implement transition plans to future release of GCCS-M 4.2

Mission Planning	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.498
RDT&E Articles Quantity			

FY09 - Mission Planning: Analyze Fleet requirement to identify unique Maritime Patrol fixed wing mission planning capabilities for P-3C and it's C4ISR Ground Support Systems (TSCs and MOCCs). Develop overarching Maritime Patrol ASW mission planning user environment to operate with Joint Collaborative distributed networks that interface to existing Multistatic, Acoustic and Non Acoustic ASW mission planning Tactical Decision Aids as well as ASW Decision Support Systems and TDA's under development. Develop Maritime Patrol weapons planning environment for weapons such as SLAM-ER. Integrate mission planning outputs to MPRA flight, mission, and sensor systems for development of Aircraft Pre-flight Insertion Data and participation in coordinated ASW mission rehearsal.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	0486 Tactical/Mobile (TacMobile) Systems

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MPRF Mission Support Systems (OPN - BLI 2246) Note 1	11.878	7.125	25.188	27.189	24.036	24.495	24.692
TacMobile (OPN - BLI 2608)	12.789						
TacMobile C4I (OPN - BLI 2906) Note 2		3.956	6.209	8.630	8.307	12.586	14.542

Note 1: Maritime Patrol & Reconnaissance Force (MPRF) Mission Support Systems formerly Tactical/Mobile Systems (Aircraft Interface).
Note 2: Funding realigned from BLI 2608 beginning FY08.

(U) D. ACQUISITION STRATEGY:

Evolutionary Acquisition - Increment 1 supports Fleet introduction of GCCS-M 4.0 and aircraft systems upgrades. Future increments will support the GCCS-M migration and introduction of the P-8A Multi-mission Maritime Aircraft (MMA).

(U) E. MAJOR PERFORMERS:

Space and Naval Warfare Systems Command (SPAWAR) Systems Center Charleston, SC (SSC-CH) performs all design, development and integration of new capabilities into the Tactical/Mobile systems.

(U) G. METRICS:

Earned Value Management is used for metrics reporting and risk management.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 0486 Tactical/Mobile (TacMobile) Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	VARIOUS	VARIOUS				1.226	VARIOUS	0.656	VARIOUS	Continuing	Continuing	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	19.918	0.479	VARIOUS	0.459	VARIOUS	2.470	VARIOUS	Continuing	Continuing	
Training Development	VARIOUS	VARIOUS				0.200	VARIOUS	0.350	VARIOUS	Continuing	Continuing	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			19.918	0.479		1.885		3.476		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	35.796	0.579	VARIOUS	1.079	VARIOUS	4.262	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			35.796	0.579		1.079		4.262		Continuing	Continuing	
Remarks:												

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5** | PROGRAM ELEMENT: 0604231N - Tactical Command System | PROJECT NUMBER AND NAME: 0486 Tactical/Mobile (TacMobile) Systems

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	3.325	0.060		0.200	VARIOUS	0.175	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			3.325	0.060		0.200		0.175		Continuing	Continuing	

Remarks:

Contractor Engineering Support	VARIOUS	VARIOUS				0.050	VARIOUS	0.200	VARIOUS	Continuing	Continuing	
Government Engineering Support	WX	SSC CH				0.200	VARIOUS	0.350	VARIOUS	Continuing	Continuing	
Program Management Support	WX	SSC CH	11.141	0.250	VARIOUS	0.250	VARIOUS	0.450	VARIOUS	Continuing	Continuing	
Travel	WX	SSC CH				0.030	VARIOUS	0.030	VARIOUS	Continuing	Continuing	
Transportation											0.000	
											0.000	
Subtotal Management			11.141	0.250		0.530		1.030		Continuing	Continuing	

Remarks:

Total Cost			70.180	1.368		3.694		8.943		Continuing	Continuing	

Remarks:

Exhibit R-3, Project Cost Analysis

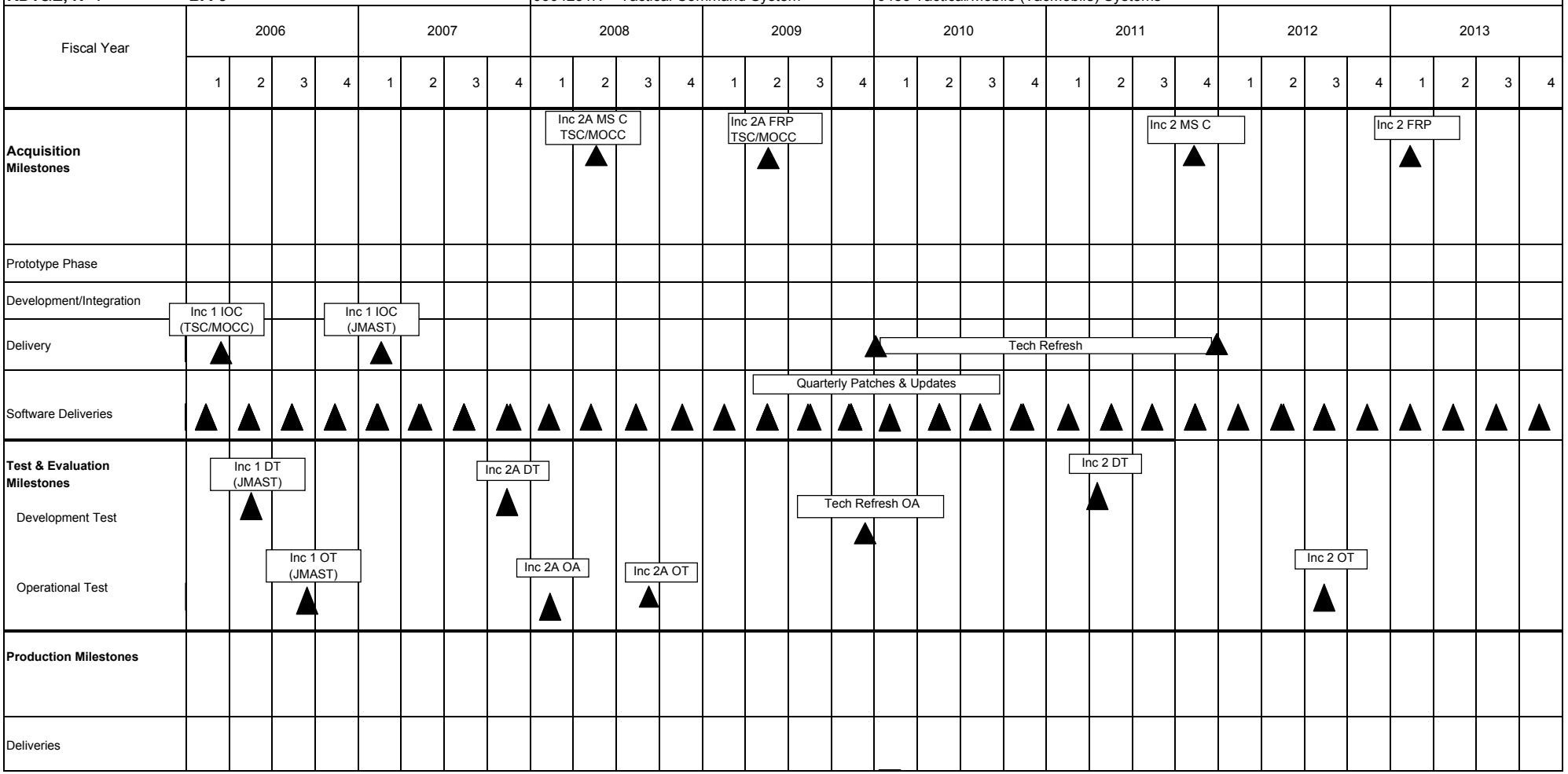
CLASSIFICATION:

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

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

PROGRAM ELEMENT NUMBER AND NAME: 0604231N - Tactical Command System

PROJECT NUMBER AND NAME: 0486 Tactical/Mobile (TacMobile) Systems



Note: Acquisition strategy is being revised to reflect a tech refresh in lieu of increment 2B.

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 0486 Tactical/Mobile (TacMobile) Systems				
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Delivery (Quarterly)	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4
Initial Operational Capability (Increment 1) (TSC/MOCC)	Q1							
Developmental Test (Increment 1) (JMAST)	Q2							
Operational Test (Increment 1) (JMAST)	Q3							
Initial Operational Capability (Increment 1) (JMAST)		Q1						
Developmental Test (Increment 2A)		Q4						
Operational Assessment (Increment 2A)			Q1					
Milestone C (Increment 2A)			Q2					
Operational Test (Increment 2A)			Q3					
Full Rate Production (Increment 2A)				Q2				
Operational Assessment (Tech refresh)				Q4				
Tech Refresh Delivery					Q1-Q4	Q1-Q4		
Developmental Test (Increment 2)						Q2		
Milestone C (Increment 2)						Q4		
Operational Test (Increment 2)							Q3	
Full Rate Production (Increment 2)								Q1

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M Intelligence Applications			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.134**	**3.717**	**3.813**	**3.861**	**3.931**	**4.009**	**4.087**
RDT&E Articles Qty							

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

The Navy's Integrated Imagery and Intelligence Applications (I3 Apps) are an integrated set of applications designed to support tactical intelligence processing and provide a useful integration framework to ensure joint intelligence interoperability across the Global Command and Control System (GCCS) and Distributed Common Ground System (DCGS) enterprise. Development of I3 applications includes end to end intelligence analysis applications that leverage the Modernized Integrated Database (MIDB) and military integration with NGA-provided digital map and imagery systems. I3 imagery applications provide for archiving, viewing and measurement of still and video images. This effort is also continuing the transition to Commercial Off The Shelf (COTS) hardware and software. The Navy's I3 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 Command, Control, Communications, Computers and Intel (C4I). Efforts in FY08 will entail preparation for Operational Evaluation (OPEVAL), and software development to address emerging Fleet requirements in areas such as Maritime Interdiction Operations (MIO), Maritime Domain Awareness (MDA), and sharing unique Navy sensor information across the DCGS enterprise.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - Tactical Command System	0521 Shipboard Tactical Intel/GCCS-M Intelligence Applications

(U) B. Accomplishments/Planned Program

C2 Fires Integration	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.328	1.096	1.017
RDT&E Articles Quantity			

FY07:Provided standardized, linked intelligence and imagery software tools and services to undergo successful integration and developmental testing.

FY08: Conduct operational testing and continue to provide for the technical migration of standardized, linked intelligence and imagery software tools and services from a platform-centric model to a services oriented architecture.

FY09: Continue to conduct operational testing, and provide for the technical migration of standardized, linked intelligence and imagery software tools and services from a platform-centric model to a services oriented architecture, ensuring accessibility and analysis / targeting support based on current / next generation sensors and datastreams including Moving Target Indicator (MTI), Unmanned Aerial Sensors (UASs), and the Distributed Common Ground Station (DCGS) joint enterprise.

Imagery/Video Processing	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.217	0.712	0.852
RDT&E Articles Quantity			

FY07:Provided the capability for Commanders, their battle staffs, and supporting intelligence analysts, to exploit ISR from current/next generation UAV platforms and national sensors are successfully integrated and developmentally tested.

FY08: Imagery Exploitation - Conduct operational testing and conduct new software development to provide the capability for Commanders, their battle staffs, and supporting intelligence analysts to exploit ISR from current/next generation UAV platforms and national sensors.

FY09: Imagery Exploitation - Continue to conduct operational testing and new software development to provide the capability for Commanders, their battle staffs, and supporting intelligence analysts to exploit ISR from current/next generation sensors and datastreams including Moving Target Indicator (MTI), Unmanned Aerial Sensors (UASs), and the DCGS joint enterprise.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - Tactical Command System	0521 Shipboard Tactical Intel/GCCS-M Intelligence Applications

(U) B. Accomplishments/Planned Program

Threat Order of Battle (OOB)	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.589	1.909	1.944
RDT&E Articles Quantity			

FY07: Enhanced intelligence data and tools, to include dissemination tools such as sending intelligence data directly to the Common Operational Picture (COP) nominating a unit or facility as target, sending email, posting, and exporting data to eXtensible Markup Language (XML) or Microsoft (MS) Excel, were successfully integrated and developmentally tested for introduction to the Fleet in a timely manner.

FY08: Conduct operational testing and begin new development to provide intelligence data and tools in a service-oriented architecture including support for maritime interdiction operations.

FY09: Continue to conduct operational testing and begin new development to provide intelligence data and tools in a service-oriented architecture including support for maritime interdiction operations, Maritime Domain Awareness, and end to end intelligence analysis tools that leverage Modernized Integrated Database (MIDB), NGA-related digital mapping and imagery products, and other intelligence support streams, while continuing to ensure joint intelligence interoperability across the Global Command and Control System (GCCS) and Distributed Common Ground Station (DCGS) enterprise.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - Tactical Command System	0521 Shipboard Tactical Intel/GCCS-M Intelligence Applications

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost	Total Cost
DCGS-N (RDTE PE 0305208N)	17.801	21.141	44.540	43.024	38.054	37.952	30.634			
GCCS-M Totals (OPN - BLI 2608)	58.165	59.309	25.923	59.832	52.409	73.437	86.754	Cont	Cont	
DCGS-N (OPN - BLI 2914)	42.531	61.136	67.133	58.823	60.917	91.803	92.399			

(U) D. ACQUISITION STRATEGY:

N/A

(U) E. Major Performers:

Northrop Grumman Defense Mission Systems (NGDMS) is the prime contractor that provides software development and integration for GCCS-M. SPAWAR Systems Center San Diego, CA provides support as the Government testing facility.

(U) F. METRICS:

Earned Value Management is used for metrics reporting and risk management.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - Tactical Command System				PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M Intelligence Applications					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering	VARIOUS	VARIOUS	19.772	0.250	VARIOUS	0.824	VARIOUS	0.868	VARIOUS	Continuing	Continuing	Continuing
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			19.772	0.250		0.824		0.868		Continuing	Continuing	Continuing
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	31.786	0.854	VARIOUS	2.781	VARIOUS	2.815	VARIOUS	Continuing	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			31.786	0.854		2.781		2.815		Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M Intelligence Applications						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation	WX	OPTEVFOR	2.056	0.000		0.000		0.000			Continuing	Continuing
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			2.056	0.000		0.000		0.000			Continuing	Continuing
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	VARIOUS	VARIOUS	2.219	0.030	VARIOUS	0.112	VARIOUS	0.130	VARIOUS	Continuing	Continuing	Continuing
Travel												
Transportation												
Subtotal Management			2.219	0.030		0.112		0.130		Continuing	Continuing	Continuing
Remarks:												
Total Cost			55.833	1.134		3.717		3.813		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3, RDTEN Project Cost Analysis

CLASSIFICATION:

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

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

PROGRAM ELEMENT NUMBER AND NAME: 0604231N - Tactical Command System

PROJECT NUMBER AND NAME: 0521 Shipboard Tactical Intel/GCCS-M Intelligence Applications

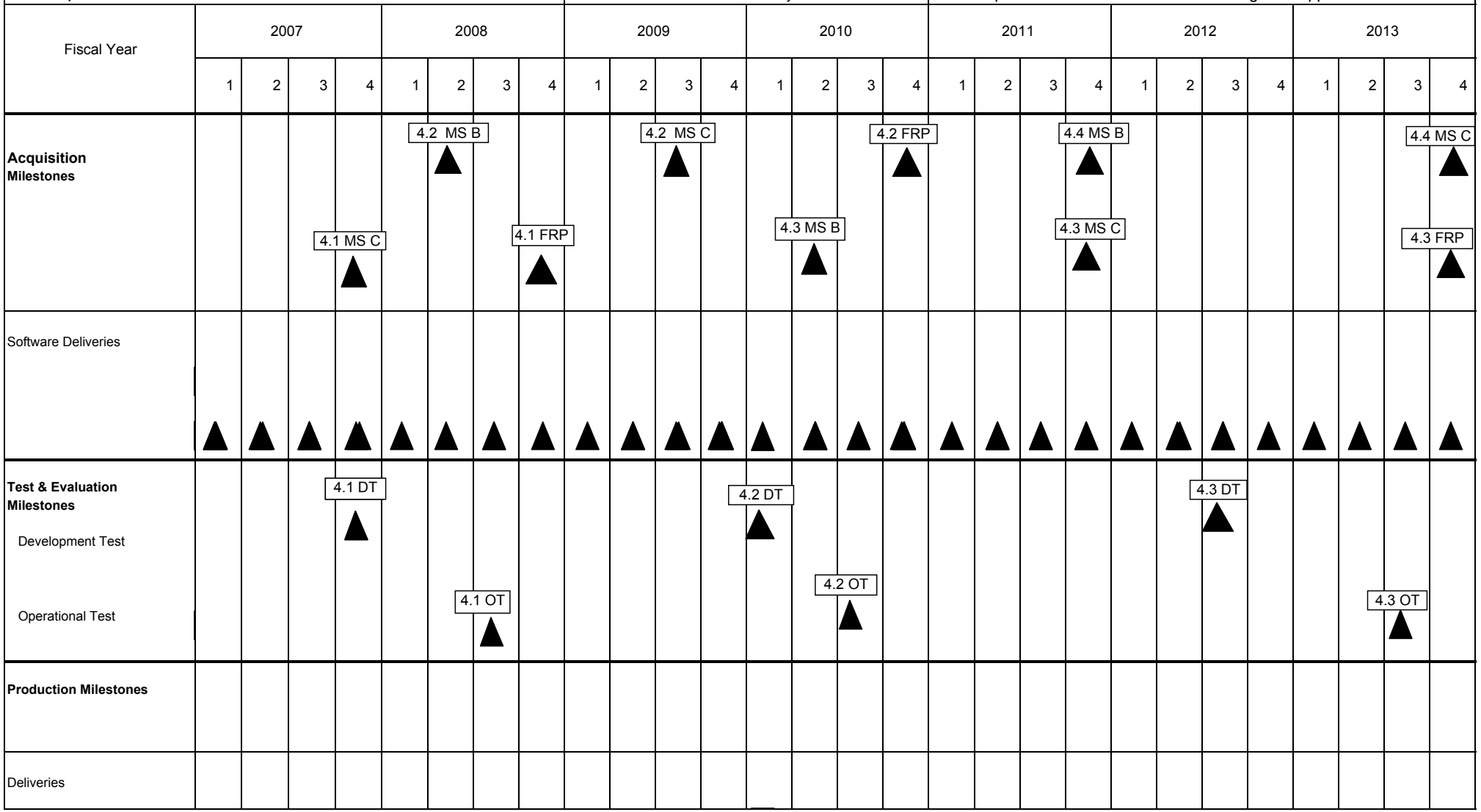


EXHIBIT R-4, Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTI **RDT&E, N /BA-5**	PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M Intelligence Applications			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Delivery (quarterly)	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4
Milestone C 4.1	Q4						
Development Test 4.1	Q4						
Milestone B 4.2		Q2					
Operational Test 4.1		Q3					
Full Rate Production 4.1		Q4					
Milestone C 4.2			Q3				
Development Test 4.2				Q1			
Milestone B 4.3				Q2			
Operational Test 4.2				Q3			
Full Rate Production 4.2				Q4			
Milestone C 4.3					Q4		
Milestone B 4.4					Q4		
Development Test 4.3						Q3	
Operational Test 4.3							Q3
Full Rate Production 4.3							Q4
Milestone C 4.4							Q4

Exhibit R-4a, Schedule Detail

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding ($000)					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 0521 Shipboard Tac Intel/GCCS-M Intel App		
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
GCCS-M INTEL APPLICATIONS	-	-	-	-	-	-	-

GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE: **February 2008**		
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)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**6.561**	**21.282**	**20.800**	**19.494**	**17.229**	**16.762**	**17.043**
RDT&E Articles Qty							

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

The Global Command and Control System Maritime (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 Commander in Chiefs (CINCs), 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. Small Footprint Architecture (SFA) also enhances warfighting capabilities by reducing the server requirements and client complexity of the GCCS-M system. It is being developed for unit level ships with long term plans to expand to group and force level ships. 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, and transition capabilities into a Service Oriented Architecture (SOA). GCCS-M is a key system currently being used to support real world operations afloat, ashore, and with tactical/mobile commanders. Efforts in FY08 will entail preparation for Operational Evaluation (OPEVAL), and software development to address emerging Fleet requirements in areas such as Maritime Interdiction Operations (MIO). Beginning in FY09, GCCS-M Common Applications funding (x2305) will be consolidated into GCCS-M Maritime Applications. Efforts in FY09 will focus on the continued transition to address Navy specific Command and Control (C2) capabilities residing in a Service Oriented Architecture (SOA) .

Undersea Superiority: This effort will significantly enhance tactical units ability to perform precision engagements by consolidating the common operational and undersea tactical pictures into a single comprehensive Command and Control (C2) picture, addressing the requirement of Warfighters and significantly improving interoperability. This effort is necessary to address FORCENet compliance requirements and transition operational capability currently dependent on standalone, stovepiped systems, into a Service Oriented Architecture that will make data available and interoperable with other C4I systems. By combining situational awareness data with data derived from combat systems, the warfighter is provided with a single, integrated picture of the battlespace.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

Combat Systems Interface	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.600
RDT&E Articles Quantity			

FY07-08: N/A

FY09: Migrate and integrate evolving organic shipboard systems interfaces. GCCS-M RDT&E efforts in FY-09 will focus on ensuring Global COP users have ability to access and share information from organic data sources.

Situational Awareness (formerly JPN)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	2.860
RDT&E Articles Quantity			

FY07-08: Funded in project 2305.

FY09: Situational Awareness, formerly Joint Planning Network (JPN)/Tactical Data Information Links (TADILS)/Broadcasts, provides bi-directional shared situational awareness by integrating and exchanging information with disparate systems, sensors and real time event reporting networks (e.g. weapons/fire control, navigation, cryptologic, tactical data links and broadcasts). This is required to prevent fratricide and mutual interference of current (e.g. Tomahawk, Aegis, Standard Missile and Patriot) and future weapon systems/platforms (Joint Strike Fighter (JSF), Multi-Mission Aircraft (MMA), Predator/DD-21 ship class) during multi-platform strike operations. Leveraged investment in new and upgraded sensors to further develop Situational Awareness and Command and Control throughout the extended Battlespace. Efforts in FY09 also address emergent Fleet requirements, which improve the user's ability to maintain Situational Awareness and reduced system complexity.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

Force Readiness	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.768	2.207	1.602
RDT&E Articles Quantity			

FY07: Ensured the capability to plan and manage the prepositioning and repositioning of units, stores, and the allocation and reallocation of units for next-generation Force Structure planning and execution management per Office of the Secretary of Defense (OSD) and Chief of Naval Operations (CNO) mandates is successfully integrated and developmentally tested. This capability included the means for the assignment, deconfliction and monitoring of multiple undersea assets.

FY08: Conduct operational testing, and begin new development to address emerging Fleet requirements to provide the capability to plan and manage the prepositioning and repositioning of units and stores and the allocation and reallocation of units for next-generation Force Structure planning and execution management per Office of the Secretary of Defense (OSD) and Chief of Naval Operations (CNO) mandates. This capability includes the means for the assignment, deconfliction and monitoring of multiple undersea assets.

FY09: Continue to conduct operational testing, and begin new development to address emerging Fleet requirements to provide the capability to plan and manage the prepositioning and repositioning of units and stores and the allocation and reallocation of units for next-generation Force Structure planning and execution management per Office of the Secretary of Defense (OSD) and Chief of Naval Operations (CNO) mandates. This capability includes the means for the assignment, deconfliction and monitoring of multiple undersea assets.

Spectral and Environmental Analysis	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.717	1.054	0.482
RDT&E Articles Quantity			

FY07: Ensured the capability to develop, manage, and execute an Emission Control Plan in order to prevent exploitation of next-generation emitters by emergent/future hostile collection capabilities is successfully integrated and operationally tested for timely Fleet introduction.

FY08: Continue to enhance Emission Control Plan capabilities in order to prevent exploitation of next-generation emitters by emergent/future hostile collection capabilities is successfully integrated and operationally tested for timely Fleet introduction.

FY09: Continue to enhance Emission Control Plan capabilities in order to prevent exploitation of next-generation emitters by emergent/future hostile collection capabilities is successfully integrated and operationally tested for timely Fleet Introduction.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

Aircraft Mission Planning	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.020	0.000	0.000
RDT&E Articles Quantity			

FY07: Investigated, initiated, and implemented transition plans to future releases of GCCS-M 4.x. Performed necessary analysis and update Tactical/Mobile (TacMobile) technical Roadmap documentation to ensure compliance with Navy and Joint command and control interoperability requirements (FORCENet, Global Information Grid (GIG), etc) and implementations. Conducted testing of air platform support systems taking advantage of capabilities inherent in future GCCS-M 4.x increments. Ensured continued interoperability with GCCS-M planned increments.

FY08-09: TacMobile funding is realigned to Project 0486 as the program was part of GCCS-M ACAT I program. TacMobile was designated an ACAT III program in July, 2004, by Program Executive Officer, Command, Control, Communications, Computers, Intelligence (PEO C4I).

Warfighter Enhancements	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	2.000	0.000
RDT&E Articles Quantity			

FY07- N/A

FY08 - Effort provides warfighters with automated tools to inject Automated Identification System (AIS) into GCCS-M, including any software changes required on the DISA-provided baselin software to ensure AIS data is correctly parsed, correlated, and distributed in a net-centric Global COP environment.

FY09 - N/A

Testing	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.056	1.421	3.191
RDT&E Articles Quantity			

FY07: Provided for the continued efforts of holistic, end-to-end systems engineering and testing of Maritime C4I capabilities. This includes developmental, operational, and interoperability test events as well as proof-of-concept testing of emergent capabilities and technologies.

FY08: Continue to provide for the continued efforts of holistic, end-to-end systems engineering and testing of Maritime C4I capabilities. This includes developmental, operational, and interoperability test events for GCCS-M 4.1 as well as proof-of-concept testing of emergent capabilities and technologies. Testing will include an Operational Test of GCCS-M 4.1 at multiple OT sites to ensure system meets all requirements for Fleet use.

FY09: Continue to provide for the continued efforts of holistic, end-to-end systems engineering and testing of Maritime C4I capabilities. This includes developmental, operational, and interoperability test events as well as proof-of-concept testing of emergent capabilities and technologies. Testing will ensure capabilities transitioned into a Service Oriented Architecture (SOA) environment are effective and suitable for Fleet use.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

Undersea Superiority/Undersea Forcenet	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	14.600	12.065
RDT&E Articles Quantity			

FY07: N/A

FY08: Effort funds development of Undersea FORCEnet capabilities to support a real-time command and control capability of all USW assets (Maritime Patrol Aircraft (MPA) & Submersible Ship, Nuclear (SSN). The ASW Commander has a requirement for robust track management capabilities to support contact fusion, correlation and synchronization to improve operators ability to manage contacts on system displays in light of the high density of contacts, latency of reports, lack of filtering and numerous track input option. This effort will fund development and integration of USW track correlation and data fusion capabilities into GCCS-M. Efforts will also identify and implement Human Systems Integration (HSI) and display management improvements within the system. This effort will also support development of low confidence level track types to allow ASW community to share information on possible enemy submarine before elevating to a track in the Common Operational Picture. This effort also supports continued transition of ASW demonstrated capabilities into GCCS-M Program of Record.

FY09: Continue the development of effort funds development of Undersea FORCEnet capabilities to support a real-time command and control capability of all USW assets (Maritime Patrol Aircraft (MPA) & Submersible Ship, Nuclear (SSN)). The ASW (Anti Submarine Warfare) Commander has a requirement for robust track management capabilities to support contact fusion, correlation and synchronization to improve operators ability to manage contacts on system displays in light of the high density of contacts, latency of reports, lack of filtering and numerous track input option. This effort will fund development and integration of USW track correlation and data fusion capabilities into GCCS-M. Efforts will also identify and implement Human Systems Integration (HSI) and display management improvements within the system. This effort will also support development of low confidence level track types to allow ASW community to share information on possible enemy submarine before elevating to a track in the Common Operational Picture. This effort also supports continued transition of ASW demonstrated capabilities into GCCS-M Program of Record.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
GCCS-M Totals (OPN - BLI 2608)	58.165	59.309	25.923	59.832	52.409	73.437	86.754	Cont	Cont

(U) D. ACQUISITION STRATEGY:

N/A

(U) E. Major Performers:

Northrop Grumman Defense Mission Systems (NGDMS) is the prime contractor that provides software development and integration for GCCS-M. SPAWAR Systems Center San Diego, CA provides support as the Government testing facility.

(U) F. METRICS:

Earned Value Management is used for metrics reporting and risk management.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	14.012	2.416	VARIOUS	7.446	VARIOUS	6.885	VARIOUS	Continuing	Continuing	Continuing
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			14.012	2.416		7.446		6.885		Continuing	Continuing	Continuing
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	61.831	2.395	VARIOUS	9.642	VARIOUS	9.191	VARIOUS	Continuing	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			61.831	2.395		9.642		9.191		Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION: **6.561**

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation	WX	OPTEVFOR	1.135	0.760		1.135		1.135		Continuing	Continuing	Continuing
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			1.135	0.760		1.135		1.135		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support	VARIOUS	VARIOUS	0.000	0.200	VARIOUS	0.829	VARIOUS	0.947	VARIOUS	Continuing	Continuing	Continuing
Government Engineering Support												
Program Management Support	VARIOUS	VARIOUS	10.578	0.790	VARIOUS	2.23	VARIOUS	2.642	VARIOUS	Continuing	Continuing	Continuing
Travel												
Transportation												
Subtotal Management			10.578	0.990		3.059		3.589		Continuing	Continuing	Continuing
Remarks:												
Total Cost			87.556	6.561		21.282		20.800		Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2008**

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

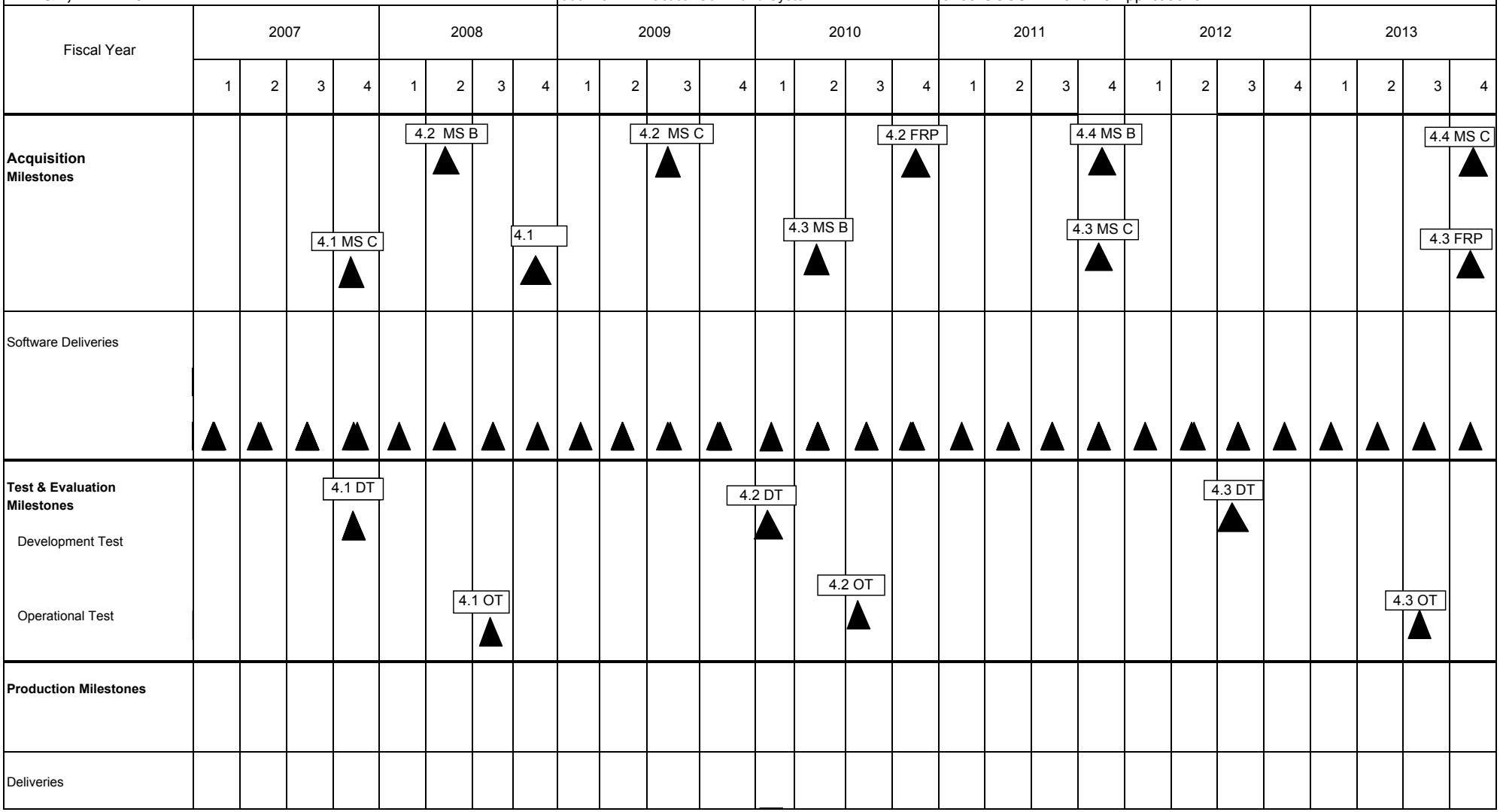


EXHIBIT R-4, Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 0709 GCCS-M Maritime Applications			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Delivery (quarterly)	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4
Milestone C 4.1	Q4						
Development Test 4.1	Q4						
Milestone B 4.2		Q2					
Operational Test 4.1		Q3					
Full Rate Production 4.1		Q4					
Milestone C 4.2			Q3				
Development Test 4.2				Q1			
Milestone B 4.3				Q2			
Operational Test 4.2				Q3			
Full Rate Production 4.2				Q4			
Milestone C 4.3					Q4		
Milestone B 4.4					Q4		
Development Test 4.3						Q3	
Operational Test 4.3							Q3
Full Rate Production 4.3							Q4
Milestone C 4.4							Q4

Exhibit R-4a, Schedule Detail

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding ($000)					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 0709 GCCS-M Maritime Applications		
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
GCCS-M INTEL APPLICATIONS	-	-	-	-	-	-	-

GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**				
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)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY2012	FY2013
Project Cost	**1.684**	**0.510**	**1.087**	**1.309**	**1.394**	**1.179**	**1.410**
RDT&E Articles Qty							

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

(U) Trusted Information Systems (TIS) Joint Cross Domain eXchange (JCDX) system and Radiant Mercury (RM) provide Multi-Level Security (MLS) technologies in order to successfully provide accredited Cross Domain Solutions (CDS) to the USN, DoD, and Intelligence Community. TIS is a critical component of network-centric warfare, supporting joint operations and coalition forces in the Global War on Terrorism (GWOT) and in Homeland Security operations. The ability to pass sensitive, yet critical, data across security domains and to our Coalition partners in a timely fashion can only be met by accredited Cross Domain Solution (CDS) systems such as JCDX and RM.

(U) Joint Cross Domain eXchange (JCDX): Provides the core on-line, automated, near-real time, multi-level secure, information analysis, dissemination, and receipt capabilities that enable Combatant Commanders 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. JCDX 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 simultaneously. In addition, it is required to provide near-real-time all-source fusion, correlation and analysis tools to include robust graphics presentation and geospatial analysis capabilities, directly feeding automated reporting capabilities. JCDX 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. JCDX disseminates operational products at different classification and releasability levels over numerous serial and network communications paths to operational users and other Command and Control (C2) systems of U.S., Allied and Coalition operating forces. JCDX supports international information sharing agreements with key allies: United Kingdom, Japan, Australia, and South Korea. The United Kingdom and Australia depend on JCDX for their National intelligence data.

(U) JCDX is built on an evolutionary development strategy, which provides a mechanism for adding future capabilities including the incorporation of proven Fleet-initiated prototypes. TIS is the CDS foundation for transformational capabilities and functionalities required for the success of FORCEnet, Net-Centric Enterprise Services (NCES), Multi-National Information Sharing (MNIS), and Global Information Grid (GIG). These transformational capabilities and functionalities include, but are not limited to, web services, CDS to single level and/or untrusted clients, conversion of legacy serial communications to Internet Protocol (IP) connectivity, vastly improved throughput to support increasingly larger files, and operating system (OS) migration in support of FORCEnet, NCES, MNIS, and GIG architectures.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

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

(U) Radiant Mercury (RM): RM provides automated, bi-directional sanitization, transliteration and guarding capability for formatted and unformatted data between security enclaves. Radiant Mercury helps ensure critical Indications and Warning intelligence is provided quickly to operational decision-makers. RM is actively involved in the production and cross domain dissemination of information for operating forces worldwide, including the operating forces of key allies involved in the Global War On Terrorism (GWOT), Operation Iraqi Freedom (OIF), and Homeland Security operations. 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 cryptologic analysts. Unformatted data is handled by the Information Review Process (IRP). The system provides cross domain services to a wide variety of customers including Combatant Commanders, Air Force (Shared Early Warning program), Army (Blue Force Tracking program), Navy (Global Command and Control System - Maritime (GCCS-M) and Automatic Identifiaction System (AIS)) and numerous other DoD and Intelligence agencies.

(U) TIS RM provides a mechanism for adding future capabilities and functionality improvement required for the success of FORCEnet, Net-Centric Enterprise Services (NCES), Multi-National Information Sharing (MNIS), and Global Information Grid (GIG). These transformational capabilities and functionalities include, but not limited to, web services, XML functionality , Services Oriented Architechture (SOA) environment, operating systems (OS) migration, remote monitoring and maintenance capability in support of FORCEnet, NCES, MNIS, and GIG architectures.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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) B. Accomplishments/Planned Program

JCDX	FY 07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	1.279	0.000	0.000
RDT&E Articles Quantity			

FY07: Implemented message and Portable Document Format (PDF) profiling to Web Service Gateway. Implemented labeled posting for specified users. Completed systems Engineering in support of JCDX migration to NCES/FORCENET architecture. Developed system interface capabilities as required by releases for record communications systems within an accreditable MLS baseline.

Radiant Mercury	FY 07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.405	0.510	1.087
RDT&E Articles Quantity			

FY07: Released version 4.5. Developed v5.0 porting to new Operating System, integrated, and tested additional unformatted file types, secured remote maintenance, and enhanced audit management. Enhanced support for emerging cross domain Web service requirements.

FY08: Release version 5.0 on follow-on trusted operating system. Continue the development, integration and testing of emerging unformatted file types. Commence investigating technologies related to collaboration (chat, whiteboarding, language translations, etc.). Develop criteria and procedures for system verification and validation in anticipation of updated information assurance and cross-domain policies. Conduct version 5.0. Certification, Test and Evaluation (CT&E) . Conduct version 5.0 System Test and Evaluation (ST&E) with Joint Interoperability Test Command (JITC) assessment.

FY09: Release follow-on update to version 5.0. Investigate and develop support for emerging communication mechanisms. Continue the development, integration and testing of emerging unformatted file types. Continue to investigate technologies related to collaboration.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY012	FY013
GCCS-M (TIS) (OPN - BLI 2608)	0.561	0.000	0.480	0.633	0.350	1.022	0.591

(U) D. ACQUISITION STRATEGY:

N/A

(U) E. Major Performers:

SPAWAR System Center San Diego provides support as the Government testing facility.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering	VARIOUS	VARIOUS	9.892	1.132	VARIOUS	0.333	VARIOUS	0.739	VARIOUS	Continuing	Continuing	
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			9.892	1.132		0.333		0.739		Continuing	Continuing	
Remarks:												
Development Support												
Software Development	VARIOUS	VARIOUS	52.731	0.488	VARIOUS	0.152	VARIOUS	0.316	VARIOUS	Continuing	Continuing	
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			52.731	0.488		0.152		0.316		Continuing	Continuing	
Remarks:												

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

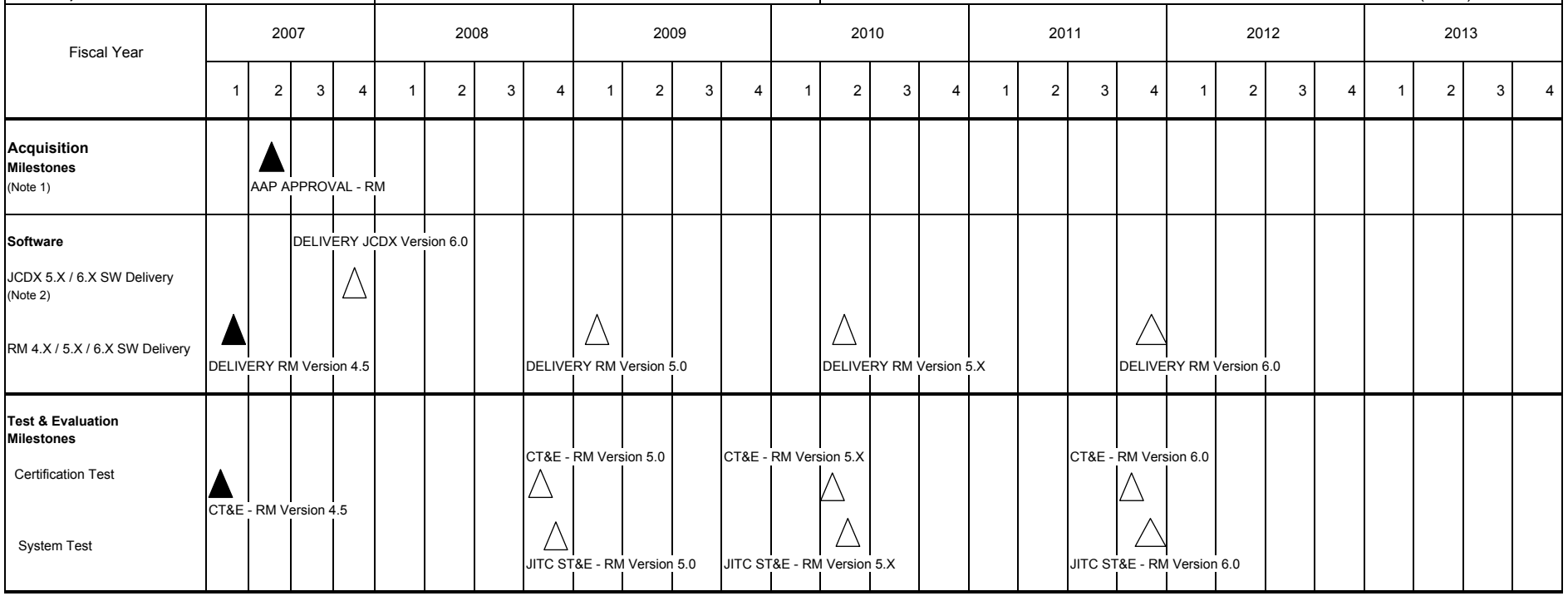
Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 TRUSTED INFORMATION SYSTEMS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation	WX	OPTEVFOR	0.680	0.000		0.000		0.000		Continuing	Continuing	Continuing
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.680	0.000		0.000		0.000		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	VARIOUS	VARIOUS	2.281	0.054	VARIOUS	0.025	VARIOUS	0.032	VARIOUS	Continuing	Continuing	Continuing
Travel				0.010	VARIOUS							
Transportation												
Subtotal Management			2.281	0.064		0.025		0.032		Continuing	Continuing	Continuing
Remarks:												
Total Cost			65.584	1.684		0.510		1.087		Continuing	Continuing	
Remarks:												

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

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

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/JOINT CROSS DOMAIN EXCHANGE(JCDX)



NOTES:

1) RM Abbreviated Acqusion Program Approval (AAP) - 5 January 2007

2) JCDX capability was disinvested in POM 08.

Exhibit R-4, Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 TRUSTED INFORMATION SYSTEMS/JOINT CROSS DOMAIN EXCHANGE (JCDX)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
RM AAP Approval	2Q						
Software Delivery JCDX Version 6.0	4Q						
Software Delivery RM Version 4.5	1Q						
Software Delivery RM Version 5.0			1Q				
Software Delivery RM Version 5.X				2Q			
Software Delivery RM Version 6.0					4Q		
Certification Test RM Version 4.5	1Q						
Certification Test RM Version 5.0		4Q					
Certification Test RM Version 5.X				2Q			
Certification Test RM Version 6.0					4Q		
System Test RM Version 5.0		4Q					
System Test RM Version 5.X				2Q			
System Test RM Version 6.0					4Q		

Exhibit R-4a, Schedule Detail

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE: **February 2008**		
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)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**7.207**	**5.620**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty							

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

The Global Command and Control System Maritime (GCCS-M) Common Applications program contains the fundamental building blocks and common applications for all fielded GCCS-M 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.

GCCS-M Common Applications 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. The Navy Common Operating Environment (COE) program is a core function of the GCCS-M Common Applications 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 Common Operating Environment (COE) continues to grow, resources for rapidly folding them into the service extensions must keep pace with the growing complexity and size of the COE. As a product of evolutionary acquisition, the Navy COE will continue to evolve with the COE, new technology, and Commercial-off-the-shelf (COTS) products. Efforts in FY08 will entail preparation for Operational Evaluation (OPEVAL), and software development to address emerging Fleet requirements in areas such as Maritime Interdiction Operations (MIO). Funding in FY09-13 will be consolidated into GCCS-M Maritime Applications (x0709), to aid in the migration towards Maritime specific Command and Control (C2) capabilities that reside within the Service Oriented Architecture (SOA) environment.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

Aircraft Mission Planning	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.330	0.000	0.000
RDT&E Articles Quantity			

FY07: Ensured the capability to process and disseminate aircraft mission planning and execution data for disparate sources and platforms. Executed near-real time strike, deep interdiction and power projection missions by current and next-generation manned and unmanned air assets to ensure a successful integration and operational testing.

FY08-09- N/A

Documentation Training	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.551	0.958	0.000
RDT&E Articles Quantity			

FY07: Documentation Training, formerly Web-Enabling/Readiness, ensured the integration and operational testing of web-enabled, task-oriented documentation and help capability emphasizing execution of missions.

FY08 - Ensure the integration and operational testing of web-enabled, task-oriented documentation and help capability emphasizing execution of missions.

FY09- N/A

Testing/Usability	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.632	1.823	0.000
RDT&E Articles Quantity			

FY07: Provided for the continued efforts of holistic, end-to-end systems engineering and testing of Maritime C4I capabilities. This includes developmental, operational, and interoperability test events for GCCS-M 4.1 throughout the fiscal year as well as proof-of-concept testing of emergent capabilities and technologies.

FY08: Continue to provide for the continued efforts of holistic, end-to-end systems engineering and testing of Maritime C4I capabilities. This includes developmental, operational, and interoperability test events for GCCS-M 4.1 as well as proof-of-concept testing of emergent capabilities and technologies.

FY09 - N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

Combat Systems Interface	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.377	0.637	0.000
RDT&E Articles Quantity			

FY07: Migrated and integrated evolving organic shipboard systems. GCCS-M RDT&E efforts in FY-07 were focused on software development of Fleet-validated requirements for the next major release of GCCS-M.

FY08: Ensure integration and certification of required organic shipboard systems interfaces.

FY09: N/A

Situational Awareness (formerly JPN)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.923	2.072	0.000
RDT&E Articles Quantity			

FY07: Situational Awareness, formerly Joint Planning Network (JPN)/Tactical Data Information Links (TADILS)/Broadcasts, provided bi-directional shared situational awareness by integrating and exchanging information with disparate systems, sensors and real time event reporting networks (e.g. weapons/fire control, navigation, cryptologic, tactical data links and broadcasts). This was required to prevent fratricide and mutual interference of current (e.g. Tomahawk, Aegis, Standard Missile and Patriot) and future weapon systems/platforms (Joint Strike Fighter (JSF), Multi-Mission Aircraft (MMA), Predator/DD-21 ship class) during multi-platform strike operations. Leveraged investment in new and upgraded sensors to further develop Situational Awareness and Command and Control throughout the extended Battlespace. Efforts in FY07 also addressed emergent Fleet requirements, which improved the user's ability to maintain Situational Awareness and reduced system complexity.

FY08: Provide bi-directional shared situational awareness by integrating and exchanging information with disparate systems, sensors and real time event reporting networks (e.g. AIS weapons/fire control, navigation, cryptologic, tactical data links and broadcasts). This is required to prevent fratricide and mutual interference of current (e.g. Tomahawk, Aegis, Standarc Missile and Patriot) and future weapon systems/platforms (Joint Strike Fighter (JSF), Multi-Mission Aircraft (MMA), Predator/DD-21 ship class) during multi-platform strike operations. Leverages investment in new and upgraded sensors to further develop Situational Awareness and Command and Control throughout the extended Battlespace.

FY09: Funded in project 0709.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

Emergent Capabilities	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.094	0.130	0.000
RDT&E Articles Quantity			

FY07: Provided emergent and transformational command and control capabilities are successfully integrated and developmentally tested for timely introduction to the Fleet.

FY08: Continue to ensure emergent and transformational command and control capabilities are successfully integrated and developmentally tested for timely introduction to the Fleet.

FY09: N/A

Intelligence Surveillance Reconnaissance	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.300	0.000	0.000
RDT&E Articles Quantity			

FY07: Intelligence Surveillance Reconnaissance, formerly C2 Fires Integration, provided the capabilities to plan and conduct targeting activities, such as tasking, assignment, and direction of weapons delivery platforms (e.g. Naval Fires Control System (NFCS), Tomahawk) and execute strike operations in near-real time using existing and emerging systems, sensors, and data sources (e.g. Joint Services Imagery Processing System-Navy (JSIPS-N), Distributed Common Ground Station (DCGS). Ensured maximum lethality from weapon-target pairing while minimizing collateral damage and preventing fratricide during Joint and Coalition strike operations.

FY08: N/A

FY09: N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost	Total Cost
GCCS-M Totals (OPN - BLI 2608)	58.165	59.309	25.923	59.832	52.409	73.437	86.754			

(U) D. ACQUISITION STRATEGY:

N/A

(U) E. Major Performers:

Northrop Grumman Defense Mission Systems (NGDMS) is the prime contractor that provides software development and integration for GCCS-M. SPAWAR System Center San Diego provides support as the Government testing facility.

(U) F. METRICS:

Earned Value Management is used for metrics reporting and risk management.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering	VARIOUS	VARIOUS	10.105	2.052	VARIOUS	1.635	VARIOUS	0.000			13.792	13.792
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			10.105	2.052		1.635		0.000			13.792	13.792
Remarks:												
Development Support												
Software Development	VARIOUS	VARIOUS	64.006	4.021	VARIOUS	2.809	VARIOUS	0.000			70.836	70.836
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			64.006	4.021		2.809		0.000			70.836	70.836
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
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 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VARIOUS	VARIOUS	8.164	0.547	VARIOUS	0.547	VARIOUS	0.000			9.258	9.258
Operational Test & Evaluation	VARIOUS	VARIOUS	1.474	0.212	VARIOUS	0.200	VARIOUS	0.000			1.886	1.886
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			9.638	0.759		0.747		0.000			11.144	11.144
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	VARIOUS	VARIOUS	4.727	0.375	VARIOUS	0.429	VARIOUS	0.000			5.531	5.531
Travel												
Transportation												
Subtotal Management			4.727	0.375		0.429		0.000			5.531	5.531
Remarks:												
Total Cost			88.476	7.207		5.620		0.000			101.303	101.303
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2008**
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	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones			4.1 MS C			4.2 MS B		4.1 FRP																				
Software Deliveries	▲	▲	▲	▲	▲	▲	▲	▲																				
Test & Evaluation Milestones			4.1 DT																									
Development Test			▲																									
Operational Test							4.1 OT																					
Production Milestones																												
Deliveries																												

EXHIBIT R-4, Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 2305 GCCS-M Common Applications			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Delivery (quarterly)	Q1-Q4	Q1-Q4					
Milestone C 4.1	Q4						
Development Test 4.1	Q4						
Milestone B 4.2		Q2					
Operational Test 4.1		Q3					
Full Rate Production 4.1		Q4					

Exhibit R-4a, Schedule Detail

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding ($000)					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5 BA-5**		PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 2305 GCCS-M Common Applications		
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
GCCS-M INTEL APPLICATIONS	-	-	-	-	-	-	-

GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**6.582**	**6.319**	**11.354**	**10.685**	**11.737**	**6.226**	**6.204**
RDT&E Articles Qty							

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

The Shipboard LAN / WAN / Integrated Shipboard Network System (ISNS) provides Navy ships, including submarines, with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LAN)s. The LAN provides Basic Network Information Distribution Services (BNIDS) and access to the Defense Information Systems Network (DISN) Wide Area Network (WAN) (Secure and Nonsecure Internet Protocol Router Network -SIPRNet and NIPRNet). It provides the network infrastructure and services to enable real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders. It is a key factor in the implementation of the Navy's portion of Joint Vision 2020 and the migration of existing legacy systems into the IT-21 strategy. Program funding supports the design, development and testing of the ISNS LAN for surface ships and SubLAN for submarines.

The ISNS program maximizes the use of both COTS software and hardware. Engineering and technical support is provided so that existing systems will keep pace with hardware and software that continues to be commercially supported. ISNS uses a combination of high speed wired and wireless switches, routers, servers, workstations 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. Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications, radio/satellite communications, and shore data dissemination infrastructure 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 over 460 different systems of application configurations including the following: Global Command and Control System Maritime (GCCS-M), Navy Tactical Command Support System (NTCSS), Navy Standard Integrated Personnel System (NSIPS), Theatre Medical Information Program – Maritime (TMIP-M), Defense Messaging System (DMS), Automated Digital Network System (ADNS), Global Broadcasting System (GBS), Tactical Tomahawk Weapons Control System (TTWCS) and Information Security (INFOSEC) programs. The ISNS program provides the infrastructure to support implementation/fielding of these programs. The LAN modernization rate must keep pace with hardware and software that is supported commercially in order to provide a supportable and secure FORCEnet infrastructure. ISNS includes Service Oriented Architecture (SOA) which is the mechanism to deliver the FORCEnet interface to the warfighter. SOA provides a composeable warfighting environment enabling dynamic configuration of capabilities tailored to meet specific warfighting missions. As the warfighting mission changes, the capabilities or services can be re-configured on the fly to meet the new warfighting requirement. This dynamic reconfiguration of services also known as "plug and fight" meets the composeable services vision of FORCEnet. SOA also provides the common core enterprise services and technical framework to allow organizations ubiquitous access to reliable, decision-quality information through a net-based services infrastructure and applications to bridge real-time and near-real-time communities of interest (COI). The Service Oriented Architecture (SOA) will empower the end user to pull information from any available source, with minimal latency, to support the mission. Its capabilities will allow Department of the Navy as well as Global Information Grid (GIG) users to task, post, process, use, store, manage and protect information resources on demand for warfighters, policy makers and support personnel. SOA will utilize a spiral process for delivering capability to the warfighter.

The ISNS Inc 1, Sensitive Compartmented Information (SCI) Networks and Combined Enterprise Regional Information Exchange System (CENTRIXS) programs will begin migrating to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Service Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - Tactical Command System	PROJECT NUMBER AND NAME 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System

The Combined Enterprise Regional Information Exchange System (CENTRIXS) program provides US Navy ships and submarines with secure, reliable, high-speed Local Area Network (LAN) with access to the Coalition Wide Area Network (WAN) to include CENTRIXS Four-Eyes (CFE), Global Counter Terrorism Task Force (GCTF), NATO Information Data Transfer System (NIDTS), Multinational Coalition Force - Iraq (MCFI), bilateral networks such as CENTRIXS-U.S. Japan (J) and CENTRIXS-US. Korea (K), and Communities Of Interest (COI) virtual networks such as Coalition Naval Forces - CENTCOM (CNFC), and Cooperative Maritime Forces - Pacific (CMFP). The CENTRIXS system provides real-time tactical and operational information sharing at the SECRET and SECRET REL (Releasable) level between naval afloat units, Component Commanders, Fleet Commanders, Numbered Fleet Commanders and Coalition Forces/Allies. When the CENTRIXS network is combined with other subsystems (Radio/Satellite Comms), it delivers an end-to-end network centric warfighting capability. CENTRIXS is the primary means for sharing classified, but releasable, data with coalition partners to enable the Navy to mean the National Strategy for Maritime Domain Awareness. The CENTRIXS program is comprised of Block 0, I, and II systems fielded across the Fleet, and Increment 1 which provides a network infrastructure that allows simultaneous access to multiple Coalition Wide Area Networks (WAN) and incorporates the Common PC Operating System Environment (COMPOSE) which provides a server and client operating system environment for other applications and collaborative tools such as Same time Chat, Domino and Command and Control PC (C2PC) as means to share a Common Operational Picture (COP) and exchange information using Collaboration At Sea (CAS). The CENTRIXS program uses both Commercial Off The Shelf (COTS) hardware and software and Open Standards to maximize commercial technology and support. Engineering and technical support ensures existing systems are upgraded and modified to keep pace with current technology and industry.

Funding supports the design, development and testing of the CENTRIXS LAN for surface and submarine platforms and the CENTRIXS Network Operations Center (NOC). The goal of the CENTRIXS program is to provide a cost-efficient, operationally effective network that dramatically reduces current infrastructure requirements while maximizing operational flexibility and warfighter utility in a coalition environment. Multi-Level Thin Client (MLTC) architecture supports shipboard Space, Weight and Power (SWAP) reductions and includes initiatives for server virtualization (ability to run multiple servers on a single server), drop scalability leveraging existing SIPRNET drops, remote authentication and remote system management. Additionally, funding will provide design, development and testing for a Unit Level MLTC system (provides a compressed shipboard rack/client footprint) and initiatives to include Language Translation, COI and Network Enclave Agility (ability to dynamically shift between all coalition networks and COIs) and Multi-Level Chat (a Cross Domain Solution (CDS) chat capability). The (CENTRIXS) program will begin migrating to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Service Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).

Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines, with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LANs). When the SubLAN network is combined with other subsystems, it delivers an end-to-end network-centric warfare capability. SubLAN I provides network infrastructure including an Unclassified Wireless Local Area Network (UWLAN), servers, and the Common PC Operating System Environment (COMPOSE), which provides the server and operating system environment in which other applications such as Non-Tactical Data Processing System (NTDPS) application suite can run.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - Tactical Command System	2307 - Shipboard LAN / WAN / Integrated Shipboard Network System

(U) B. Accomplishments/Planned Program

ISNS	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	4.468	2.958	7.319
RDT&E Articles Quantity			

FY07: Continued the development of COMPOSE 3.5. Continued to investigate, develop and test Storage Attached Network (SAN), Network Attached Storage (NAS), wireless, server consolidation and dual Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) routing architectures. Developed and tested security technologies that monitor and control network and server traffic. Performed tailored developmental testing on ISNS GiG-E LAN Increment I A(V) 1 and A(V)2. Developed the Capabilities Development Document (CDD) for ISNS Increment 2/CANES. Initiated the development of the Cost Analysis Requirements Document (CARD) and Life Cycle Cost Estimate (LCCE) for ISNS Increment 2/CANES.

FY08: Complete development of COMPOSE 3.5. Continue to develop and integrate ISNS Increment 2/CANES capabilities. Investigate software management including distribution, license management, and inventory management. Perform network consolidation and network capacity studies. Develop and integrate Expanded Maritime Intercept Operation (EMIO) and increased security. Complete development of the CARD. Continue development of the LCCE. Begin development of the Clinger Cohen Act (CCA) and Acquisition Strategy documentation for ISNS Incr 2/CANES.

Perform developmental testing and at sea demonstrations on the following ISNS Increment 2 technologies:

1. Identity Management/Service Security, including Authentication, Authorization, and Auditing.
2. Collaboration, including Text Collaboration.
3. Messaging, including Java Messaging Service
4. Service Oriented Architecture (SOA)
5. Multi-Level Security (MLS) / Cross Domain Solutions (CDS)

FY09: Continue to develop ISNS Increment 2/CANES capabilities which will begin to consolidate the afloat networks and enterprise services aboard ships. These capabilities include increased availability to mission critical level ships, multiple security enclaves, application hosting, and collaboration services.

Continue with at sea demonstrations for the following technologies:

1. Identity Management/Service Security, including Entity Management & Credential Management.
2. Collaboration, including Session Management and Presence & Awareness.
3. Discovery, including Content/Device/People Discovery.
4. Cross Domain Solutions (CDS)

Complete acquisition documentation required for ISNS Inc 2/CANES. Achieve Milestone B. Award the prototype development contract for ISNS Incr 2/CANES. Set up lab for applicable Early Adopter testing. Perform Developmental and Operational Testing (DT/OT) on Increment 1 Wireless, COMPOSE 3.5 and SOA 1.0.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - Tactical Command System	2307 - Shipboard LAN / WAN / Integrated Shipboard Network System

(U) B. Accomplishments/Planned Program

SubLAN	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.379	1.519	1.256
RDT&E Articles Quantity			

FY07 - Investigated server consolidation architectures using multi-Secure server Operating Systems. Performed verification for Correction of Deficiency event to SubLAN 1 SSGN architecture in support of SubLAN 1 Operational Evaluation (OPEVAL).

FY08 - Investigate, develop, and test cross domain solution architecture enabling capability for other submarine programs such as SCI, JTRS, CENTRIXS. Investigate, develop, test server architecture in support of Commercial off the Shelf (COTS) End-of-Life (EOL) and enablement of Consolidated Afloat Networks and Enterprise Services (CANES) functionality.

FY09 - Test and integrate follow-on COMPOSE software package in support of Consolidated Afloat Networks and Enterprise Services (CANES) migration strategy. Perform Operational Test Readiness Review (OTRR) of Inc 1.

CENTRIXS	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	1.735	1.842	2.779
RDT&E Articles Quantity			

FY07 - Continued the development of Increment 1. Integrated the Server Virtualization Development to provide the ability to run multiple virtual servers on one physical server reducing the server/rack footprint and creating a scalable MLS solution. Researched Community of Interest (COI) dynamic agility for Inc I. Developed the Cross Domain Solutions (CDS) security technology that will further reduce the network infrastructure. Investigated Voice over Internet Protocol (VoIP) technology for coalition enclaves. Continued the development of acquisition documents in support of a MS C.

FY08 - Obtain MS C Decision and LRIP for Inc 1. Utilize existing Q-70 contract for LRIP. Continue to evaluate dynamic COI capability, patch management capability, and client-loadable software capability in coordination with the CDS. Perform Operational Assessment (OA) on Block II with Engineering Change Order (ECO).

FY09 - Perform environmental testing and a combined DT/OT for Increment 1 with COMPOSE 3.0. Achieve Increment 1 (FL) Initial Operational Capability (IOC) and Full Rate Production (FRP). Begin migration to ISNS Inc 2/CANES. Develop CENTRIXS capability on submarines.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - Tactical Command System	2307 - Shipboard LAN / WAN / Integrated Shipboard Network System

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN 3050							
ISNS	67.822	151.594	133.315	115.012	134.351	170.142	171.947
CENTRIXS	14.279	9.331	29.106	39.196	39.988	32.787	8.823
SubLAN	31.297	20.667	31.745	28.272	21.109	33.347	36.862
Total:	113.398	181.592	194.166	182.480	195.448	236.276	217.632

(U) D. ACQUISITION STRATEGY:

Procurement and integration efforts for ISNS, CENTRIXS, and SubLAN are accomplished through various contracts.

(U) E. MAJOR PERFORMERS:

SPAWAR Systems Center, San Diego (SSC SD), CA, provides hardware and software interface design and testing for ISNS and SubLAN.
Commander Operational Test and Evaluation Force (COMOPTEVFOR), Norfolk, VA, provides operational test and evaluation support for ISNS, CENTRIXS, and SubLAN.
Lockheed Martin, Egan, MN, provides the engineering development module hardware for CENTRIXS.
Booz Allen Hamilton, San Diego, CA provides aquisition documentation support for ISNS and CENTRIXS.

(U) F. METRICS:

CLASSIFICATION:

Exhibit R-3, RDT&E Cost Analysis (page 1)										DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF	Titan		0.109	VARIOUS	0.227	VARIOUS	0.858	VARIOUS	Continuing	Continuing	Continuing
Integration & Test	WX	SSC SD		0.077	11/06	0.887	12/07	0.985	12/08	Continuing	Continuing	Continuing
Systems Engineering	VARIOUS	VARIOUS	2.576	0.244	VARIOUS	0.652	VARIOUS	0.684	VARIOUS	Continuing	Continuing	Continuing
Systems Engineering	WX	SSC SD		0.339	11/06	1.025	12/07	1.166	12/08	Continuing	Continuing	Continuing
Systems Engineering	CPAF	SAIC		0.285	02/07	0.049	12/07	0.049	12/08	Continuing	Continuing	Continuing
Systems Engineering	WX	SSC CH		0.725	02/07	0.893	01/08	1.012	01/09	Continuing	Continuing	Continuing
Subtotal Product Development			2.576	1.779		3.733		4.754		Continuing	Continuing	Continuing
Remarks:												
Software Development	TBD	TBD		0.000	12/06	0.400	TBD	0.325	TBD	Continuing	Continuing	Continuing
Software Development	CPAF	Titan		0.014	01/07	0.029	01/08	0.026	01/09	Continuing	Continuing	Continuing
Subtotal Support			0.000	0.014		0.029		0.026		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3, RDT&E Cost Analysis

CLASSIFICATION:

Exhibit R-3, RDT&E Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC	3.169	1.695	12/06	0.576	12/07	1.564	12/08	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WX	NIOC		0.015	02/07	0.020	01/08	0.018	01/09	Continuing	Continuing	Continuing
Developmental Test & Evaluation	MP	JITC	0.077	0.115	11/06	0.000	12/07	0.166	12/08	Continuing	Continuing	Continuing
Developmental Test & Evaluation	VARIOUS	NSMA		0.255	VARIOUS	0.134	VARIOUS	0.418	VARIOUS	Continuing	Continuing	Continuing
Developmental Test & Evaluation	CPAF	NAVSEA/LM		0.350	08/07	0.000	12/07	0.000	12/08	Continuing	Continuing	Continuing
Developmental Test & Evaluation	VARIOUS	VARIOUS	0.200	0.000	VARIOUS	0.157	VARIOUS	0.226	VARIOUS	Continuing	Continuing	Continuing
Operational Test & Evaluation	WX	COMOPTEVFOR	0.488	0.070	02/07	0.244	12/07	0.360	12/08	Continuing	Continuing	Continuing
Operational Test & Evaluation	WX	SSC		0.000		0.598	TBD	0.650	TBD	Continuing	Continuing	Continuing
Subtotal T&E			3.934	2.500		1.729		3.402		Continuing	Continuing	Continuing
Remarks:												
Program Management Support	WX	SSC SD		0.892	12/06	0.000	12/07	0.193	12/08	Continuing	Continuing	Continuing
Program Management Support	VARIOUS	VARIOUS	0.750	0.000	VARIOUS	0.793	VARIOUS	2.480	VARIOUS	Continuing	Continuing	Continuing
Program Management Support	CPAF	Booz Allen Hamilton		1.397	01/07	0.035	01/08	0.499	01/09	Continuing	Continuing	Continuing
Subtotal Management			0.750	2.289		0.828		3.172		Continuing	Continuing	Continuing
Remarks:												
Total Cost			7.260	6.582		6.319		11.354		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3, RDT&E Cost Analysis

CLASSIFICATION:

EXHIBIT R4, RDT&E Schedule Profile

DATE: **February 2008**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604231N - Tactical Command System

PROJECT NUMBER AND NAME: 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System (ISNS)

Fiscal Year	2006				2007				2008				2009				2010				2011				2012				2013			
Quarter	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 Inc 1 (see note 1) Inc 2 & 3/CANES					FD (V)8			FD A(V)1 A(V)2		FD C(V)X					Inc 1 Wireless FD	Inc 2 MS B							Inc 2/CANES MS C						Inc 3/CANES 2 MS B			
Prototype Phase Demonstrations (Trident Warrior)											TW				TW				TW				TW				TW				TW	
System Development Inc 2/CANES Inc 3/CANES 2																Inc 2/CANES System Development													Inc 3/CANES 2 System Development			
Software Deliveries (see note 3)									COMPOSE 3.0.1				COMPOSE 3.5		SOA 1.0	COMPOSE 4.0					SOA/MLS				SOA/MLS				SOA/MLS			
Test & Evaluation Milestones (see note 4) Development Test Operational Test				(V)8 DT/OT DT OT			A(V)1 A(V)2 DT Assist DT						Inc 1 Wireless/ COMPOSE 3.5 DT OT		SOA 1.0 DT OT	COMPOSE 4.0 DT OT											Inc 2 DT OT							
Production Milestones LRIP FRP	Inc 1 LRIP for (V)8, A(V)1, and A(V)2 A(V)9 FRP							A(V)1 A(V)2 FRP					Inc 1 Wireless/ COMPOSE 3.5 FRP			SOA FRP									Inc 2/CANES LRIP						Inc 2/CANES FRP		
Deliveries																																

NOTES:

1. Events added for follow on increments reflecting migration to ISNS Inc 2/CANES.
2. Software release versions and delivery dates updated to reflect current software fielding schedule.

EXHIBIT R4, RDT&E Schedule Profile

CLASSIFICATION:

Exhibit R-4a, RDT&E Schedule Detail						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**	PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System (ISNS)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestone - FD (V)8	1Q						
Acquisition Milestone - A(V)1 & AV(2)	4Q						
Acquisition Milestone - FD C(V)X		2Q					
Acquisition Milestone - Inc 1 Wireless			3Q				
Acquisition Milestone - Inc 2 MS B			4Q				
Acquisition Milestone - Inc 2 MS C					4Q		
Acquisition Milestone - Inc 3 MS B						3Q	
Prototype Phase - TW Demonstration		3Q					
Prototype Phase - TW Demonstration			3Q				
Prototype Phase - TW Demonstration				3Q			
Prototype Phase - TW Demonstration					3Q		
Prototype Phase - TW Demonstration						3Q	
Prototype Phase - TW Demonstration							3Q
System Development - Inc 2/CANES			4Q	1Q-4Q	1Q-4Q		
System Development - Inc 3/CANES 2						3Q-4Q	1Q-4Q
Software Delivery - 3.0.1		2Q					
Software Delivery - 3.5			1Q				
Software Delivery - SOA 1.0			4Q				
Software Delivery - 4.0				1Q			
Software Delivery - SOA/MLS					2Q		
Software Delivery - SOA/MLS						2Q	
Software Delivery - SOA/MLS							2Q
Development Test - (V)8							
Development Test - A(V)1 & A(V)2	3Q						
Development Test - Inc 1 Wireless/3.5			2Q				
Development Test - SOA 1.0			3Q				
Development Test - 4.0				1Q			
Development Test - Inc 2/CANES						3Q	
Operational Test - (V)8							
Operational Test - Inc 1 Wireless/3.5			2Q				
Operational Test - SOA 1.0			3Q				
Operational Test - 4.0				1Q			
Operational Test - Inc 2/CANES						3Q	
Production Milestone - A(V)9 FRP							
Production Milestone - LRIP Inc 1	1Q						
Production Milestone - A(V)1 & A(V)2 FRP	4Q						
Production Milestone - Inc 1 Wireless/3.5 FRP			3Q				
Production Milestone - SOA FRP			4Q				
Production Milestone - LRIP Inc 2						1Q - 4Q	1Q
Production Milestone - Inc 2/CANES FRP							2Q

NOTES:
1. Events added for follow on increments reflecting migration to ISNS Inc 2/CANES.
2. Software release versions and delivery dates updated to reflect current software fielding schedule.

CLASSIFICATION:

EXHIBIT R4, RDT&E Schedule Profile

DATE: **February 2008**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604231N Tactical Command System

PROJECT NUMBER AND NAME: 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System (CENTRIXS)

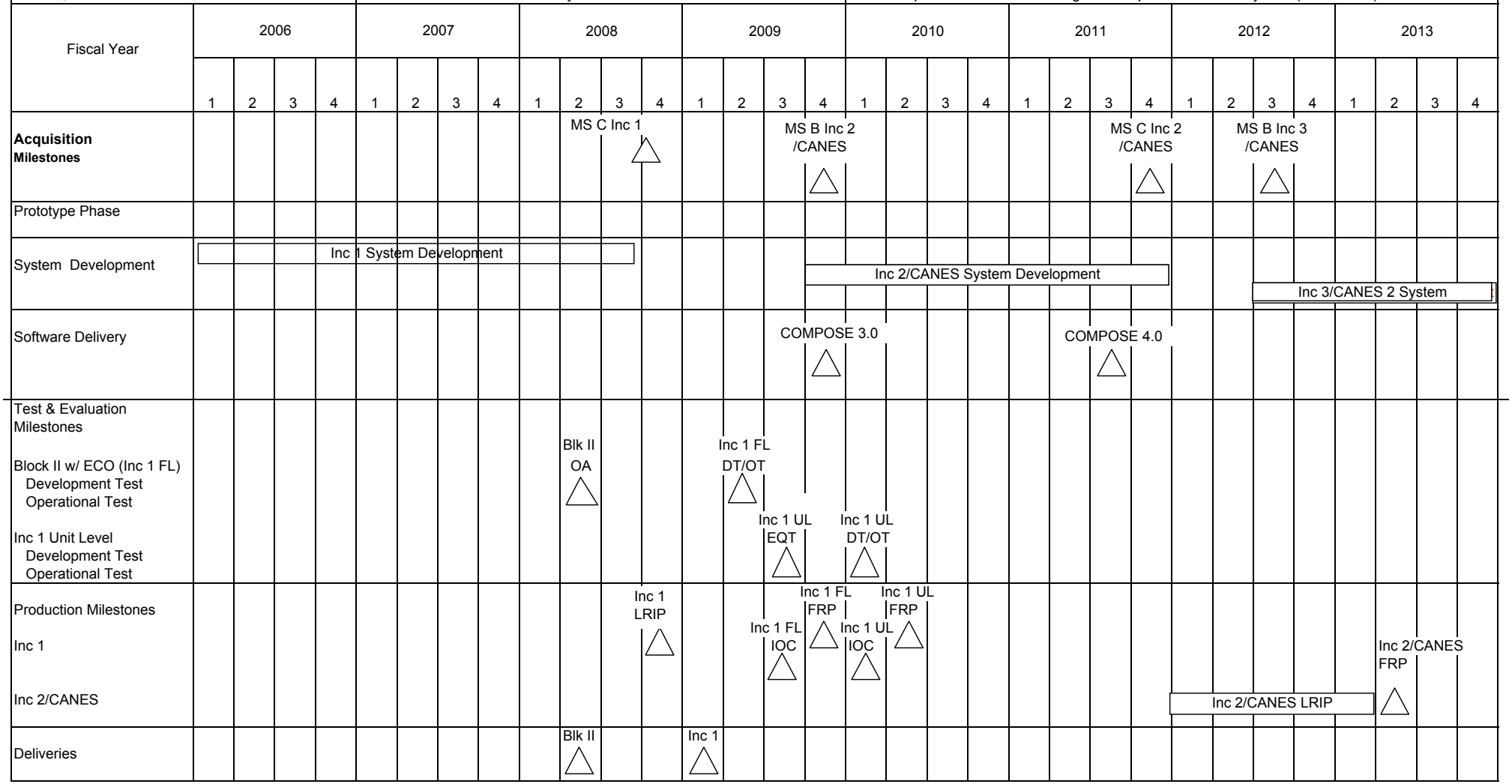


EXHIBIT R4, RDT&E Schedule Profile

NOTES:
1. MS C and FRP (Inc 1) slip due to Capabilities Production Document (CPD) approval delays.
2. DT/OT slip due to the MS C slip, addition of EQT, and delays in the accreditation process. IOC and FRP shifted as a result.
3. Events added for follow on increments reflecting migration to ISNS Inc 2/CANES.
4. Block II with the Engineering Change Order (ECO) is equivalent to the Increment 1 Force Level (FL).

CLASSIFICATION:

Exhibit R-4a, RDT&E Schedule Detail						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA-5**	PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System (CENTRIXS)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestone - Inc 1 MS C		3Q-4Q					
Acquisition Milestone - ISNS Inc 2/ CANES MS B			4Q				
Acquisition Milestone - ISNS Inc 2/CANES MS C					4Q		
Acquisition Milestone - ISNS Inc 3/ CANES 2 MS B						3Q	
System Development - Inc 1	1Q-4Q	1Q-3Q					
System Development - ISNS Inc 2/CANES			4Q	1Q-4Q	1Q-4Q		
System Development - ISNS Inc 3/CANES 2						3Q-4Q	1Q-4Q
Software Delivery - COMPOSE 3.0			4Q				
Software Delivery - COMPOSE 4.0					3Q		
Development Test - Inc 1			2Q	1Q			
Operational Test - Blk II OA		2Q					
Operational Test - Inc 1 FL			2Q				
Operational Test - Inc 1 UL EQT			3Q				
Operational Test - Inc 1 UL				1Q			
Production Milestone - Inc 1 LRIP		4Q					
Production Milestone - Inc 1 FL IOC			3Q				
Production Milestone - Inc 1 FL FRP			4Q				
Production Milestone - Inc 1 UL IOC				1Q			
Production Milestone - Inc 1 UL FRP				2Q			
Production Milestone - ISNS Inc 2/CANES LRIP						1Q-4Q	1Q
Production Milestone - ISNS Inc 2/CANES FRP							2Q
Deliveries - Block II		2Q					
Deliveries - Inc 1			1Q				

NOTES:
1. MS C and FRP (Inc 1) slip due to Capabilities Production Document (CPD) approval delays
2. DT/OT slip due to the MS C slip, addition of EQT, and delays in the accredidation process. IOC and FRP shifted as a result.
3. Events added for follow on increments reflecting migration to ISNS Inc 2/CANES.
4. Block II with Engineering Change Order (ECO) is equivalent to the Increment 1 Force Level (FL).

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																												DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**					PROGRAM ELEMENT NUMBER AND NAME 0604231N - Tactical Command System								PROJECT NUMBER AND NAME 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System (SubLAN)																
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones SubLAN Incr 1 (Note 1)				PDR △				CDR △											FOC △										
System Development (e.g., Radar System dev.)																												
Software Deliveries COMPOSE								3.0.1 △				3.5 △																
Test & Evaluation Milestones Development Test Operational Test (Note 2)								OTRR △			Incr 1 FOTE																	
Production Milestones																												
Deliveries																												

EXHIBIT R4, Schedule Profile

NOTES:
(1) SSBN availability slipped right one year, precluding completion in FY10, causing FOC scheduled skip.
(2) Shift in strategy is to incorporate Inc 2 functionality into Inc 1, and perform FOT&E.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-5**			PROJECT NUMBER AND NAME 2307 - Shipboard LAN / WAN / Integrated Shipboard Network System (SubLAN)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Inc 1 Preliminary Design Review	4Q						
Inc 1 Critical Design Review		4Q					
Inc 1 Operational Test Readiness Review		4Q					
Full Rate Production - SubLAN I							
Full Operational Capability - SubLAN 1					3Q		
Software Delivery - 3.0.1		4Q					
Software Delivery - 3.5			4Q				
Follow-On Test - SubLAN 1 (Note 2)			3Q				

NOTES:

Exhibit R-4a, RDT&E Schedule Detail

(1) SSBN availability slipped right one year, precluding completion in FY10, causing FOC schedule skip.

(2) Shift in strategy is to incorporate Inc 2 functionality into Inc 1, and perform FOT&E.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N - Tactical Command System		PROJECT NUMBER AND NAME 3032 NTCSS Enterprise Database and MLDN				
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**0.045**	**0.052**	**0.050**	**0.050**	**0.051**	**0.052**	**0.053**
RDT&E Articles Qty	**1**	**1**	**1**	**1**	**1**	**1**	**1**

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

Navy Tactical Command Support System (NTCSS) - This RDT&E,N Project funding supports design, development and testing of the Navy Tactical Command Support System (NTCSS) web initiative. A web-enabled NTCSS will place all NTCSS databases into a similar structure, allowing greater interoperability between applications and 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,N Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604231N - Tactical Command System	3032 NTCSS Enterprise Database and MLDN

(U) B. Accomplishments/Planned Program

NTCSS	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.045	0.052	0.050
RDT&E,N Articles Quantity	1	1	1

FY07: Supported Web-enabled NTCSS applications. NTCSS software development received.

FY08/09: Continue Web-enabling of NTCSS applications.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - TACTICAL COMMAND SYSTEM	3032 NTCSS Enterprise Database and MLDN

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN 261100 Naval Tactical Command Support System	7.278	26.037	31.283	33.594	33.137	34.484	35.303	Cont.	Cont.

Related RDT&E:
RDT&E PE 0604231N 9895C Logistics Common Operating Picture

(U) E. ACQUISITION STRATEGY:

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

(U) F. MAJOR PERFORMERS: SPAWAR Systems Center (SSC) Norfolk: Software Development, Award Date: Various.

(U) G. METRICS:

Earned Value Management is used for metrics reporting and risk management.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)			DATE: **February 2008**									
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N - Tactical Command System				PROJECT NUMBER AND NAME 3032 NTCSS Enterprise Database and MLDN						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	VARIOUS	VARIOUS	0.668								0.668	
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering	VARIOUS	VARIOUS	1.000								1.000	
Training Development												
Licenses	VARIOUS	VARIOUS	0.700								0.700	
Tooling												
GFE												
Award Fees												
Subtotal Product Development			2.368								2.368	
Remarks:												
Development Support												
Software Development	VARIOUS	VARIOUS	10.622	0.045	VARIOUS	0.052	VARIOUS	0.050	VARIOUS	Continuing	Continuing	Continuing
Integrated Logistics Support												
Configuration Management	VARIOUS	VARIOUS	0.460								0.460	
Technical Data	VARIOUS	VARIOUS	0.200								0.200	
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			11.282	0.045		0.052		0.050		Continuing	Continuing	Continuing
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 3032 NTCSS Enterprise Database and MLDN						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation	WX	NAWC-AD	0.585								0.585	
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.585								0.585	
Remarks:												
Contractor Engineering Support	VARIOUS	VARIOUS	0.896								0.896	
Government Engineering Support	VARIOUS	VARIOUS	0.279								0.279	
Program Management Support												
Travel												
Transportation												
Subtotal Management			1.175								1.175	
Remarks:												
Total Cost			15.410	0.045		0.052		0.050		Continuing	Continuing	
Remarks:												

Exhibit R-3, RDTEN Project Cost Analysis

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																	DATE: **February 2008**											
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**					PROGRAM ELEMENT NUMBER AND NAME 0604231N - Tactical Command System								PROJECT NUMBER AND NAME 3032 NTCSS Enterprise Database and MLDN																
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
System Development			▲	▲			▲	▲			▲	▲			▲	▲			▲	▲			▲	▲			▲	▲
Software Deliveries				▲				▲				▲				▲				▲				▲				▲
Test & Evaluation Milestones																												
NTCSS web services FOT&E																												
Development Test																												
Operational Test																												
Production Milestones																												
FRP																												
Deliveries																												

Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604231N - Tactical Command System		PROJECT NUMBER AND NAME 3032 NTCSS Enterprise Database and MLDN				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Contract Preparation							
Software Specification Review (SSR)							
Preliminary Design Review (PDR)							
System Development	Q3-Q4	Q3-Q4	Q3-Q4	Q3-Q4	Q3-Q4	Q3-Q4	Q3-Q4
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	Q4	Q4	Q4	Q4	Q4	Q4	Q4
Preproduction Readiness Review (PRR)							
EDM Radar Delivery - Flt Related							
Milestone C (MS C)							
Operational Testing (OT-IIIA)							
Start Low-Rate Initial Production I (LRIP I)							
Software Delivery 2XXSW							
Developmental Testing (DT-IIIB1)							
Developmental Testing (DT-IIIB2)							
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 Initial Production II Delivery							
IOC							
Full Rate Production (FRP) Decision							
Full Rate Production Start							
First Deployment							

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding ($000)							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604231N - Tactical Command System			PROJECT NUMBER AND NAME 3032 NTCSS Enterprise Database and MLDN			
Program Title	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**
	-	-	-	-	-	-	-	-

* NTCSS does not budget for Termination Liability. Termination Liability Clauses indicate that the maximum funding available to the contractor is the total amount obligated for the task, upon proposal to the Procurement Contracting Officer, if the government should terminate the contract or task for convenience.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System		PROJECT NUMBER AND NAME 9123 FORCEnet			

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**14.842**	**14.174**	**63.846**	**20.964**	**20.544**	**26.963**	**26.678**
RDT&E Articles Qty							

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

FORCEnet is the Navy and Marine Corps initiative to achieve Department of Navy (DoN)/Department of Defense (DoD) Transformation, Joint/Allied/Coalition Interoperability, implementing Maritime Domain Awareness (MDA), and Net-Centric Operations/Warfare (NCO/W). FORCEnet is the driver of Sea Power 21, Naval Power 21, the Naval Operating Concept for Joint Operations, and the Department of the Navy's Naval Transformation Roadmap.

The FORCEnet project line funds the following efforts:

(1) Department of Navy (DoN) C4ISR Transformation/Strategic Planning within DoN/Joint/Department of Defense (DoD) Framework: Assesses existing and emerging capabilities, develops and evaluates Navy-wide policies, plans, requirements, and compliance; develops integration and investment strategies; and accelerates innovation, testing, assessment and fielding of material and non-material solutions for enhanced operational capability, Joint/Allied/Coalition interoperability and application/enforcement of enterprise requirements/architectures/standards toward greater NCO/W capability. Supports Navy implementation of Maritime Domain Awareness (MDA) capability, Maritime Headquarters with Maritime Operations Centers (MHQ w/MOC) and enterprise network efforts.

(2) Accelerating Joint Warfighting Capability (Trident Warrior): Enables early delivery of NCO/W capabilities to the warfighter via Fleet-directed Trident Warrior operational events with a strong emphasis on delivering MDA and MHQ w/MOC capability. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Develops supporting concepts/Concept of Operations (CONOPS) to improve warfighting effectiveness. Coordinates FORCEnet efforts with other Service/Joint/DoD/National efforts to ensure Joint/Interagency/Allied/Coalition applicability and interoperability.

(3) Implementing Sea Power-21 /FORCEnet Requirements (FORCEnet Compliance): Implements and assesses FORCEnet requirements in DoN acquisition programs. Develops supporting architectures/standards and data strategies. Develops FORCEnet Implementation Tool Suite (FITS). Develops FORCEnet compliance services. Develops FORCEnet compliance test procedures and test methodologies. Refines FORCEnet compliance and defines levels of compliance. Conducts compliance testing reviews and reports on compliance adherence to Office of the Chief of Naval Operations (OPNAV), Naval Network Warfare Command (NETWARCOM), Assistant Secretary of the Navy Research, Development and Acquisition (ASN RDA) and the FORCEnet Coordination Council. Execute Systems Engineering Technical Authority and process implementation including execution of SETR reviews throughout all Navy POR lifecycles in the FORCEnet domain.

(4) Systems Requirements Analysis / Systems Engineering (formerly Osprey Hawksbill): Supports requirements analysis and systems engineering of systems under development by DoN/DoD. Funding supports the technical and systems engineering expertise required for C4ISR systems technical requirements generation, requirements tracking, architecture development, and detailed analyses on various warfare systems under development to determine if the required C4 infrastructure, resources, and other capabilities are aligned and synchronized. The funding also supports the systems engineering for the synthesis of current network-centric, C4ISR programs of record with existing/emerging capabilities.

(5) Maritime Domain Awareness (MDA): Maritime Domain Awareness is the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy or environment. MDA objectives include the persistent monitoring of and ability to access and maintain data on vessels, cargo, people, and infrastructure; and the ability to collect, fuse, analyze, and disseminate information to decision makers to facilitate effective understanding. This initiative will identify, develop and transition data fusion, replication, sharing and assessment tools to achieve MDA. The initiative extends the reach of MDA tools and capabilities to include the Atlantic approaches to the United States and the European Area of Responsibility (AOR).

This MDA focused Deep Lightning Bolt (DLB) warfighting enhancements are designed to achieve an all-source distributed MDA capability, leveraging existing MDA Navy and Non-Navy initiatives in the developmental phase and ensuring the best products transition to strategic, operational and tactical users as well as further development of MDA prototypes. The products will support all-source data fusion and mining, replication of MDA related data gathered in various operations such as expanded-maritime interdiction operations (E-MIO), sharing information with allies, and developing subject matter expertise and assessment tools to achieve MDA and enhance operational decision making.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	9123 FORCEnet

(U) B. Accomplishments/Planned Program

FORCEnet	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	14.842	14.174	63.846
RDT&E,N Articles Quantity			

FY07 Accomplishments:

1) DoN Transformation within Joint/DoD Framework (Strategic Planning): Continued to refine expanded Joint/Interagency/Allied/Coalition coordination/policy/planning. Convened third annual FRCC Review Board and FRCC Flag Board. Validated FORCEnet Requirements/Architectures/Standards Spiral/Iteration. Updated integrated FORCEnet Consolidated Compliance Checklist (FCCC) and began execution of DoN-wide implementation of FORCEnet/FCCC compliance under SECNAVINST 5000.2D.
2) Accelerating Joint Warfighting Capability (Trident Warrior): Completed analyses of TW06 experiment results and delivered Military Utility Assessment to Naval Network Warfare Command (NETWARCOM), Commander Fleet Forces Command (CFFC), and the Sea Trial Expeditionary Strike Group (ESG). Conducted TW07 in Commander Second Fleet (C2F) Area of Responsibility (AOR) using Carrier Strike Group (CSG)/ESG units with continued Coalition presence. TW07's major initiatives included National Maritime Security, coalition interoperability and Joint Command and Control (C2) with a theme of Maritime Security and with a focus on Maritime Headquarters (MHQ) Maritime Operations Center (MOC), Maritime Domain Awareness (MDA), and Coalition Operations. Investigated operational level implementation of MHQ MOC, MDA, Coalition, Global Information Grid (GIG) and Network Centric Enterprise Services (NCES) technologies and associated Tactics, Techniques, and Procedures (TTPs) and Concept of Operations (CONOPS). Provided support for the spiral development of programs of record. Planned and executed TW07 operational events to accelerate transition of FORCEnet capability to the Fleet. Provided leave-behind capability for one deployment cycle of successful technologies for extended operational assessment. Completed analyses of TW07 experiment results and delivered Military Utility Assessment to NETWARCOM, CFFC and the Sea Trial ESG. Began planning for Trident Warrior 08. Developed FY 08-09 FORCEnet Sea Trial Plan.
3) Implementation of FORCEnet Requirements (FORCEnet Compliance): Performed POR compliance reviews using validated assessment tools, compliance test procedures/methodologies. Reported POR level of FORCEnet compliance to OPNAV, NETWARCOM, ASN(RD&A) and the FORCEnet Coordination Council. Continued to refine/support the FET process; initiated FET feedback to Naval Capabilities Development Process (NCDP) to integrate FORCEnet Compliance into the DoN Planning/Programming/Budgeting/Execution (PPBE) process.
4) Osprey Hawksbill - This is a classified program.

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N Tactical Command System	9123 FORCEnet

(U) B. Accomplishments/Planned Program (Continued)

FY08 Plans:

1) DoN Transformation within Joint/DoD Framework (Strategic Planning): Refine expanded Joint/Interagency/Allied/Coalition coordination/policy/planning. Convene the fourth annual FORCEnet Requirements/Capabilities and Compliance (FRCC) Review Board and FRCC Flag Board. Validate FORCEnet Requirements/Architectures/Standards Spiral/Iteration. Update integrated FORCEnet Consolidated Compliance Checklist (FCCC) and continue to refine/expand DoN-wide implementation of FORCEnet/FCCC compliance under SECNAVINST 5000.2D .
2) Accelerating Joint Warfighting Capability (Trident Warrior): Explore TW08 in Commander Third Fleet (C3F)/Commander Seventh Fleet (C7F) Area of Responsibility (AOR) using Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) units with continued Coalition presence. Investigate operational level implementation of Maritime Domain Awareness (MDA), Maritime Headquarters (MHQ) Maritime Operations Center (MOC), Coalition, Global Information Grid (GIG) and Network Centric Enterprise Services (NCES) technologies and associated Tactics, Techniques, and Procedures (TTPs) and CONOPS. Provide support for the spiral development of programs of record. Plan and execute TW08 operational events to accelerate transition of FORCEnet capability to the Fleet. Provide leave-behind capability for one deployment cycle of successful technologies for extended operational assessment. Complete analysis of TW08 experiment results and deliver Military Utility Assessment to NETWARCOM, CFFC and the Sea Trial ESG. Begin planning for Trident Warrior 09. Develop FY 09-10 FORCEnet Sea Trial Plan.
3) Implementing FORCEnet Requirements (FORCEnet Compliance): Perform POR compliance reviews using validated assessment tools, compliance test procedures/methodologies. Report POR level of FORCEnet compliance to OPNAV, NETWARCOM, ASN(RD&A) and the FORCEnet Coordination Council. Deliver two FORCEnet Implementation Tool Suite Spirals. Continue to refine/expand the FORCEnet Capabilities Development Process, integrating FORCEnet Compliance into the DoN Planning/Programming/Budgeting/Execution (PPBE) and JCIDS processes. Implement Netcentric Data Strategy across all Navy led Communities of Interest.
4) Osprey Hawksbill - This is a classified program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet

(U) B. Accomplishments/Planned Program (Continued)

1) DoN Transformation within Joint/DoD Framework (Strategic Planning): Refine expanded Joint/Interagency/Allied/Coalition coordination/policy/planning. Convene the fifth annual FRCC Review Board and FRCC Flag Board. Validate FORCEnet Requirements/Architectures/Standards Spiral/Iteration. Update integrated FORCEnet Consolidated Compliance Checklist (FCCC) and continue to refine/expand DoN-wide implementation of FORCEnet/FCCC compliance under SECNAVINST 5000.2D

2) Accelerating Joint Warfighting Capability (Trident Warrior): Explore TW09 in Commander Second Fleet (C2F)/Commander Sixth Fleet (C6F) Area of Responsibility (AOR) using Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) units with continued Coalition presence. Investigate operational level implementation of Maritime Domain Awareness (MDA), Maritime Headquarters (MHQ) Maritime Operations Center (MOC), Coalition, Global Information Grid (GIG) and Network Centric Enterprise Services (NCES) technologies and associated Tactics, Techniques, and Procedures (TTPs) and CONOPS. Provide support for the spiral development of programs of record. Support MDA Spiral 2 testing. Plan and execute TW09 operational events to accelerate transition of FORCEnet capability to the Fleet. Provide leave behind capability for one deployment cycle of successful technologies for extended operational assessment. Complete analysis of TW09 experiment results and deliver Military Utility Assessment to NETWARCOM, CFFC and the Sea Trial ESG. Begin planning for Trident Warrior 10. Develop FY 10-11 FORCEnet Sea Trial Plan.

3) Implementing FORCEnet Requirements (FORCEnet Compliance): Perform POR compliance reviews using validated assessment tools, compliance test procedures/methodologies. Report POR level of FORCEnet compliance to OPNAV, NETWARCOM, ASN(RD&A) and the FORCEnet Coordination Council. Deliver two FORCEnet Implementation Tool Suite Spirals. Continue to refine/expand the FORCEnet Capabilities Development Process, integrating FORCEnet Compliance into the DoN Planning/Programming/Budgeting/Execution (PPBE) and JCIDS processes. Implement Netcentric Data Strategy across all Navy led Communities of Interest.

4) Systems Requirements Analysis / Systems Engineering (formerly Osprey Hawksbill): Conducts requirements analysis and systems engineering of systems under development by DoN/DoD. Provides technical and systems engineering expertise required for C4ISR systems technical requirements generation and tracking, architecture development, systems analysis to evaluate alignment and synchronization of infrastructure, resources and other existing/developing systems. Funding also supports the systems engineering for the synthesis of current net-centric C4ISR systems with existing and emerging C4ISR systems.

5) Maritime Domain Awareness (MDA):

-- MDA capability will leverage Comprehensive Maritime Awareness (CMA) JCTD's results and technologies and other MDA related initiatives to provide baseline MDA capabilities to transition into a MDA fusion services program start.

-- In addition to technical or software products, the MDA initiative supports the startup of a Central Repository and Fusion Center at the National Maritime Intelligence Center (NMIC), along with 4 Regional Gateways at Maritime Headquarters with Maritime Operational Centers (MHQ/MOC) (MDA Fusion Support Services), PACFLT, 5th Fleet, 7th Fleet. These nodes will support tactical units such as U.S. Navy force level ships and any unanticipated user at any echelon/location within comprehensive maritime domain architecture that requires MDA Fusion services to conduct Global War on Terrorism (GWOT) and Homeland Defense operations.

-- MDA fusion services initiative will support the acceleration of prototype systems to support AIS unclass data sharing and the transition of emerging MDA related technologies into the MDA architecture. This warfighting enhancement is designed to achieve an all- source MDA capability, leveraging existing MDA initiatives in the developmental phase and ensuring the best products transition to strategic, operational and tactical users. The products will support all-source data fusion and mining, replication of MDA related data gathered in various operations such as expanded-maritime interdiction operations (E-MIO), sharing information with allies, and developing subject matter expertise and assessment tools to achieve MDA and enhance operational decision making.

--Enhance automated fusion at additional sites.

-- MDA collecting and monitoring includes enhanced vessel tracking and long term storage and access to historical vessel tracking data. Greater fidelity in automated anomaly detection and enhanced pattern recognition, trend analysis and predictive behavior. Dissemination capabilities will include enterprise alerting and enhanced detection of illegal activities.

-- MDA data sharing with agency and coalition partners. Training, systems integration / engineering and testing / assessments and transition MDA capabilities to programs of record.

-- Non-Classified Enclave will provide monitoring, collection and dissemination of identity and mission data, to include sensor identity data from a tactical environment. This capability will introduce an appropriate environment to vet identity information across participating United States agencies and other multi-national organizations. The Non-Classified Enclave will provide capabilities to cooperate and coordinate the sharing of information in the Maritime Domain Awareness (MDA) spiral 1 and 2 nodes, mapped to the various networks and to the capabilities provided by installed equipment or by user Web-access.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA- 5**	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost

Not Applicable

(U) D. ACQUISITION STRATEGY:

Not Applicable

(U) E. MAJOR PERFORMERS:

FY 2007 / FY 2008 / FY 2009:
Space and Naval Warfare Systems Command System Center (SSC) - Charleston, SC: Trident Warrior (TW) , FITS - Systems Engineering Support, Software Develop, Integrate, Demonstrate, Field - MDA Prototypes
Space and Naval Warfare Systems Command System Center (SSC) - San Diego, CA: Trident Warrior (TW) Risk Reduction, Limited Objective Experimentation (LOE), Test Director, Tech Lead, Analysis Support, Network Engineering, Software Develop, Integrate, Demonstrate, Field - MDA Prototypes
Naval Air Warfare Center - Patuxent River, MD: Systems Engineering Support
Naval Post Graduate School - Monterey, CA: Analysis Support and Analysis Lead, MDA Research Support (PMW 180 Sponsor), MDA Analysis and Capabilities Definition
American Systems Corporation - Chantilly, VA & San Diego, CA: Program Management, Program Office Support, Transition Management, Risk Management, System Engineering
System Planning & Analysis Corporation - Arlington, VA & San Diego, CA: Acquisition Management, Program Office Support
Naval Research Lab - Washington, DC: Technical Management, R&D Engineering, MDA Software Fast Prototyping
Defense Technical Information Center (DTIC) - Fort Belvoir, VA: NETWARCOM Engineering Information Assurance (IA) Support
Ausgar Technologies Inc. - San Diego, CA: Trident Warrior Execution Director, Tech Lead, Network Engineering Support, Install Support
AMSEC LLC - Virginia Beach, VA: Program Management Support
Anteon Corporation - Fairfax, VA: Program Management Support
Booz Allen Hamilton, Inc. - McLean VA: Design, Planning, and Engineering Support
iBASEt - Foothill Ranch, CA: FITS - Systems Engineering Support
Northrop Grumman Defense Mission Systems, Inc. - Reston, VA: OPNAV Strategic Planning Support
SYS Technologies - San Diego, CA: Systems Engineering Support
X-Feds, Inc. - San Diego, CA: Trident Warrior (TW) Systems Engineering Support

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA- 5	0604231N Tactical Command System	9123 FORCEnet

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Dev - MDA	Various	Various						1.440	TBD	Continuing	Continuing	0.000
Ancillary Hardware Development												0.000
Aircraft Integration												0.000
Ship Integration	Various	Various	0.935								0.935	0.000
Shore Integration												
Systems Engineering - MDA	Various	TBD						0.650	TBD	Continuing	Continuing	0.000
Systems Engineering	Various	Various	1.600								1.600	0.000
Award Fees												0.000
Subtotal Product Development			2.535	0.000				2.090		0.000	Continuing	0.000

Remarks:

Development Support	Various	Various	2.700								2.700	0.000
Software Development	Various	Various	2.900								2.900	0.000
Integrated Logistics Support - MDA	TBD	TBD						0.250	TBD	Continuing	Continuing	0.000
Configuration Management - MDA	TBD	TBD						0.165	TBD	Continuing	Continuing	0.000
Development Support - MDA	TBD	TBD						0.250	TBD	Continuing	Continuing	0.000
Sys Req Analysis/Sys Eng	Various	Various	8.361	1.824	Various	1.877		1.954	Various	Continuing	Continuing	0.000
Software Development - MDA	TBD	TBD						2.250	TBD	Continuing	Continuing	0.000
Software Develop, Integrate, Demonstrate, Field - MDA Prototypes	TBD	TBD						43.500	TBD	Continuing	Continuing	0.000
Subtotal Support			13.961	1.824		1.877		48.369		0.000	Continuing	0.000

Remarks:

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2008**

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

PROGRAM ELEMENT: 0604231N Tactical Command System

PROJECT NUMBER AND NAME: 9123 FORCEnet

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	1.300								1.300	0.000
Accelerating Joint Warfighting Capability	Various	Various	11.277	5.359	Various	5.118	Various	5.332	Various	Continuing	Continuing	Continuing
FORCEnet Compliance Implementation			5.872	3.974	Various	3.725	Various	3.880	Various	Continuing	Continuing	Continuing
DoN Transformation (Strategic Planning)			9.288	3.685	Various	3.454	Various	3.280	Various	Continuing	Continuing	Continuing
Developmental Test & Evaluation - MDA	TBD	TBD						0.500	TBD	Continuing	Continuing	Continuing
GFE											0.000	0.000
Subtotal T&E			27.737	13.018		12.297		12.992		Continuing	Continuing	Continuing

Remarks:

Technical Support			2.124								2.124	0.000
Government Engineering Support			3.899								3.899	0.000
Program Management Support - MDA								0.250	TBD	Continuing	Continuing	Continuing
Travel - MDA								0.145	TBD	Continuing	Continuing	Continuing
Program Management Support			0.800								0.800	0.000
Travel			0.299								0.299	0.000
Subtotal Management			7.122	0.000		0.000		0.395		Continuing	Continuing	Continuing

Remarks:

Total Cost			51.355	14.842		14.174		63.846			Continuing	0.000

Remarks:

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

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

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

PROJECT NUMBER AND NAME: 9123 FORCEnet

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
QTR	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
TRIDENT WARRIOR																												
TW[CFY-1] Military Utility Assessment																												
TW [CFY] Execution		△	△			△	△			△	△			△	△			△	△			△	△			△	△	
TW[CFY+1] Concept Development Conferences		△				△				△				△				△				△				△		
TW[CFY+1] Data Calls & CAA		△				△				△				△				△				△				△		
TW[CFY+1] Initial Planning Conferences				△				△				△				△				△				△				△
TW[CFY] Mid-Term Planning Conferences	△				△				△				△				△				△				△			
TW[CFY] Final Planning Conferences		△				△				△				△				△				△				△		
TW [CFY] Military Utility Assessment				△				△				△				△				△				△				△
STRATEGIC PLANNING																												
NNFE CFT Participation																												
Interoperability across Navy Report		△				△				△				△				△				△				△		
Interoperability across Joint Report				△				△				△				△				△				△				△
FORCEnet Compliance																												
MS Reviews																												
ISP Review																												
C5I Mod Inputs																												
NCIDS Profiles																												
Verification/Validation Assessments																												
NNFE Mod/LCS & Certs/Test																												
Imp/SETR																												
FITS																												
FITS OIPT		△		△		△		△		△		△		△		△		△		△		△		△		△		△
S/W Test																												
FITS IOC	△																											
FITS FOC					△																							
Data Refresh				△								△				△				△				△				△
FITS Spiral Delivery		△		△		△		△		△		△		△		△		△		△		△		△		△		△

Exhibit R-4, Schedule Profile

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY
RDT&E / Navy BA-5

PROJECT NUMBER AND NAME
9123 FORCEnet

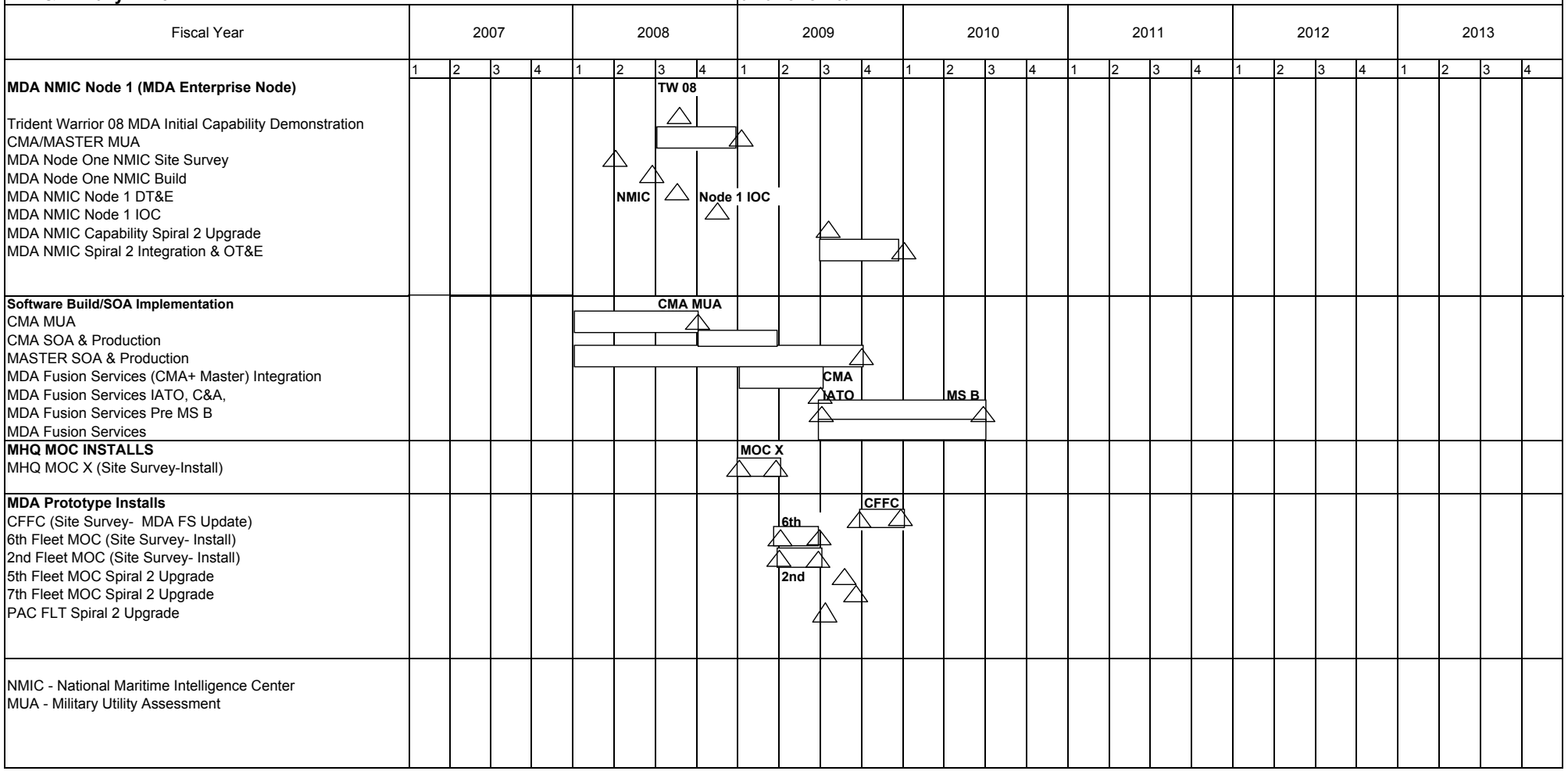


Exhibit R4, Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail			DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E / Navy BA-5**		PROJECT NUMBER AND NAME 9123 FORCEnet					
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TRIDENT WARRIOR [CFY = Current Fiscal Year]							
TW[CFY-1] Military Utility Assessment							
TW[CFY] Execution	2Q/3Q	2Q/3Q	2Q/3Q	2Q/3Q	2Q/3Q	2Q/3Q	2Q/3Q
TW[CFY+1] Concept Development Conferences	2Q	2Q	2Q	2Q	2Q	2Q	2Q
TW[CFY+1] Data Calls & CAA	2Q	2Q	2Q	2Q	2Q	2Q	2Q
TW[CFY+1] Initial Planning Conferences	4Q	4Q	4Q	4Q	4Q	4Q	4Q
TW[CFY] Mid-Term Planning Conferences	1Q	1Q	1Q	1Q	1Q	1Q	1Q
TW[CFY] Final Planning Conferences	2Q	2Q	2Q	2Q	2Q	2Q	2Q
TW[CFY] Military Utility Assessment	4Q	4Q	4Q	4Q	4Q	4Q	4Q
STRATEGIC PLANNING							
NNFE CFT Participation	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Interoperability across Navy Report	2Q	2Q	2Q	2Q	2Q	2Q	2Q
Interoperability across Joint Report	4Q	4Q	4Q	4Q	4Q	4Q	4Q
FORCEnet Compliance Implementation							
MS Reviews	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
ISP Review	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
C5I Mod Inputs	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
NCIDS Profiles	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Verification/Validation Assessments	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
NNFE Mod/LCS & Certs/Test	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Imp/SETR	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
FITS							
FITS OIPT	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q
S/W Test	1Q/3Q	1Q/3Q	1Q/3Q	1Q/3Q	1Q/3Q	1Q/3Q	1Q/3Q
FITS IOC	1Q						
FITS FOC		1Q					
Data Refresh	4Q	4Q	4Q	4Q	4Q	4Q	4Q
FITS Spiral Delivery	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q	2Q/4Q

CLASSIFICATION:

Exhibit R-4a, Schedule Detail			DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E / Navy BA-5**		PROJECT NUMBER AND NAME 9123 FORCEnet					
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MDA NMIC Node 1 (MDA Enterprise Node)							
Trident Warrior 08 MDA Initial Capability Demonstration		3Q					
CMA/MASTER MUA		3Q-4Q					
MDA Node One NMIC Site Survey		1Q					
MDA Node One NMIC Build		2Q					
MDA NMIC Node 1 DT&E		3Q					
MDA NMIC Node 1 IOC		4Q					
MDA Spiral Two Upgrade			3Q				
MDA Spiral Two Integration, Test & Evaluation			4Q				
Software Build/SOA Implementation							
CMA MUA		1Q-3Q					
CMA SOA & Production		4Q	1Q				
MASTER SOA & Production		1Q-4Q	3Q				
MDA Fusion Services (CMA+ Master) Integration			1Q-2Q				
MDA Fusion Services IATO, C&A,			3Q				
MDA Fusion Services Pre MS B			3Q				
MDA Fusion Services			2Q				
MHQ MOC INSTALLS							
MHQ MOC X (Site Survey - Install)			1Q				
MDA Prototype Installs							
CFFC (Site Survey- MDA FS Update)			4Q				
6th Fleet MOC (Site Survey - Install)			3Q				
2nd Fleet MOC (Site Survey - Install)			2Q				
5th Fleet MOC Spiral Two Upgrade			3Q				
7th Fleet MOC Spiral Two Upgrade			3Q				
PAC FLT Spiral Two Upgrade			4Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604231N - Tactical Command System	9999 Various Congressional Increases

(U) B. Accomplishments/Planned Program

9895 LOGISTICS COMMON OPERATING PICTURE	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.971	0.000	0.000
RDT&E Articles Quantity	0	0	0

Congressional Increase for Logistics Common Operating Picture (LOGCOP)

FY07 Accomplishments - Funds used to design, develop and test the Logistics Common Operating Picture (LOGCOP) tool. This logistics decision-support management tool will utilize emergent technologies to enable the visibility of logistics data and provide actionable logistics information both afloat and ashore.

FY08-09-N/A

9999 DISTRIBUTED MULTI-PLATFORM SENSOR SUPPORT SYSTE	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	2.484	0.000
RDT&E Articles Quantity	0	0	0

Congressional Increase for Mission Planning Distributed Multi-Platform Sensor Support System.

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604234N, E-2C RADAR MODERNIZATION PROGRAM		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	483.995	791.707	484.159	213.613	121.601	46.147	13.751	
3051 E-2C RMP	483.995	791.707	484.159	213.613	121.601	46.147	13.751	

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

The E-2D Advanced Hawkeye (AHE) program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components including Cooperative Engagement Capability Pre-Planned Product Improvement (CEC P3I) and Dual Transmit Satellite Communications (SATCOM) 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, battle management, 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.

This P.E. was utilized for AHE (Radar Modernization Program (RMP)) pre-System Development and Demonstration (Pre-SD&D), followed by SD&D. The program completed a Weapon System Preliminary Design Review (PDR) and a Radar System Critical Design Review (CDR) in FY 2005, and supported a Weapon System CDR in FY 2006. Major activities in FY 2007 were system integration, lab equipment installation, subsystem and weapon system verification testing, software development and ongoing risk reduction efforts. The program began E-2D AHE Pilot Production in FY 2007 (long lead on three aircraft), the production phase with a Low-Rate Initial Production (LRIP) Milestone C decision in FY 2009, and achieves Initial Operational Capability (IOC) in FY 2011.

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	495.962	808.993	491.243
FY2009 President's Budget:	483.995	791.707	484.159
Total Adjustments	-11.967	-17.286	-7.084

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-11.931	-12.135	
Congressional Increases			
Economic Assumptions		-5.151	-3.297
Miscellaneous Adjustments	-0.036		-3.787
Subtotal	-11.967	-17.286	-7.084

Schedule:

Project Unit 3051 - Schedule change of Pilot Production Contract Award from FY2007 2Q to FY2007 4Q is due to continuation of contract negotiations. Added LRIP IV Contract Award.

Technical:

Project Unit 3051 - Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604234N, E-2C RADAR MODERNIZATION PROGRAM			PROJECT NUMBER AND NAME 3051, E-2C RMP			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3051 E-2C RMP	483.995	791.707	484.159	213.613	121.601	46.147	13.751
RDT&E Articles Qty	*2	*3					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The E-2D Advanced Hawkeye (AHE) program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components including Cooperative Engagement Capability Pre-Planned Product Improvement (CEC P3I) and Dual Transmit Satellite Communications (SATCOM) 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, battle management, 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 operational availability and 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. The AHE is intended to meet battle management and TAMD needs as the United States Navy develops its "Sea Power 21" concepts in support of Joint Vision 2020.

This P.E. was utilized for AHE (Radar Modernization Program (RMP)) pre-System Development and Demonstration (Pre-SD&D), followed by SD&D. The program completed a Weapon System Preliminary Design Review (PDR) and a Radar System Critical Design Review (CDR) in FY 2005, and supported a Weapon System CDR in FY 2006. Major activities in FY 2007 were system integration, lab equipment installation, subsystem and weapon system verification testing, software development and ongoing risk reduction efforts. The program began E-2D AHE Pilot Production in FY 2007 (long lead on three aircraft), the production phase with a Low-Rate Initial Production (LRIP) Milestone C decision in FY 2009, and achieves Initial Operational Capability (IOC) in FY 2011.

*Two Multi-Year Procurement E-2C aircraft were delivered and modified in FY 2007 to provide RDT&E assets for the AHE program. Quantities in FY 2008 are the pilot production aircraft, which was reduced from four to three due to the Advanced Hawkeye program replan.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

System Development and Demonstration	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	398.858	678.534	405.936
RDT&E Articles Qty	*2	*3	

Awarded System Development and Demonstration (SD&D) Contract with Northrop Grumman Corporation. Entered into SD&D for E-2D AHE program.
Conduct engineering and development efforts for weapon system and SD&D pilot production. Continue SD&D efforts. Initial funding for pilot production, Cooperative Engagement Capability Pre-Planned Product Improvement (CEC P3I), and Dual Transmit SATCOM.

*Two Multi-Year Procurement E-2C aircraft were delivered and modified in FY 2007 to provide RDT&E assets for the AHE program. Quantities in FY 2008 are the pilot production aircraft, which was reduced from

Government Furnished Equipment	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	20.225	33.129	
RDT&E Articles Qty			

Funded Government Furnished Equipment (GFE) for the SD&D aircraft and Pilot Production aircraft in FY 2007. Fund GFE for pilot production aircraft through FY 2008.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604234N, E-2C RADAR MODERNIZATION PROGRAM	PROJECT NUMBER AND NAME 3051, E-2C RMP

NAWCAD Engineering and Test Support	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	37.134	41.473	31.066
RDT&E Articles Qty			

Fund Government Engineering, Contractor Engineering, and Classified Engineering Support. Perform Government oversight. Perform engineering, design, instrumentation and ground test calibration for NP2000 performance testing. Execute test program risk reduction efforts. FY 2007 funded Qualification/Reliability Developmental Testing (QUAL/RDT), preparation for ground and first flight test activities at St. Augustine, FL, and executed digital engine control system for obsolescence, weight reduction, and performance improvements. Wind tunnel testing includes data reduction analysis and update of the Control Analysis Simulation Test Loop Environment (CASTLE). FY 2008 and FY 2009 fund flight test activities in St. Augustine, FL, and Patuxent River, MD, develop CEC P3I and Dual Transmit SATCOM capabilities, and provides engineering oversight for production related activities for pilot production aircraft.

NC-130H/E-2D Classified Programs	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	20.422	4.511	7.632
RDT&E Articles Qty			

Provide support for the NC-130H engineering risk reduction efforts. Fund E-2D Classified Development efforts. Fund NC-130H AHE Advanced Development Model system flight test and test analysis.

Trainers	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.356	34.060	39.525
RDT&E Articles Qty			

Fund Weapons System Trainers, Operational Flight Trainers and Simulated Maintenance Trainers.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN-1/E-2C/D (LI# 15 & 16)	202.717*	52.220	589.123	685.951	777.566	795.552	778.315	9,712.023	13,390.750
APN-6/E-2C/D (LI# 55)			36.882	37.606	29.801	31.555	26.431	79.499	241.774

*APN Funding prior to FY08 is related to P.E. 0204152N, P.U. 0463, E-2C Improvements.

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

D. ACQUISITION STRATEGY:
Acquisition Strategy was signed by Milestone Decision Authority (MDA), USD (AT&L) on 13 May 2003. Milestone B approval to proceed with System Development and Demonstration was given 6 June 2003 by the Defense Acquisition Board (DAB).

E. MAJOR PERFORMERS:
Not Applicable.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604234N, E-2C RADAR MODERNIZATION PROGRAM				PROJECT NUMBER AND NAME 3051, E-2C RMP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Ancillary Hdw Development	MIPR	NATIONAL SECURITY AGENCY, FORT GEORGE G MEADE, MD		.287	05/07						.287	
Award Fees	SS-CPAF	NORTHROP GRUMMAN SYS, NY	31.019	24.963	10/06	24.764	10/07	26.177	10/08	26.829	133.752	133.752
GFE	C-CPIF	NAVSEASYSCOM, WNY DC		4.123	05/07						4.123	4.123
GFE	VARIOUS	VARIOUS	9.330	5.302	VARIOUS	33.129	VARIOUS				47.762	
Primary Hdw Development	SS-CPAF	NORTHROP GRUMMAN SYS, NY	1,350.594	375.957	10/06	633.897	10/07	357.569	10/08	204.555	2,922.572	2,922.572
Primary Hdw Development	FFP	STICHTING DUITS NEDERLANDSE	4.307								4.307	4.307
Primary Hdw Development	FFP	ROLLS-ROYCE CORP, INDIANAPOLIS, IN		.016	05/07						.016	.016
Primary Hdw Dev Training	VARIOUS	VARIOUS		5.437	VARIOUS						5.437	
Primary Hdw Dev Training	TBD	TBD				31.699	02/08	39.525	02/09	22.773	93.997	
Systems Engineering	RX	NAVY SYST MGT ACT, ARLINGTON VA	6.620	14.117	04/07	3.711	03/08	7.632	03/09	8.816	40.896	
All Product Dev cost from program implementation thru FY04			128.796								128.796	
SUBTOTAL PRODUCT DEVELOPMENT			1,530.665	430.203		727.201		430.903		262.973	3,381.945	

Remarks:

Totals may not add due to rounding.
Award Fee Period 1 FY04 - 90%
Period 2 FY04 - 91%
Period 3 FY05 - 80%
Period 4 FY06 - 94%
Period 5 FY06 - 100%
Period 6 FY07 - 95%

SUPPORT												
Contractor Eng Sup ETS	VARIOUS	VARIOUS	2.729	2.558	12/06	6.861	12/07	9.928	12/08	4.611	26.688	
Contractor Eng Sup ETS	C-CPFF	WYLE LABORATORIES, INC., HUNTSVILLE, AL	1.968	6.922	12/06						8.890	8.890
Development Support	RX	NAVY SYST MGT ACT, ARLINGTON VA	2.100	6.304	VARIOUS						8.404	
Development Support	VARIOUS	VARIOUS	7.838	.513	11/06	.859	11/07	.951	11/08	.965	11.126	
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD	26.030	17.433	11/06	17.466	11/07	14.366	11/08	47.557	122.853	
Government Eng Sup	WX	NAWCTSD, ORLANDO FL	1.126	1.314	11/06	1.204	11/07	1.277	11/08	.375	5.296	
Government Eng Sup	VARIOUS	VARIOUS	3.524	1.672	VARIOUS	2.824	VARIOUS	1.262	VARIOUS	7.164	16.447	
Software Development	WX	NAWCAD, PATUXENT RIVER MD		1.088	12/06						1.088	
Integrated Logistics Sup	MIPR	DEFENSE TECHNICAL INFORMATION CTR	.087								.087	
Studies & Analyses	RX	NAVY SYST MGT ACT, ARLINGTON VA	2.518			.800	03/08				3.318	
Technical Data	VARIOUS	VARIOUS		.133	04/07	4.155	VARIOUS				4.288	
All Support cost from program implementation thru FY04			5.806								5.806	
SUBTOTAL SUPPORT			53.727	37.937		34.170		27.784		60.672	214.291	

Remarks:

Totals may not add due to rounding.

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604234N, E-2C RADAR MODERNIZATION PROGRAM				PROJECT NUMBER AND NAME 3051, E-2C RMP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TEST & EVALUATION												
Developmental Test & Evaluation	WX	NAWCAD, PATUXENT RIVER MD	1.315			12.499	01/08	13.015	01/09		26.829	
Developmental Test & Evaluation	VARIOUS	VARIOUS	8.956	2.483	VARIOUS	2.255	VARIOUS	5.304	VARIOUS	37.859	56.857	
Developmental Test & Evaluation	FFP	STICHTING DUITS NEDERLANDSE	.190	4.307	01/07	.160	01/08	.050	01/09		4.707	4.707
Developmental Test & Evaluation ETS	C-CPFF	WYLE LABORATORIES, INC., HUNTSVILLE, AL				2.665	01/08				2.665	2.665
Developmental Test & Evaluation ETS	VARIOUS	VARIOUS				1.709	VARIOUS	1.885	VARIOUS		3.594	
Oper Test & Eval	WX	NAWCAD, PATUXENT RIVER MD		.146	12/06						.146	
Oper Test & Eval	TBD	TBD				1.217	VARIOUS	.350	VARIOUS	14.230	15.797	
Test Assets	SS-CPAF	NORTHROP GRUMMAN SYS, NY	3.900								3.900	3.900
All T&E cost from program implementation thru FY04			3.208								3.208	
SUBTOTAL TEST & EVALUATION			17.569	6.936		20.505		20.604		52.089	117.703	

Remarks:

Totals may not add due to rounding.

MANAGEMENT												
Contractor Eng Sup ETS	VARIOUS	VARIOUS	12.188								12.188	
Contractor Eng Sup ETS NSMA	RX	NAVY SYST MGT ACT, ARLINGTON VA	3.327								3.327	
Contractor Eng Sup MSS	VARIOUS	VARIOUS		.379	12/06	3.107	12/07	3.504	12/08	5.193	12.183	
Contractor Eng Sup MSS	C-CPFF	WYLE LABORATORIES, INC., HUNTSVILLE, AL		4.983	12/06						4.983	4.983
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD	3.865	2.408	11/06	2.489	11/07	.317	11/08	5.291	14.371	
Government Eng Sup	VARIOUS	VARIOUS	10.841	.575	11/07	2.377	11/07	.207	11/08	4.845	18.845	
Program Mgmt Sup	VARIOUS	VARIOUS	.022	.014	11/06	1.358	11/07	.443	11/08	2.726	4.563	
Travel	VARIOUS	VARIOUS	.721	.560	10/06	.500	10/07	.395	10/08	1.323	3.499	
All Mgmt cost from program implementation thru FY04			10.659								10.659	
SUBTOTAL MANAGEMENT			41.623	8.919		9.831		4.868		19.378	84.618	

Remarks:

Totals may not add due to rounding.

Total Cost			1,643.584	483.995		791.707		484.159		395.112	3,798.557	

Remarks:

Totals may not add due to rounding.

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																																DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5									PROGRAM ELEMENT NUMBER AND NAME 0604234N, E-2C RADAR MODERNIZATION PROGRAM														PROJECT NUMBER AND NAME 3051, E-2C RMP												
Fiscal Year					FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones														MS C									IOC							FRP			
AHE System Development																																
SDD AHE Systems Installation							Two Units																									
Test & Evaluation Milestones																			DT/DT Assist - Pilot Production													
Development Test					DT/DT Assist						DT/DT Assist																						
Operational Test														Operational Assessment									OT Readiness Review		OPEVAL							
Production Milestones							Pilot Production CA							LRIP I CA					LRIP II CA				LRIP III CA				LRIP IV CA				FRP CA		
Deliveries																			3 a/c PP Delivery					3 a/c LRIP I					3 a/c LRIP II			

DT/DT Assist in 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.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604234N, E-2C RADAR MODERNIZATION PROGRAM				PROJECT NUMBER AND NAME 3051, E-2C RMP			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Acquisition Milestones - Milestone C			2Q					
Acquisition Milestones - Full Rate Production (FRP)							1Q	
SDD AHE Systems Installation	4Q							
Test & Evaluation Milestones - Development Test - A-123 & NC-130	1Q-2Q							
Test & Evaluation Milestones - Development Test - SD&D #1 & 2	4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Test & Evaluation Milestones - Operational Assessment		4Q						
Production Milestones - Pilot Production Contract Award	4Q							
Production Milestones - LRIP I Contract Award (CA)			2Q					
DT/DT Assist - Pilot Production				4Q	1Q-4Q			
Production Milestones - LRIP II Contract Award				2Q				
Production Milestones - LRIP III Contract Award					2Q			
Production Milestones - LRIP IV Contract Award						2Q		
Production Milestones - FRP Contract Award							2Q	
Initial Operational Capabilities (IOC)					3Q			
Operational Test - Readiness Review					4Q			
Operational Evaluation						1Q-2Q		
Pilot Production Delivery (3 A/C)				2Q-4Q	1Q			
LRIP I (3 A/C)					3Q-4Q	1Q		
LRIP II (3 A/C)						4Q	1Q	

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604245N, H-1 UPGRADES		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	33.512	3.531	3.795	3.955	3.742	3.810	3.880
2279 USMC H-1 UPGRADES	33.512	3.531	3.795	3.955	3.742	3.810	3.880

(U) A. 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, survivability enhancements, 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.

FY2007 funding total includes $18.0M received in GWOT supplemental.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	7.814	3.608	3.851
FY 2009 President's Budget:	33.512	3.531	3.795
Total Adjustments	25.698	-0.077	-0.056
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.060	-0.023	
Congressional Increases	18.000		
Economic Assumptions			-0.025
Miscellaneous Adjustments	7.758	-0.054	-0.031
Subtotal	25.698	-0.077	-0.056

Schedule: OPEVAL commenced May 2006 following a delay due to technical issues with the Helmet Mounted Sight Display (HMSD) system and transitioning of EMD aircraft to the operational configuration. Delays in delivering LRIP aircraft and additional OT Pilot Training requirements have led to delays in the start of OPEVAL Phase II. The delays in completion of OPEVAL Phase II and the availability of a test report will delay the start of MS-III to 4Q FY08. Technical issues in the manufacture of Lot I airframes have caused the Lot I, Lot II, and Lot III deliveries to slip 1-2 quarters. LRIP IV deliveries will start 1 quarter late, however the aircraft will deliver as scheduled in PB08. FRP (Lot 5) and subsequent lots remain on schedule.

Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N, H-1 UPGRADES					PROJECT NUMBER AND NAME 2279, USMC H-1 UPGRADES		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2279 USMC H-1 UPGRADES	33.512	3.531	3.795	3.955	3.742	3.810	3.880	
RDT&E Articles Qty								

A. 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, survivability enhancements, 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.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Product Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	20.953		
RDT&E Articles Qty			

Prime contractor will perform product development efforts including survivability enhancements and completion of fatigue testing.

Support Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.000	.463	1.596
RDT&E Articles Qty			

FY09 and out funding required to conduct software development efforts to support development testing and address operational testing results.

Test & Evaluation	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	7.577	.036	.086
RDT&E Articles Qty			

Conduct software development efforts to support design, development, integration of sensor processing technologies and tactical decision tools to expand hardware and software capabilities.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N, H-1 UPGRADES	PROJECT NUMBER AND NAME 2279, USMC H-1 UPGRADES

Program Management Support	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.982	.615	.585
RDT&E Articles Qty			

Perform contractor engineering and technical support including risk analysis in support of development activities and travel.

Software Support	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		2.417	1.528
RDT&E Articles Qty			

Development support efforts to correct deficiencies as a result of operational test; conduct component fatigue testing and technical data analysis.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 017800, UH-1Y/AH-1Z	493,723	415,646	474,141	634,483	636,858	576,801	616,595	2,467,272	7,161,124

D. 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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604245N, H-1 UPGRADES				PROJECT NUMBER AND NAME 2279, USMC H-1 UPGRADES						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
GFE	SS-CPFF	BELL HELICOPTER TEXTRON INC, HURST, TX	24.708								24.708	24.708
Primary Hdw Development	SS-CPFF	BELL HELICOPTER TEXTRON INC, HURST, TX	1,088.952	20.953	4/1/08						1,109.905	1,109.905
Systems Eng	VARIOUS	VARIOUS	3.810								3.810	
Systems Eng	WX/PX	VARIOUS	74.674								74.674	
SUBTOTAL PRODUCT DEVELOPMENT			1,192.144	20.953							1,213.097	

Remarks:

SUPPORT												
Development Support	WX/PX	VARIOUS				.463	1/1/08	1.596	1/1/09	4.944	7.003	
Development Support	WX/PX	VARIOUS	10.162							1.548	11.710	
Integrated Logistics Sup	WX/PX	VARIOUS	27.604								27.604	
Software Dev. Wpns Integ.	WX/PX	NAWCAD, PATUXENT RIVER MD								1.528	1.528	
Software Dev. Wpns Integ.	WX/PX	NAWCWD, CHINA LAKE CA	2.800	4.000	1/1/07	2.417	1/1/08	1.528	1/1/09	4.584	15.329	
SUBTOTAL SUPPORT			40.566	4.000		2.880		3.124		12.604	63.174	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX/PX	NAWCAD, PATUXENT RIVER MD	35.252	2.752	12/1/06	.036	12/1/07	.086	12/1/08	.309	38.435	
Dev Test & Eval	VARIOUS	VARIOUS	14.906								14.906	
Oper Test & Eval	WX/PX	VARIOUS	14.591	4.825	6/1/07						19.416	
Oper Test & Eval	WX/PX	VARIOUS	2.406								2.406	
SUBTOTAL TEST & EVALUATION			67.155	7.577		.036		.086		.309	75.163	

Remarks:

MANAGEMENT												
Contractor Eng Sup	C-FFP	VARIOUS	5.425	.360	12/1/06	.180	12/1/07	.180	12/1/08	.720	6.865	6.865
Procurement Fees	VARIOUS	VARIOUS	.005								.005	
Program Mgmt Sup	C-FFP	VARIOUS	7.374	.322	12/1/06	.165	12/1/07	.165	12/1/08	.754	8.780	8.780
SBIR Assessment	IPR/MIPR	DEF CNTR MGNT CMD, FT WORTH, TX	.010								.010	
Travel	WX/PX	VARIOUS	2.657	.300	12/1/06	.270	12/1/07	.240	12/1/08	1.000	4.467	
Travel (Camp Pend)	WX/PX	MCAS, CAMP PENDLETON, CA	.020								.020	
SUBTOTAL MANAGEMENT			15.491	.982		.615		.585		2.474	20.147	

Total Cost			1,315.356	33.512		3.531		3.795		15.387	1,371.581	

Remarks:

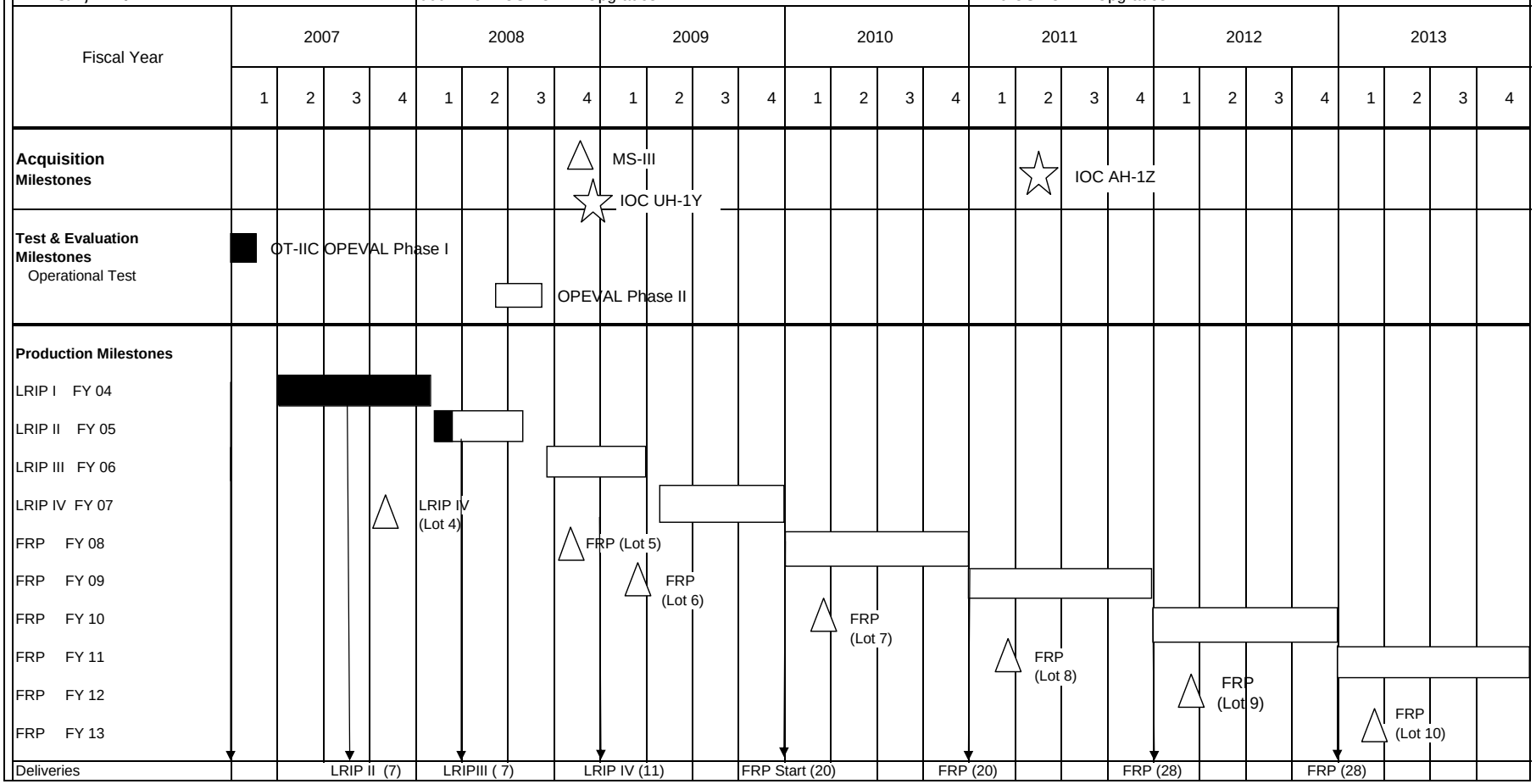
CLASSIFICATION:

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

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N /**

PROGRAM ELEMENT NUMBER AND NAME: 0604245N USMC H-1 Upgrades

PROJECT NUMBER AND NAME: 2279 USMC H-1 Upgrades



CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**				PROJECT NUMBER AND NAME 2279 USMC H-1 Upgrades			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Full Rate Production (FRP) Decision Milestone III		4Q					
IOC		4Q UH-1Y			2Q AH-1Z		
Operational Evaluation (OT-IIC) (OPEVAL Phase I)*	1Q						
Operational Evaluation (OPEVAL Phase II)		2Q-3Q					
Low-Rate Initial Production I Delivery	2Q-4Q	1Q					
Low-Rate Initial Production II Delivery		1Q-3Q					
Start Low-Rate Initial Production IV (LRIP IV)	3Q						
Low-Rate Initial Production III Delivery		3Q-4Q	1Q				
Low-Rate Initial Production IV Delivery			2Q-4Q				
Full Rate Production Start		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Full Rate Production (FRP) Delivery				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

* Began in 3rd Quarter 2006

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604261N, ACOUSTIC SEARCH SENSORS		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	45.789	18.658	45.790	39.042	38.510	31.335	16.963	
0480 ASW SENSORS & PROC	8.312	17.863	45.790	39.042	38.510	31.335	16.963	
4017 ARPDD	32.167							
9999 CONGRESSIONAL ADDS	5.310	.795						

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

0480. The ASW Sensors and Processing project provides the tools and methods necessary to maintain naval superiority by preventing hostile submarines from disrupting the US Navy's ability to control the sea lines of communication and carry out their missions. This project encompasses the System Development and Demonstration (SDD) phase and the follow on increment of sensor systems to improve the mission effectiveness of airborne Anti-Submarine Warfare (ASW) platforms in cueing, search, localization, and track. 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 overcome the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding for the engineering development of solutions that detect, classify, and track threat submarines. Efforts being funded during the period identified are the Extended Echo Ranging (EER)family of multi-static active systems. The development efforts include the Improved Extended Echo Ranging (IEER) multi-static search receiver sensor for active large area ASW search; the Advanced Extended Echo Ranging (AEER) active coherent (electronic) sound source, a new start in FY08, which provides a search and localization capability in all water environments and could eliminate current impulsive source safety, training, and Rules of Engagement restrictions; and Advanced Processing Builds (APB) which provide signal processing improvements to achieve increased target detection and classification capabilities. APB also includes efforts for providing common software and hardware solutions across all ASW platforms.

4017. 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 clutter and confusion targets. This capability is suitable for air and surface platforms. This project funds only the airborne application. ARPDD will be integrated into the MH-60R as directed by CNO ltr N782C1C/6U876009. Consequently, ARPDD funding in FY08-11 has been transferred to PE 0604216N for execution.

9999. Congressional Adds.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604261N, ACOUSTIC SEARCH SENSORS

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	41.984	18.325	46.457
Current President's Budget:	45.789	18.658	45.790
Total Adjustments	3.805	0.333	-0.667
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.738	-0.192	
Congressional Increases		0.800	
Economic Assumptions			-0.306
Miscellaneous Adjustments	4.543	-0.275	-0.361
Subtotal	3.805	0.333	-0.667

Schedule: 0480 - Multi Static Active (Impulsive). Added APB (3) in 1Q/13 to show contract milestone. Added APB (3) S/W release in 4Q/12 and APB (3) SQT in 2Q/12 for more accurate planning.

Multi Static Active (Coherent). Moved Milestone C from 4Q/11 to 4Q/10. Removed H/W EDM (blk 1) as it was entered as a duplicate. Moved H/W EDM Increment 2 to 2Q/13 and properly named it for a more accurate schedule. Renamed H/W EDM (blk 1) to H/W EDM (Increment 1). Renamed FRP to FRP (Increment 1). Renamed MS B (blk 2) to MS B (Increment 2). Renamed CDR (blk 1) to CDR (Increment 1). Renamed Integration S/W Delivery (blk 1) to Integration S/W Delivery (Increment 1). Renamed Commence S/W and H/W Integrated Flt Test (blk 1) to Commence S/W and H/W Integrated Flt Test (Increment 1). Renamed OT (blk 1) to OT (Increment 1).

4017 - N/A.

Technical: 0480 - N/A
4017 - N/A

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604261N, ACOUSTIC SEARCH SENSORS	PROJECT NUMBER AND NAME 0480, ASW SENSORS & PROC	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
0480 ASW SENSORS & PROC	8.312	17.863	45.790	39.042	38.510	31.335	16.963	
RDT&E Articles Qty		300	300	300	300	300	300	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The ASW Sensors and Processing project provides the tools and methods necessary to maintain naval superiority by preventing hostile submarines from disrupting the US Navy's ability to control the sea lines of communication and carry out their missions. This project encompasses the System Development and Demonstration (SDD) phase and the follow on increment of sensor systems to improve the mission effectiveness of airborne Anti-Submarine Warfare (ASW) platforms in cueing, search, localization, and track. 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 overcome the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding for the engineering development of solutions that detect, classify, and track threat submarines. Efforts being funded during the period identified are the Extended Echo Ranging (EER)family of multi-static active systems. The development efforts include the Improved Extended Echo Ranging (IEER) multi-static search receiver sensor for active large area ASW search; the Advanced Extended Echo Ranging (AEER) active coherent (electronic) sound source, a new start in FY08, which provides a search and localization capability in all water environments and could eliminate current impulsive source safety, training, and Rules of Engagement restrictions; and Advanced Processing Builds (APB) which provide signal processing improvements to achieve increased target detection and classification capabilities. APB also includes efforts for providing common software and hardware solutions across all ASW platforms. The 1800 sonobuoy test articles in FY08/13 will support software and hardware integration flight tests and Technical Evaluation (TECHEVAL)/Operational Evaluation (OPEVAL) for AEER Increment 1 and Increment 2 respectively.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Deliver IEER (1 & 2)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	8.312	7.863	8.505
RDT&E Articles Qty			

Software development, integration, and test for Multi-Static ASW (MSA) sensor systems. Provides P-3 platform integration of multi-static technology improvements allowing increased weapons system efficiency and decreased fleet operator workload in the littoral ASW mission.

Commence AEER	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		10.000	37.285
RDT&E Articles Qty		300	300

New start program in FY08 to develop a coherent source that will satisfy the search and localization requirement in the harsh, shallow water littorals.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604261N, ACOUSTIC SEARCH SENSORS	PROJECT NUMBER AND NAME 0480, ASW SENSORS & PROC

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
(U) OPN (404800) AN/SSQ-110	1.1	1.2	0.9						
(U) P.E. 0603254N (ASW Systems Development)									

D. ACQUISITION STRATEGY:

The integration of Multi-Static ASW (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.

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604261N, ACOUSTIC SEARCH SENSORS				PROJECT NUMBER AND NAME 0480, ASW SENSORS & PROC							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hardware Development	TBD	TBD	1.000			3.500	01/08	7.500	10/08	13.100	25.100	25.100
SUBTOTAL PRODUCT DEVELOPMENT			1.000			3.500		7.500		13.100	25.100	

Remarks:

SUPPORT												
Software Development (Phase II)	WX	NAWCAD, PATUXENT RIVER MD	4.595	2.100	10/06	2.100	10/07	1.473	10/08	12.164	22.432	
Software Development (Phase II)	TBD	TBD						10.500	10/08	19.000	29.500	29.500
Studies & Analyses	WX	NAWCAD, PATUXENT RIVER MD				4.731	10/07	4.524	10/08	6.419	15.674	
Studies & Analyses	C-CPFF	LM CORP. MANASSAS, VA	.200								.200	.200
Technical Data	WX	NAWCAD, PATUXENT RIVER MD	7.329	.900	10/06			.500	10/08	6.150	14.879	
SUBTOTAL SUPPORT			12.124	3.000		6.831		16.997		43.733	82.685	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	4.350	.750	10/06	1.000	10/07	3.500	10/08	15.550	25.150	
SUBTOTAL TEST & EVALUATION			4.350	.750		1.000		3.500		15.550	25.150	

Remarks:

MANAGEMENT												
Contractor Engineering Support	VARIOUS	VARIOUS	9.144	2.295	10/06	2.370	12/07	6.290	11/08	20.228	40.327	40.327
Government Engineering Support	WX	NAWCAD, PATUXENT RIVER MD	66.251	.935	10/06	2.303	10/07	6.886	10/08	20.623	96.998	
Program Mgmt Support (Cont.)	VARIOUS	VARIOUS	41.183	1.132	11/06	.558	12/07	1.385	11/08	3.785	48.043	48.043
Program Mgmt Support (Gov.)	WX	NAWCAD, PATUXENT RIVER MD	7.363	.200	10/06	1.301	10/07	3.232	10/08	8.831	20.927	
SUBTOTAL MANAGEMENT			123.941	4.562		6.532		17.793		53.467	206.295	

Remarks:

Total Cost			141.415	8.312		17.863		45.790		125.850	339.230	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile Multi-Static Active (Impulsive)																																
																															DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5									PROGRAM ELEMENT NUMBER AND NAME 0604261N, ACOUSTIC SEARCH SENSORS												PROJECT NUMBER AND NAME 0480, ASW SENSORS & PROC										
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones					MSA Integration Contract				APB (1) INTEGRATION CONTRACT								APB (2) INTEGRATION CONTRACT									APB (3) INTEGRATION CONTRACT						
Prototype Phase																																
System Development																																
EDM Delivery																																
Software Development/Integration								APB (1) S/W release								APB (2) S/W RELEASE								APB (3) S/W RELEASE								
Test & Evaluation Milestones Development Test Operational Test		MSA Integration TECH EVAL		MSA Integration OPEVAL		APB (1) SQT								APB (2) SQT								APB (3) SQT										
Production Milestones																																
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail Multi-Static Active (Impulsive)					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604261N, ACOUSTIC SEARCH SENSORS				PROJECT NUMBER AND NAME 0480, ASW SENSORS & PROC			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Integration Contract		1Q	1Q		1Q		1Q	
Software Delivery APB (1), (2), (3)		4Q		4Q		4Q		
Technical Evaluation (TECHEVAL)	2Q							
Software Qualification Test (SQT)		2Q		2Q		2Q		
Operational Evaluation (OPEVAL)	4Q							

CLASSIFICATION:

EXHIBIT R4, Schedule Profile Multi-Static Active (Coherent)			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604261N, ACOUSTIC SEARCH SENSORS	PROJECT NUMBER AND NAME 0480, ASW SENSORS & PROC	

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones									MS B							MS C								MS B (Inc 2)								
System Development Localization												CDR (Inc 1)																				
EDM Delivery														H/W EDM (Inc 1)												H/W EDM (Inc 2)						
Software Integration															Integration S/W Delivery (Inc 1)																	
Test & Evaluation Milestones Development Test																Commence S/W and H/W Integrated Flt Test (Inc 1)																
Operational Test																			OT (Inc 1)													
Production Milestones																					FRP (Inc 1)											

Note: AEER, is a spiral upgrade development effort consisting of two block builds. Block 1 is to develop and produce a Coherent Source buoy to provide a multi-static active localization system capability. Block 2 will increase the source level and provide a search capability.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail Multi-Static Active (Coherent)					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604261N, ACOUSTIC SEARCH SENSORS				PROJECT NUMBER AND NAME 0480, ASW SENSORS & PROC			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Milestone B (MS B)			1Q					
Critical Design Review (CDR) Increment 1			4Q					
Eng Dev Model (H/W EDM) Increment 1				2Q				
Eng Dev Model (H/W EDM) Increment 2							2Q	
Integration Software Delivery Increment 1				3Q				
Development Test Increment 1				4Q				
Operational Test Increment 1					3Q			
Milestone B (MS B) Increment 2						4Q		
Milestone C (MS C)				4Q				
Full Rate Production (FRP) Increment 1						1Q		

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604261N, ACOUSTIC SEARCH SENSORS	PROJECT NUMBER AND NAME 4017, ARPDD	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
4017 ARPDD	32.167							
RDT&E Articles Qty								

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 clutter and confusion 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 and evolutionary application of the ARPDD capability to Airborne radars. ARPDD will be integrated into the MH-60R as directed by CNO N782C1C/6U876009. Consequently, ARPDD funding in FY08-11 has been transferred to PE 0604216N for execution.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Project planning/acquisition document preparation/tech trade off studies/SOW	FY 2007	FY 2008	FY 2009	FY 2010
Accomplishments / Effort / Sub-total Cost	32.167			
RDT&E Articles Qty				

ARPDD is a follow-on to a Science and Technology program previously funded by the Office of Naval Research in PE0603747N. Funding is being used for project planning, acquistion documentation preparation, performing technical trade-off studies, developing specifications, and a Statement of Work in preparation for awarding a contract for development of an airborne ARPDD capability. Funding will be used to award a development contract for ARPDD System Development and Demonstration (SDD) and associated government support.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604261N, ACOUSTIC SEARCH SENSORS	PROJECT NUMBER AND NAME 4017, ARPDD

C. OTHER PROGRAM FUNDING SUMMARY:
N/A

D. ACQUISITION STRATEGY:

Analyze merits of sole source versus competitive procurement. Explore Alternatives. Award prime contract to Lockheed Martin. Technical support will be provided by NAWCWD (China Lake) and JHU/APL.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604261N, ACOUSTIC SEARCH SENSORS	PROJECT NUMBER AND NAME 9999, Congressional Adds	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY2013
9999 Congressional Adds	5.310	.795					
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

9999. Congressional Adds.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Development & test sonobuoy prototype

9773C	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.984		
RDT&E Articles Qty			

Acoustic Environmental Sensor System. Continue development and testing of A-plus sized sonobuoy prototype and in-buoy processing software, high dynamic range omni directional hydrophone, sound velocity, profiling, data collection ability and reverberation data collection capability.

Provide software enhancements and technical refresh to AN/USQ-78B

9A31N	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.326		
RDT&E Articles Qty			

AN/USQ-78B Acoustic Processor Improvements. Provides upgrades to the AN/USQ-78B Airborne Acoustic Processor System through the Advanced Rapid COTS Insertion (ARCI)/Advanced Processing Builds (APB) process. The development will provide common, open-architecture (OA) standards-based solutions through software enhancements and technical refresh to increase the AN/USQ-78B system performance to meet the ASW demands against small hostile submarines.

Evaluate the ASW capability of the Deep Extended Echo Ranging system

9999 (TBD)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		.795	
RDT&E Articles Qty			

Deep Extended Echo Ranging (DEER) system. Evaluate the Anti-Submarine Warfare (ASW) capability of the Deep Extended Echo Ranging system which is employed in deep water environments where the Reliable Acoustic Path is present. This effort is consistent with the Navy's objective to provide a rapid search and area clearance capability.

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604262N, V-22A		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	251.574	115.477	68.763	26.652	5.055	5.178	5.280
1425 V-22	251.574	115.477	68.763	26.652	5.055	5.178	5.280

(U) 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) for correction of deficiencies and includes Block A and Block B ugrades because they encompassed engineering and manufacturing development of new end-items prior to the production approval decision. Block C suitability and effectiveness upgrades began in FY06 and continue thru FY12. Block C is the first post-full rate production decision upgrade to be executed.

FY2008 funding totals do not include $82.4M previously requested for current FY2008 GWOT requirements.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	267.448	117.997	57.058
FY 2009 President's Budget:	251.574	115.477	68.763
Total Adjustments	-15.874	-2.520	11.705
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-6.199	-0.750	
Congressional Increases			
Economic Assumptions			0.550
Miscellaneous Adjustments	-9.675	-1.770	11.155
Subtotal	-15.874	-2.520	11.705

Schedule:
Not Applicable

Technical:
Not Applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604262N, V-22A	PROJECT NUMBER AND NAME 1425, V-22	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
1425 V-22	251.574	115.477	68.763	26.652	5.055	5.178	5.280	
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. This program is funded under Engineering Manufacturing and Development (EMD) for correction of deficiencies and includes Block A and Block B ugrades because they encompassed engineering and manufacturing development of new end-items prior to the production approval decision. Block C suitability and effectiveness upgrades began in FY06 and continue thru FY12. Block C is the first post-full rate production decision upgrade to be executed.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Continued development of Block B	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	121.759	89.312	55.583
RDT&E Articles Qty			

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 MV-22 Block upgrades. 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. Block C suitability and effectiveness upgrades began in FY06 and continue thru FY12. Block C is the first post-full rate production decision upgrade to be executed.

Continued support of Block B development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	41.574	26.165	13.180
RDT&E Articles Qty			

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 MV-22 Block upgrades. Continue field development efforts on aircraft #8, 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. R&D support and planning for the Block C suitability and effectiveness upgrade which began in FY 06 and continue thru FY12. Block C is the first post-full rate production decision upgrade to be executed.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604262N, V-22A	PROJECT NUMBER AND NAME 1425, V-22	

Continued development of Block 0	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	88.241		
RDT&E Articles Qty			

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.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
164000 / V-22									
V-22 APN-1	1,557.410	1,946.109	2,220.401	2,301.363	2,204.515	2,430.227	2,290.897	10,632.831	25,583.753
V-22 APN-6 Spares	51.296	26.518	39.767	53.925	30.886	26.829	22.850	262.340	514.411
59000 / V-22									
V-22 APN-5	144.802	67.915	41.473	25.026	25.557	26.024	26.600	1,145.309	1,502.706
Related RDT&E:									
0401318F CV-22	12.756	16.688	18.717	42.177	39.640	33.457	24.336	TBD	187.771
1160421BB CV-22	0.000	22.872	38.229	27.140	42.064	29.304	30.491	TBD	190.100

D. 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 weather radar and cabin effectiveness suitability improvements. 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.

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604262N, V-22A				PROJECT NUMBER AND NAME 1425, V-22							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
PRODUCT DEVELOPMENT													
CV-22 Develop Support Equip	VARIOUS	VARIOUS	8.554	5.009	Jan 2007						13.563		
CV-22 Hardware Dev Airframe	SS-CPAF	BOEING COMPANY, RIDLEY PARK, PA	854.918	62.060	Jan 2007						916.978	916.978	
CV-22 Hardware Dev Propulsion	C-CPIF	ROLLS-ROYCE CORP, INDIANAPOLIS, IN	12.239	.152	Jan 2007						12.391	12.391	
MV-22 Develop Support Equip	VARIOUS	NAWCAD, LAKEHURST NJ	3.987	1.704	Jan 2007						5.691		
MV-22 Develop Support Equip	C-CPIF	BOEING COMPANY, RIDLEY PARK, PA	42.624	1.300	Jan 2007						43.924	43.924	
MV-22 Hardware Dev Airframe	SS-CPAF	BOEING COMPANY, RIDLEY PARK, PA	3,708.484	104.627	Jan 2007	81.537	Jan 2008	54.010	Jan 2009	20.327	3,968.985	3,968.985	
MV-22 Hardware Dev Propulsion	C-CPIF	ROLLS-ROYCE CORP, INDIANAPOLIS, IN	190.073	.951	Jan 2007	.809	Jan 2008	1.572	Jan 2009	1.778	195.183	195.183	
MV-22 Training Development	VARIOUS	VARIOUS	18.004	4.116	Jan 2007	3.882	Jan 2008	.779	Jan 2009	1.709	28.491		
SUBTOTAL PRODUCT DEVELOPMENT			4,838.884	179.919		86.228		56.361		23.814	5,185.206		

Remarks:Total award fee pool available for MV and CV combined is $228,238,249.00. To date $202,338,054.00 has been awarded for a percentage of 88.7 percent. Award Fee included in MV-22 Primary Hardware Development Airframe line. Dollars may not add due to rounding.

SUPPORT												
CV-22 Govt Engineering Sppt	WX	NAWCAD, PATUXENT RIVER MD	20.495	1.308	Nov 2006						21.803	
CV-22 Integrated Log Sppt	VARIOUS	VARIOUS	8.049	.347	Nov 2006						8.395	
CV-22 Technical Data	C-CPIF	BOEING COMPANY, RIDLEY PARK, PA	4.567	3.468	Nov 2006						8.035	8.035
CV-22 Technical Data	WX	NAVAIR TEC EN SV CMD, SAN DIEGO CA	6.131								6.131	
MV-22 Govt Engineering Sppt	WX	NAWCAD, PATUXENT RIVER MD	1,093.142	2.096	Nov 2006	.544	Nov 2007	.457	Nov 2008	.652	1,096.891	
MV-22 Integrated Log Sppt	VARIOUS	VARIOUS	28.203	.615	Nov 2006						28.818	
MV-22 Technical Data	C-CPIF	BOEING COMPANY, RIDLEY PARK, PA	93.395	16.180	Nov 2006	6.966	Nov 2007				116.541	116.541
SUBTOTAL SUPPORT			1,253.982	24.013		7.511		.457		.652	1,286.616	

Remarks: Dollars may not add due to rounding.

TEST & EVALUATION												
CV-22 Dev Test & Eval	MIPR	EDWARDS AFB, CA	33.468	13.096	Nov 2006						46.564	
MV-22 Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	935.639	13.493	Nov 2006	13.158	Nov 2007	7.654	Nov 2008	13.222	983.166	
MV-22 Live Fire Test & Eval	WX	NAWCWD, CHINA LAKE CA	1.636								1.636	
MV-22 Oper Test & Eval	WX	OPER T & E FOR CD 30, NORFOLK VA	37.157	2.502	Nov 2006	2.861	Nov 2007	.669	Nov 2008	.517	43.707	
SUBTOTAL TEST & EVALUATION			1,007.900	29.091		16.019		8.323		13.739	1,075.073	

Remarks: Dollars may not add due to rounding

Exhibit R-3 Cost Analysis (page 1)		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604262N, V-22A	PROJECT NUMBER AND NAME 1425, V-22

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MANAGEMENT												
CV-22 Engineering Tech Sppt	VARIOUS	VARIOUS	9.963	2.527	Nov 2006						12.490	
CV-22 Management Sppt Serv	VARIOUS	VARIOUS	12.511								12.511	
CV-22 Program Mgmt Support	WX	NAWCAD, PATUXENT RIVER MD	9.830								9.830	
CV-22 Travel	WX	NAWCAD, PATUXENT RIVER MD	4.406	.276	Nov 2006						4.682	
MV-22 Engineering Tech Sppt	VARIOUS	VARIOUS	1,030.280	8.118	Nov 2006	2.844	Nov 2007	1.374	Nov 2008	.745	1,043.362	
MV-22 Management Sppt Serv	VARIOUS	VARIOUS	144.769	4.343	Nov 2006	1.683	Nov 2007	1.229	Nov 2008	1.300	153.325	
MV-22 Studies and Analyses	VARIOUS	VARIOUS	1.244								1.244	
MV-22 Program Mgmt Support	WX	NAWCAD, PATUXENT RIVER MD	47.535	2.174	Nov 2006	.809	Nov 2007	.699	Nov 2008	1.310	52.527	
MV-22 Travel	WX	NAWCAD, PATUXENT RIVER MD	12.531	1.113	Nov 2006	.383	Nov 2007	.319	Nov 2008	.604	14.950	
SUBTOTAL MANAGEMENT			1,273.069	18.551		5.719		3.621		3.960	1,304.920	

Remarks: Dollars may not add due to rounding.

Total Cost			8,373.835	251.574		115.477		68.763		42.165	8,851.814	

Remarks: Dollars may not add due to rounding.

CLASSIFICATION:

EXHIBIT R4, Schedule Profile	DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604262N, V-22A	H1425, V-22

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Program Milestones			MV-22 IOC ▲							CV-22 IOC 2Q FY09 △																						
Engineering Milestones	Blk C - PDR		Blk C - CDR ▲	▲								FCA △							PCA △													
Test & Evaluation Milestones	CV-22 Flight Test 4Q/02 - 4Q/07 ■				CV-22 IOT&E 1Q □																											
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0604262N, V-22A				PROJECT NUMBER AND NAME H1425, V-22			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
CV-22 Flight Test	1Q-4Q							
MV-22 Operational Evaluation (OPEVAL) Phase II								
MV-22 Milestone III								
MV-22 Initial Operational Capability (IOC)	3Q							
Block-C Preliminary Design Review (PDR)	3Q							
Block-C Critical Design Review (CDR)	4Q							
CV-22 Operational Utility Evaluation								
CV-22 Initial Operational Test & Evaluation (IOT&E)		1Q						
CV-22 Initial Operation Capability (IOC)			2Q					
Block-C Functional Configuration Audit			4Q					
Block-C Physical Configuration Audit					3Q			

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604264N, AIRCREW SYSTEMS DEVELOPMENT		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	13.563	23.749	16.192	13.630	10.674	2.755	2.746	
0606 AIRCREW SYSTEMS DEVELOPMENT	12.155	23.749	16.192	13.630	10.674	2.755	2.746	
9999 CONGRESSIONAL ADD	1.408							

(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-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604264N, AIRCREW SYSTEMS DEVELOPMENT

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	13.832	24.267	16.409
Current President's Budget:	13.563	23.749	16.192
Total Adjustments	-0.269	-0.518	-0.217

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.269	-0.154	
Congressional Increases			
Economic Assumptions			-0.118
Miscellaneous Adjustments		-0.364	-0.099
Subtotal	-0.269	-0.518	-0.217

SCHEDULE: Minor programs with small amounts of funding were deleted from schedule for clarity. Important changes are as follows:

	FROM	TO	REASON
1. Acquisition Milestone Changes:			
a. CMARS - MS C	4Q 10	1Q 11	Aligned to coincide with current acquisition strategy
b. LEP (JALEPV) - MS C	4Q 08	2Q 09	Delay due to low product yield and producibility
c. LEP (JALEPV) - FRP	4Q 08	4Q 10	Delay due to low product yield and producibility
2. Test and Evaluation Changes:			
a. JHMCS NVCD - DT/OT	1Q 08-3Q 10	1Q 07-4Q 09	Rebaseline to JHMCS NVCD and aligned with joint USAF/USN program
b. CWTS - DT	1Q 06-1Q 09	3Q 09-4Q 09	Defined T&E requirements for non-UH-1Y platforms
c. CMARS - DT/OT	1Q 08-3Q 10	4Q 08-1Q 10	Aligned to coincide with current acquisition strategy and refinement of T&E requirements
3. Production Milestone Changes:			
a. ESIRP - DEL	1Q 08-4Q 13	3Q 09-4Q 13	Delays in contract award
b. CWTS - DEL	1Q 06-4Q 13	1Q 10-4Q 13	Realigned with non-UH-1Y aircraft installation schedule
c. CMARS - DEL	3Q 11-4Q 13	4Q 11-4Q 13	Realigned with H-53 modification schedule
e. EJECTION SEAT ENDURANCE - DEL	1Q 08-1Q 11	4Q 08-4Q 10	Source selection now planned for 2Q 08 in accordance with current acquisition strategy

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N, AIRCREW SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0606 AIRCREW SYSTEMS DEVELOPMENT	12.155	23.749	16.192	13.630	10.674	2.755	2.746
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AIRCREW MOUNTED SYSTEMS: Extreme Cold Weather Improvement Program/State of the Art (ECWIP/SOA), Night Vision Systems (NVS), Joint Helmet Mounted Cueing System (JHMCS) Night Vision Cueing and Display (NVCD), Wide Field of View (WFOV), Night Vision Goggle (NVG), JHMCS Night Attack, Agile Frequency Laser Eye Protection (AFLEP), Laser Eye Protection Improvement Program (LEPIP), Joint Aircrew Laser EyeProtection Visor (JALEPV), Waste Management, Hydration, Universal Camouflage, Survival Vest & Armor, Common Helmet, JHMCS Night Vision Cueing Display, Non-Ejection Wide Field of View (WFOV) Night Vision Goggles (NVG), Ejection (Non-JHMCS) Wide Field of View (WFOV) Night Vision Goggles (NVG), Improved Hearing Protection, Flight Deck Cranial, Escape System Injury Reduction Program (ESIRP).

AIRCREW MOUNTED SYSTEMS: AIRCREW ENDURANCE includes SURVIVAL VEST and ARMOR, UNIVERSAL CAMOUFLAGE, WASTE MANAGEMENT, and HYDRATION. JHMCS NVCD includes JHMCS NIGHT ATTACK. FLIGHT DECK CRANIAL includes IMPROVED HEARING PROTECTION. LASER EYE PROTECTION includes JALEPV, AFLEP, and LEPIP. WIDE FIELD OF VIEW (WFOV) NIGHT VISION GOGGLE (NVG) includes both EJECTION (NON-JHMCS) WFOV NVG and NON-EJECTION WFOV NVG. COMMON HELMET includes INTEGRATED DAY/NIGHT ALL WEATHER HELMET. Extreme Cold Weather Improvement Program/State of the Art (ECWIP/SOA) will now be known as State of the Art (SOA).

AIRCRAFT MOUNTED SYSTEMS: Escape System Injury Reduction Program (ESIRP), Crashworthy Troop Seat (CWTS), Common Mobile Aircrew Restraint System (CMARS), formerly Mobile Aircrew Restraint System (MARS), Seat Endurance (SE), Liquid Oxygen to On-board Oxygen Generating System (LTO), Advanced Crash Protection Systems (ACPS), Ejection Seat Endurance (ESE).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Improved Aircrew Endurance	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.846	9.321	12.213
RDT&E Articles Qty			

AIRCREW MOUNTED SYSTEMS:

SOA: Continued evaluation and authorization of state of the art survival and clothing items. AIRCREW ENDURANCE includes: Waste Management: Testing and approval of Mission Extender Device to allow bladder relief without removal of seat safety harness and equipment. Universal Camoflage: Development and approval of a universal color for ALSS equipment that allows mission deployment to multiple terrain conditions without the need to obtain equipment in different colors. Hydration: Integration of water reservoirs and filtration systems with ALSS equipment. Survival Vest and Armor: Upgrading the vest and armor to reduce weight and bulk through new materials, revised design, new survival items, updating survival items carried for improved capability in current theatres of operations. Common Helmet: Prepare and update required documentation (e.g. system engineering plan, acquisition plan, test plans) and conduct laboratory testing, development testing, aircraft system integration testing, fleet verification and demonstration. and system evaluation. JHMCS NVCD: Continue the joint USAF/USN developmental flight test of the JHMCS NVCD system. Conduct laboratory testing, development testing, aircraft system integration testing, operational test and evaluation, and other pre-Milestone C events. WIDE FIELD OF VIEW NVG includes: Non-Ejection WFOV NVG : Prepare and update required documentation (e.g. system engineering plan, acquisition plan, test plans), procure units to conduct laboratory testing, development testing, aircraft system integration testing, fleet verification and demonstration, and system evaluation. EJECTION (NON-JHMCS) WFOV NVG: Initiate USN specific system planning, ground, airborne development test and evaluation, and operational test and evaluation for ejection seat NVG platforms. JHMCS Night Attack: Continue development and operational test and evaluation for JHMCS Night Attack standard and Wide Field of View (WFOV) system for the F/A-18 aircraft. FLIGHT DECK CRANIAL includes: Improved Hearing Protection: Prepare and update required documentation (e.g. system engineering plan, acquisition plan, test plans), procure units to conduct laboratory testing, development testing, aircraft system integration testing, fleet verification and demonstration, and system evaluation. Flight Deck Cranial: Prepare and update required documentation (e.g. system engineering plan, acquisition plan, test plans), procure units to conduct laboratory testing, development testing, aircraft system integration testing, fleet verification and demonstration, and system evaluation. LASER EYE PROTECTION (LEP) includes: Agile Frequency Laser Eye Protection (AFLEP): Procure units to conduct laboratory testing, development testing and aircraft system integration testing. Laser Eye Protection Improvement Program (LEPIP): Procure units to conduct laboratory testing, development testing and aircraft system integration testing, fleet verification and demonstration and system evaluation. Prepare and update required documentation. Joint Aircrew Laser Eye Protection Visor(JALEPV): Procure units to conduct laboratory testing, development testing and aircraft system integration testing, fleet verification and demonstration and system evaluation. Prepare and update required documentation.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N, AIRCREW SYSTEMS DEVELOPMENT	PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT

Enhanced Aircraft Safety Systems	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	11.309	14.428	3.979
RDT&E Articles Qty			

AIRCRAFT MOUNTED SYSTEMS:

ESIRP: Continuing fleet assessment of aircrew endurance modifications for F/A-18 aircraft and develop ECP. Complete FCA. CWTS: Transition SBIR concept for H-60 crashworthy troop seats. Develop concept through PDR. CMARS: Leverages existing technology and integrates webbing retractor system into all front line rotary wing aircraft. Design also includes new AIRSAVE aircrew interface. Developmental testing continues for new aircrew mounted interface. Source selection for retractor. Contract award planned for 2 Qtr FY08. Continue work on aircraft integration for MH-53 aircraft. SE: Planning for source selection and contract award in 2nd Qtr FY08 for new generation of endurance systems to be retrofit in front line "non-ejection seat" equipped aircraft. LTO: Contract awarded to Northrop Grumman for the design, development, qualification and integration of OBOGS for the Advanced Hawkeye. Completion of qualification and ECP development for replacement concentrator. ACPS: Planning for integration studies and leveraging Army Blackhawk Cockpit Airbag Systems for use in Navy rotary wing aircraft to start in FY08. ESE: Ejection seat endurance design and PDR for non-NACES platforms . Contract award planned for 1 Qtr FY08.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total Cost
Aviation Life Support - OPN 424400	21.661	13.712	17.673	20.471	34.770	47.625	42.711	Continuing	Continuing
Aviation Life Support Mods - APN 057500	0.720	8.332	7.190	8.435	13.487	11.236	11.466	Continuing	Continuing

D. ACQUISITION STRATEGY:

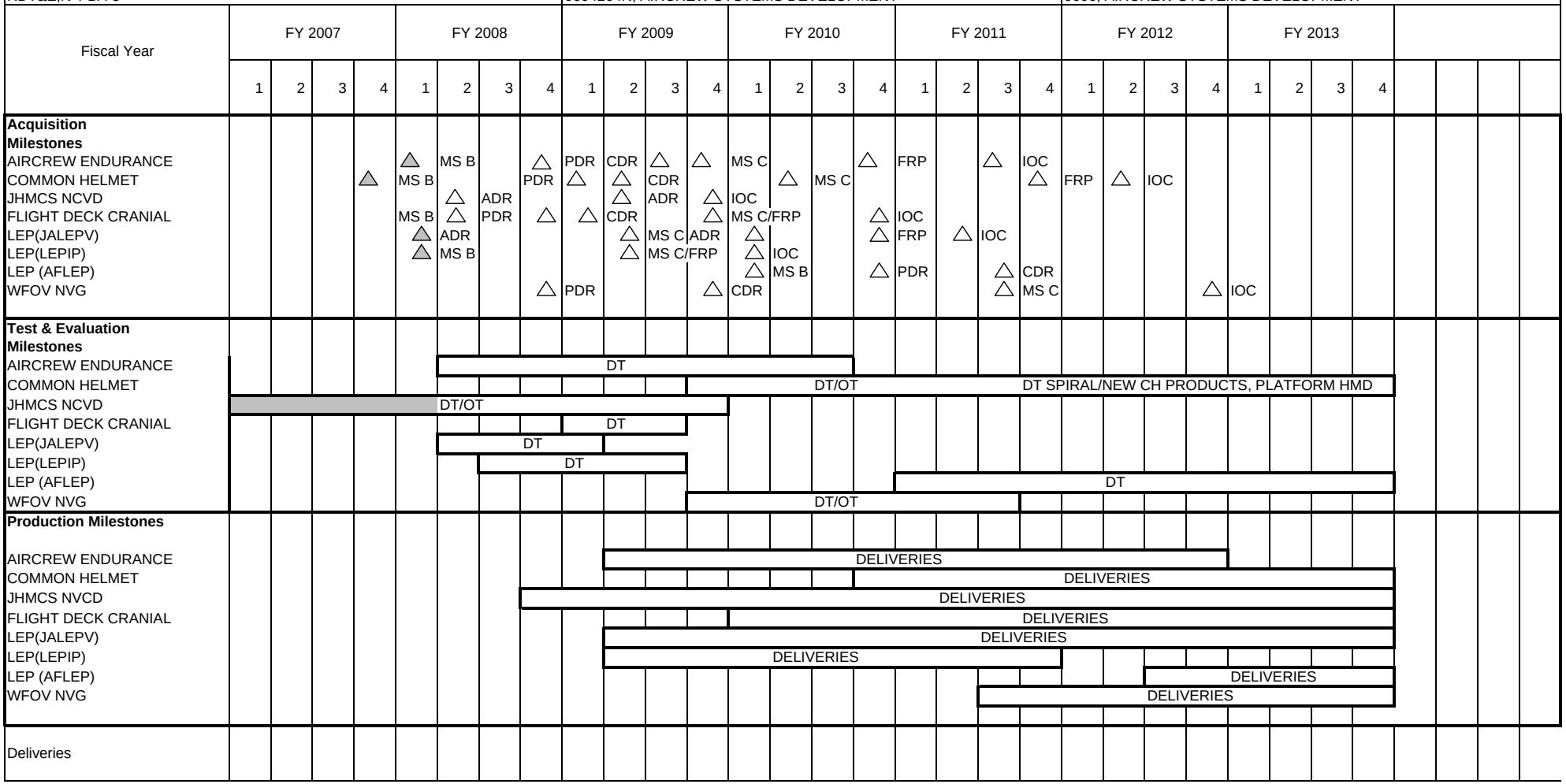
Commercial Off-The-Shelf (COTS)/NDI where possible, cost plus award fee contracts. Majority of programs non-Acat programs.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604264N, AIRCREW SYSTEMS DEVELOPMENT				PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Systems Eng SOA	WX	VARIOUS	.894	.397	02/07	.691	02/08	.814	02/09	2.343	5.139	
Systems Eng ADV CRASH PROTECTION	WX	NAWCAD, PATUXENT RIVER MD				.682	12/07	.219	12/08	.628	1.529	
Systems Eng ADV CRASH PROTECTION	WX	VARIOUS				.790	03/08				.790	
Systems Eng AIRCREW ENDURANCE	WX	NAWCAD, PATUXENT RIVER MD				1.226	12/07	1.320	12/08	4.293	6.839	
Systems Eng AIRCREW ENDURANCE	WX	TBD				.650	02/08	.550	12/08	.400	1.600	
Systems Eng CMARS	WX	TBD	.427			4.700	03/08	2.400	03/09	2.000	9.527	
Systems Eng CMARS	WX	VARIOUS	3.217								3.217	
Systems Eng COMMON HELMET	WX	VARIOUS				.100	12/07	.100	12/08	1.550	1.750	
Systems Eng CWTS	WX	NAWCAD, PATUXENT RIVER MD	.666	.075	02/07	1.085	03/08	.465	03/09	1.057	3.347	
Systems Eng CWTS	WX	NAWCWD, CHINA LAKE CA	.045								.045	
Systems Eng EJECTION (NON JHMCS) WFOV	WX	VARIOUS								3.416	3.416	
Systems Eng EJECTION SEAT ENDUR	WX	VARIOUS		1.358	02/07	.585	10/07				1.943	
Systems Eng ESIRP	SS/CPAF	MARTIN-BAKER A/CRT C, MIDDLESEX G	.828			1.225	12/07				2.053	2.053
Systems Eng ESIRP	WX	VARIOUS	4.122	.086	02/07	.320	02/08	.295	02/09	1.058	5.881	
Systems Eng FLIGHT DECK CRANIAL	WX	NAWCAD, PATUXENT RIVER MD				1.100	12/07	.600	12/08	.100	1.800	
Systems Eng FLIGHT DECK CRANIAL	TBD	TBD				.250	02/08	.750	12/08	.250	1.250	1.250
Systems Eng JHMCS NVCD	WX	NAWCAD, PATUXENT RIVER MD	1.738	.240	02/07	1.808	02/08	2.402	02/09	2.453	8.642	
Systems Eng JHMCS NVCD	WX	NAWCWD, CHINA LAKE CA	.365								.365	
Systems Eng LEP	TBD	TBD				1.250	02/08	1.450	02/09	2.277	4.977	4.977
Systems Eng LEP	WX	VARIOUS	.147			.500	02/08	.644	02/09	2.388	3.679	
Systems Eng LTO	SS/CPAF	NORTHRUP GRUMMAN SYS, NY	10.490	8.100	01/07	3.800	01/08				22.390	22.390
Systems Eng LTO	WX	NAWCAD, PATUXENT RIVER MD	1.027	.518	02/07	.381	02/08				1.926	
Systems Eng SEAT ENDURANCE	WX	VARIOUS				.450	12/07	.600	12/08	.100	1.150	
Systems Eng WFOV	WX	NAWCAD, PATUXENT RIVER MD						1.601	12/08	1.408	3.009	
Systems Eng WFOV	WX	NAWCWD, CHINA LAKE CA						.150	12/08		.150	
Systems Eng WFOV	WX	NSWC DET, CRANE IN						.150	12/08	.300	.450	
SUBTOTAL PRODUCT DEVELOPMENT			23.966	10.772		21.593		14.511		26.021	96.863	
TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												
SUPPORT												
SUBTOTAL SUPPORT												
MANAGEMENT												
MGT & PROF SUPPT SRVC (NON-FFRDC)	C/CPFF	L-3 COMMUNICATIONS GOVERNMENT SERVICES, CHANTILLY, VA		.080	02/07	.080	02/08				.160	.160
Mgt & Prof Sup Srvc (NON-FFRDC) JHMCS NV	WX	VARIOUS	.041			.033	02/08	.033	02/09	.132	.239	
Program Mgmt Sup JHMCS	WX	VARIOUS	2.951	.193	02/07						3.144	
Program Mgmt Sup JHMCS NVCD	WX	NAVAIR, PAXTUXENT RIVER MD				1.175	12/07	.714	12/08	1.630	3.518	
Program Mgmt Sup JHMCS NVCD	WX	VARIOUS	.834	.017	02/07	.743	12/07	.809	12/08	1.522	3.925	
Program Mgmt Sup LTO	WX	VARIOUS	.136	1.008	02/07						1.144	
TRAVEL JHMCS JHMCS NVCD	WX	NAVAIR, PAXTUXENT RIVER MD						.125	12/08	.500	.625	
TRAVEL LTO	WX	NAVAIR, PAXTUXENT RIVER MD		.025	02/07	.125	02/08				.150	
Travel NACES	WX	NAVAIR, PAXTUXENT RIVER MD		.060	02/07						.060	
Travel NACES	WX	VARIOUS	.405								.405	
SUBTOTAL MANAGEMENT			4.367	1.383		2.156		1.681		3.784	13.370	
Total Cost			28.333	12.155		23.749		16.192		29.805	110.233	

Note: Totals may not add due to rounding

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N, AIRCREW SYSTEMS DEVELOPMENT	PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT	



CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N, AIRCREW SYSTEMS DEVELOPMENT	PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT	

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
CMARS					MSB	△	△	PDR		△	CDR						△	MSC/FRP			△	IOC						
CWTS													△	ADR/FRP														
EJECT SEAT ENDURANCE					MSC/FR	△	△	IOC	△	ADR																		
SEAT ENDURANCE						△	ADR												△	IOC								
Test & Evaluation Milestones																												
CMARS								DT/OT																				
CWTS											D T																	
LTO	DT/DT ASSIST																											
EJECTION SEAT ENDURANCE					DT																							
SEAT ENDURANCE											DT																	
Production Milestones																												
CMARS																				DELIVERIES								
CWTS														DELIVERIES														
EJECTION SEAT ENDURANCE								DELIVERIES																				
ESIRP											DELIVERIES																	
SEAT ENDURANCE															DELIVERIES													
Deliveries																												

Exhibit R-4, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604264N, AIRCREW SYSTEMS DEVELOPMENT				PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Aircrew Endurance - MS B		1Q					
Aircrew Endurnace - PDR		4Q					
Aircrew Endurance - CDR			3Q				
Aircrew Endurance - MS C			4Q				
Aircrew Endurance - FRP				4Q			
Aircrew Endurance - IOC					3Q		
Aircrew Endurance - DT		2Q-4Q	1Q-4Q	1Q-3Q			
Aircrew Endurance - DEL			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Common Helmet - MS B	4Q						
Common Helmet - PDR			1Q				
Common Helmet - CDR			2Q				
Common Helmet - MS C				2Q			
Common Helmet - FRP					4Q		
Common Helmet - IOC						2Q	
Common Helmet - DT/OT HMD Spirals			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Common Helmet - DEL				4Q	1Q-4Q	1Q-4Q	1Q-4Q
JHMCS NVCD-ADR		2Q	2Q				
JHMCS NVCD-IOC			4Q				
JHMCS NVCD - DT/OT	1Q-4Q	1Q-4Q	1Q-4Q				
JHMCS NVCD-DEL		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Flight Deck Cranial - MS B		2Q					
Flight Deck Cranial - PDR		4Q					
Flight Deck Cranial - CDR			1Q				
Flight Deck Cranial - MS C /FRP			4Q				
Flight Deck Cranial - IOC				4Q			
Flight Deck Cranial - DT			1Q-3Q				
Flight Deck Cranial - DEL				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
LEP (JALEPV) - ADR		1Q		1Q			
LEP (JALEPV) - MS C			2Q				
LEP (JALEPV) - FRP				4Q			
LEP (JALEPV) - IOC					2Q		
LEP (JALEPV) - DT/OT		2Q-4Q	1Q				
LEP (JALEPV) - DEL			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
LEP (LEPIP) - MS B		1Q					
LEP (LEPIP) - MS C/FRP			2Q				
LEP (LEPIP) - IOC				1Q			
LEP (LEPIP) - DT/SPIRALS		3Q-4Q	1Q-3Q				
LEP (LEPIP) - DEL			2Q-4Q	1Q-4Q	1Q-4Q		
LEP (AFLEP) - MS B				1Q			
LEP (AFLEP) - PDR				4Q			
LEP (AFLEP) - CDR					3Q		
LEP (AFLEP) - DT					1Q-4Q	1Q-4Q	1Q-4Q
LEP (AFLEP) - DEL						3Q-4Q	1Q-4Q
WFOV NVG - PDR		4Q					
WFOV NVG - CDR			4Q				
WFOV NVG - MS C					3Q		
WFOV NVG - IOC						4Q	
WFOV NVG - DT/OT			4Q	1Q-4Q	1Q-3Q		
WFOV NVG - DEL					3Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604264N, AIRCREW SYSTEMS DEVELOPMENT				PROJECT NUMBER AND NAME 0606, AIRCREW SYSTEMS DEVELOPMENT		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
ESIRP - DEL			3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
CMARS-MS B		2Q					
CMARS - PDR, CDR		3Q	2Q				
CMARS - DT/OT		4Q	1Q-4Q	1Q			
CMARS - MS C/FRP					1Q		
CMARS-IOC						1Q	
CMARS - DEL					4Q	1Q-4Q	1Q-4Q
CWTS - DT			3Q-4Q				
CWTS-ADR/FRP				1Q			
CWTS - DEL				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Ejection Seat Endurance - MS C/FRP		2Q					
Ejection Seat Endurance - IOC		3Q					
Ejection Seat Endurance - DT		1Q-4Q	1Q				
Ejection Seat Endurance-ADR			1Q				
Ejection Seat Endurance - DEL		4Q	1Q-4Q	1Q-4Q			
LTO - DT/DT ASSIST	1Q-4Q	1Q-4Q	1Q				
SEAT ENDURANCE - ADR		2Q					
SEAT ENDURANCE - DT			3Q-4Q	1Q-2Q			
SEAT ENDURANCE - DEL				3Q-4Q	1Q-4Q	1Q-2Q	
SEAT ENDURANCE - IOC					3Q		

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N, AIRCREW SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADD			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
9999 CONGRESSIONAL ADD	1.408						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add.

B. ACCOMPLISHMENTS / PLANNED PROGRAM

9A32N SIIIS EJECTION SEAT IMPROVEMENT	FY2007	FY2008	FY2009
Accomplishments / Effort / Sub-total Cost	1.408		
RDT&E Articles Qty			

The funding is needed to provide SJU-4/A ejection seat performance upgrades by investigating current escape technology applications to the T/AV-8B escape system. The total scope of the program is to design, develop, test and upgrade the T/AV-8B escape system to reduce the risk of injury to aircrew for the entire escape envelope. Product area focus will be to reduce risk of injury at mode 1/2 boundary for the ejection seat, reduce opening shock of the parachute, reduce possibility of neck injuries and improve restraint.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**					R-1 ITEM NOMENCLATURE 0604269N EA-18G			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		**361.037**	**278.469**	**128.906**	**48.394**	**27.452**	**21.922**	**22.230**
3063 EA-18G Development		**359.726**	**276.880**	**128.906**	**48.394**	**27.452**	**21.922**	**22.230**
9999 Congressional Add		**1.311**	**1.589**					

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 (ALQ-218, 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 weapon, High-speed Anti-Radiation Missile (HARM) family of weapons, to fulfill operational requirements. 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. The EA-18G will have the capability to operate autonomously or as a major node in a network-centric operation and is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	372.315	272.699	135.226
FY2009 President's Budget:	361.037	278.469	128.906
Total Adjustments	-11.278	5.770	-6.320
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-5.878	-1.743	
Congressional Increases		1.600	
Economic Assumptions			-0.283
Miscellaneous Adjustments	-5.400	5.913	-6.037
Subtotal	-11.278	5.770	-6.320

R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0604269N EA-18G

Schedule:

The FY07 Milestone C activity slipped a quarter due to a schedule conflict with the Milestone Decision Authority (MDA) . Also, the System Development and Demonstration (SDD) Production Deliveries were extended to reflect Milestone/Program Review in third quarter FY08 and subsequent buys of Peculiar Ground Support Equipment. (PGSE).

Technical:

Not applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604269N EA-18G				PROJECT NUMBER AND NAME 3063 EA-18G Development			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**359.726**	**276.880**	**128.906**	**48.394**	**27.452**	**21.922**	**22.230**
RDT&E Articles Qty								

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 (ALQ-218, 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 weapon, High-speed Anti-Radiation Missile (HARM) family of weapons, to fulfill operational requirements. The performance of the aircraft is compatible with the primary strike/fighter aircraft projected to be in the inventory in the 2010 time perioc allowing it to be fully integrated into specific strike packages. The EA-18G will have the capability to operate autonomously or as a major node in a network-centric operation and is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently.

B. Accomplishments/Planned Program

EA-18G Design and Avionics Integration	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	245.552	172.657	92.226
RDT&E Articles Quantity			

Continue Air Vehicle design and integration of avionics into the EA-18G.

EA-18G Software Development	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	46.260	25.804	9.402
RDT&E Articles Quantity			

Continue software development of the EA-18G.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604269N EA-18G	3063 EA-18G Development	

EA-18G Developmental & Operational Testing		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		67.914	78.419	27.278
RDT&E Articles Quantity				

Continue and complete developmental testing associated with SDD. Begin and complete operational test planning. Begin and complete OPEVAL.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY2007	FY2008	FY2009	FY2010	FY2011	FY2011	FY2012	FY2013	Complete	Cost
EA-18G APN-1 (P-1 Line Item #2)	696.108	1,257.453	1,604.800	1,593.936	886.157	20.494	14.999			6,399.378
EA-18G Advance Procurement (P-1 Line Item #3)	39.593	50.771	46.831	20.986						192.517
EA-18G APN-5 (P-1 Line Item #28) OSIP (006-11)					4.095	4.491	4.594			13.180

D. ACQUISITION STRATEGY:

A sole source contract was awarded to Boeing (the platform manufacturer) for system design and development (SDD) under a Cost-Plus Incentive Fee/Award Fee (CPIF/AF) contract arrangement that provides incentives based on cost, schedule, and technical performance. Boeing has a subcontract with Northrop Grumman to incorporate Electronic Warfare/Electronic Attack systems into the Super Hornet. The contract has been structured to minimize the Navy's up-front investment and cancellation penalty, while reducing costs for the total program life cycle. In FY05, two F/A-18F's began modification with RDT&E funds to incorporate the Electronic Warfare/Electronic Attack systems for further development, integration, and testing. In FY06, an Engineering Change Proposal (using procurement funds) was incorporated into the SDD contract to procure the EA-18G unique airframe changes and Airborne Electronic Attack kits, respectively, for the 4 SDD aircraft. Also during FY06 groundwork for the eight (8) Low Rate Initial Production (LRIP) aircraft was initiated and a Request For Proposal (RFP) was released prior to the Milestone C authorization and awarded in the fourth quarter FY07. Contractual studies are underway for Operational Requirement Document core block II activities and those efforts will be integrated into the overall EA-18G plan/roadmap as resources permit.

R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604269N EA-18G				PROJECT NUMBER AND NAME 3063 EA-18G Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
GFE	VARIOUS	VARIOUS	1.908	0.050	VARIOUS	0.050	VARIOUS	0.064	VARIOUS	0.023	2.095	
Primary Hdw Dev (ALQ-99)	WX	NSWC DET, CRANE IN	18.026	3.995	11/06	2.468	11/07	0.525	11/08		25.014	
Primary Hdw Dev (Aircraft)	SS/CPAF	MDA, ST LOUIS, MO	643.646	158.858	10/06	100.224	10/07	49.003	10/08	6.300	958.031	958.031
Primary Hdw Dev (Aircraft)	VARIOUS	VARIOUS	1.842	0.675	VARIOUS	0.417	VARIOUS	0.125	VARIOUS	0.175	3.234	
SDD Award Fee	SS/CPAF	MDA, ST LOUIS, MO	25.300	19.868	11/06	25.346	11/07	17.983	11/08		88.497	88.497
Systems Engineering	WX	NAWCAD, LAKEHURST NJ	2.998	1.675	11/06	1.035	11/07	0.250	11/08	0.469	6.427	
Systems Engineering	WX	NAWCAD, PAX RIVER MD	18.555	3.854	11/06	2.381	11/07	2.822	11/08	5.025	32.637	
Systems Engineering	WX	NAWCWD, CHINA LAKE CA	26.308	27.513	11/06	19.120	11/07	9.382	11/08	5.364	87.687	
Systems Engineering	WX	NAWCWD, PT MUGU CA	22.896	12.325	11/06	7.814	11/07	5.668	11/08	2.739	51.442	
Systems Engineering	WX	NSWC DET, CRANE IN	9.007	1.035	11/06	1.039	11/07	1.490	11/08	1.301	13.872	
Subtotal Product Development			770.486	229.848		159.894		87.312		21.396	1,268.936	

Remarks: Primary Hardware development is based on the current value of the SDD contract plus a projection of additional future planned requirements. To date, 55.7% of the award fee has been awarded. An additional 9.8% is scheduled to be awarded in second quarter FY08; 25.5% is scheduled for award in fourth quarter FY08, and the remaining 9.0% is scheduled for the first quarter FY09.

Integrated Logistics Support	WX	VARIOUS	2.266	0.902	11/06	0.650	11/07	0.136	11/08	1.177	5.131	
Software Development	SS/CPFF	MDA, ST LOUIS, MO	109.171	46.260	11/06	25.804	11/07	9.402	11/08	54.033	244.670	244.670
Subtotal Support			111.437	47.162		26.454		9.538		55.210	249.801	

Remarks: Target values of contract includes current items on contract and projected additions.

R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

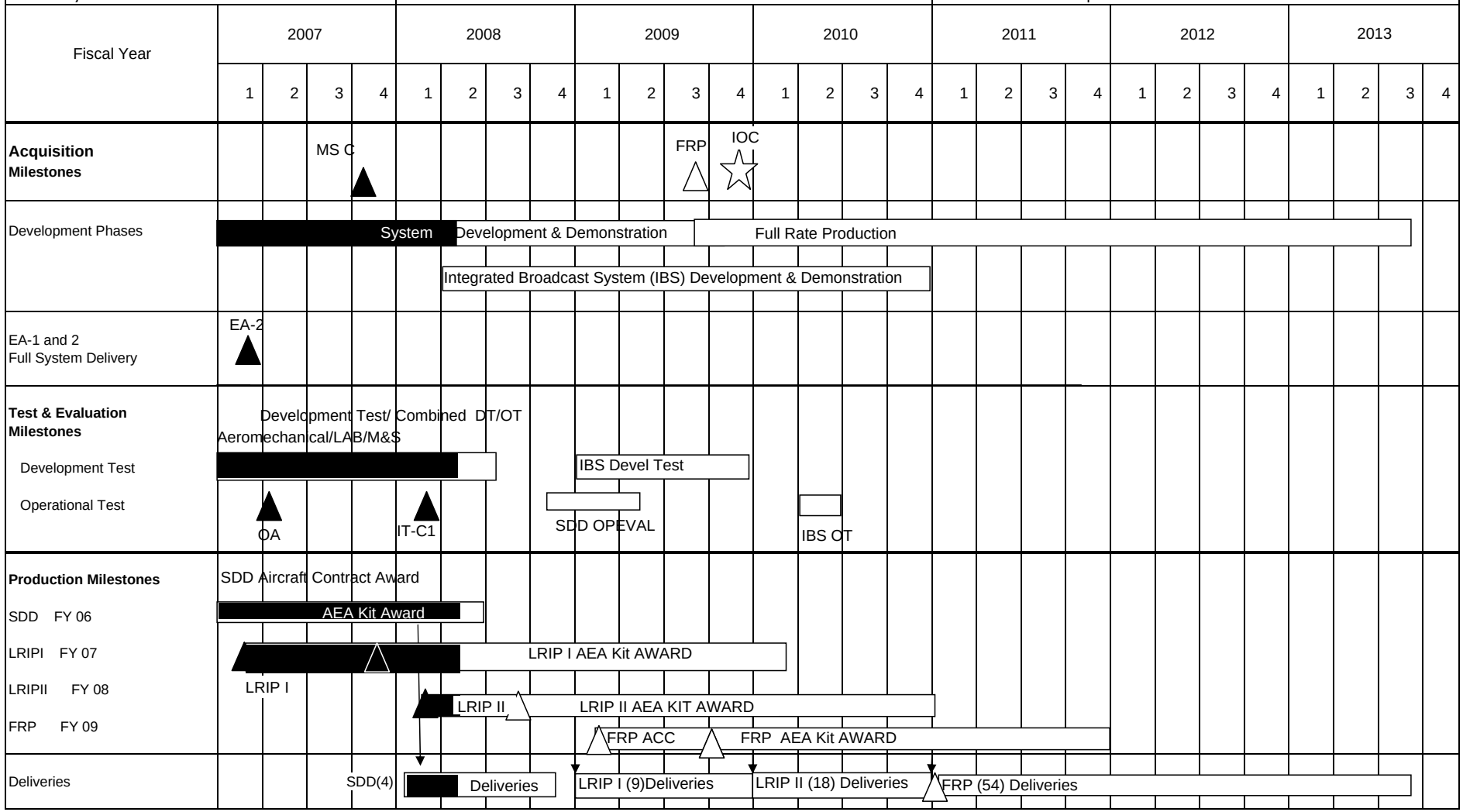
Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604269N EA-18G			PROJECT NUMBER AND NAME 3063 EA-18G Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Dev Test & Eval	MIPR	NASA AMES	3.016								3.016	
Dev Test & Eval	MIPR	VARIOUS	1.750	0.240	11/06	0.245	11/07	0.147	11/08		2.382	
Developmental Test & Eval	WX	NAWCAD, PAX RIVER MD	36.580	54.082	11/06	14.644	11/07	3.677	11/08	8.813	117.796	
Developmental Test & Eval	WX	NAWCWD, CHINA LAKE		12.535	11/06	61.975	11/07	13.122	11/08	26.080	113.712	
Operational Test & Evaluation	WX	COTF, NORFOLK VA	1.378	1.057	11/06	1.555	11/07	10.332	11/08	1.303	15.625	
Subtotal T&E			42.724	67.914		78.419		27.278		36.196	252.531	
Remarks:												
Contractor Engineering Support	VARIOUS	VARIOUS	6.343	2.100	11/06	2.250	10/07	1.900	11/08	1.519	14.112	
Government Engineering Support	WX	NAWCAD, PAX RIVER MD	12.954	7.627	11/06	5.725	11/07	1.761	11/08	2.241	30.308	
Government Engineering Support	WX	VARIOUS	1.191								1.191	
Program Management Support	WX	NAWCAD, PAX RIVER MD	11.108	4.575	11/06	3.778	11/07	1.004	11/08	3.806	24.271	
Travel	WX	VARIOUS	0.898	0.500	VARIOUS	0.360	VARIOUS	0.113	VARIOUS	0.411	2.282	
Subtotal Management			32.494	14.802		12.113		4.778		7.977	72.164	
Remarks:												
Total Cost			957.141	359.726		276.880		128.906		120.779	1,843.432	
Remarks:												

R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

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

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604269N EA-18G	3063 EA-18G Development



R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604269N EA-18G				PROJECT NUMBER AND NAME 3063 EA-18G DEVELOPMENT			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Development & Demonstration Phase (SDD)		1Q-4Q	1Q-4Q	1Q-3Q				
Developmental Testing		1Q-4Q	1Q-3Q					
Full Rate Production				3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
EA-2 Delivery		1Q						
LRIP I Aircraft Contract Award (funded in APN-1)		1Q						
Operational Assessment (OA)		2Q						
Milestone C (MSC)		4Q						
Integrated Broadcast System (IBS) receiver development phase			2Q-4Q	1Q-4Q	1Q-4Q			
Aircraft Low-Rate Initial Production II (LRIP II)			1Q					
Integrated Testing (IT-C1)			1Q					
SDD Production Delivery (funded in APN-1)			1Q-4Q					
Operation Evaluation (OPEVAL)			4Q	1Q-2Q				
Integrated Broadcast System (IBS) receiver Development Test				1Q-4Q				
FRP Aircraft Contract Award				1Q				
Low Rate Initial Production I Delivery				1Q-4Q				
Full Rate Production (FRP) Decision				3Q				
FRP AEA Contract Award				4Q				
IOC				4Q				
LRIP II Delivery					1Q-4Q			
Full Rate Production (FRP) Delivery						1Q-4Q	1Q-4Q	1Q-3Q
Integrated Broadcast System (IBS) receiver Operational Testing					2Q			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604269N EA-18G				PROJECT NUMBER AND NAME 9999 Congressional Adds			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**1.311**	**1.589**					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

R-1 SHOPPING LIST - Item No. 93

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604269N EA-18G	9999 Congressional Adds

B. Accomplishments/Planned Program

9A33N Next Generation EW Simulation	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.311		
RDT&E Articles Quantity			

Provides Radio Frequency (RF) threat generation capabilities for the EA-18G Advanced Weapons Laboratory team to validate and verify the performance of mission critical Electronic Warfare systems.

9999 Next Generation Electronic Warfare Simulation	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.589	
RDT&E Articles Quantity			

Provides Radio Frequency (RF) threat generation capabilities for the EA-18G Advanced Weapons Laboratory team to validate and verify the performance of mission critical Electronic Warfare systems.

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EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604270N, EW DEVELOPMENT		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	68.746	43.179	106.932	193.770	173.899	37.933	35.730
0556 EW COUNTER RESPONSE	33.201	23.659	69.309	156.090	156.770	27.264	27.823
1742 EW TECHNICAL DEVELOPMENT & T&E	.650	7.722	5.451	6.064	6.180	6.277	6.376
2175 TACTICAL AIR ELECTRONIC WARFARE	33.241	8.073	31.496	30.915	10.236	3.666	.791
2260 SPECIFIC EMITTER ID	.680	.744	.676	.701	.713	.726	.740
9999 CONGRESSIONAL ADD	.974	2.981					

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
This element includes development of Electronic Warfare (EW) systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USN and USMC communications and non-communications jammers, and development and testing of electronic warfare devices for emerging threats and emergency contingencies.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	60.688	41.064	63.221
FY2009 President's Budget:	68.746	43.179	106.932
Total Adjustments	8.058	2.115	43.711
Summary of Adjustments			
Congressional Increases	6.245	3.000	
Congressional Reductions			
Congressional Undistributed Reductions	-0.984	-0.280	
Economic Assumptions	-0.019		-0.446
Miscellaneous Adjustments	2.816	-0.605	44.157
Subtotal	8.058	2.115	43.711

1. FY2007 funding total includes $21.450 received in GWOT supplemental.
2. FY2008 funding totals do not include $8.676 previously requested for current FY2008 GWOT requirements.

Schedule:
Project Unit 0556, EW Counter Response. Multiple items have affected the ability to maintain the LBT schedule including an Early Operational Capability (EOC) fielding in December 2006, non-availability of test aircraft, and a test philosophy change in Operational Test (OT). The total delay experienced due to these events is eight months, moving IOC and FRP to FY08.
The ICAP III schedule change is based on actual execution and testing. The Block III DT-IIIC/OT-IIIB - Delay of test schedule is due to a T&E resource conflict and software development schedule delays. Blocks previously labeled as Block IVA and IVB have been recognized as separate blocks and redesignated as Block 4 and Block 5. The Block 4 DT-IIID/OT-IIIC - Initial PLAs of Block IV is underway with Block 4. The Block 5 is planned to more efficiently provide capability to the warfighter. The FRP Delivery is based upon updated A/C induction and delivery date for Lot 2.
Project Unit 1742, EW Technical Development. Ariel was installed and tested on AC2 on schedule, however it had to be de-installed to gain access for another installation that required the aircraft to be rewired. Ariel was reinstalled in the 3rd Qtr FY07.
Project Unit 2175, Tactical Air Electronic Warfare. Upon the approval of the IDECM Block 3 rebaseline plan by the Assistant Secretary of the Navy for Research and Development and Acquisition (ASNRDA), the schedule will be revised. During Developmental Testing (DT), the program experienced delays due to aircraft unavailability. Deficiencies noted during DT required additional changes to Integrated Defensive Electronic Countermeasures (IDECM) Block 3 software prior to entry into Operational Testing (OT). Shortly after IDECM BLOCK 3 entered Integrated Developmental and Operational Testing (DT/OT), significant anomalies were reported by the operational test squadron.
Project Unit 2260, Specific Emmitter ID. Not Applicable.
Project Unit 9999, Congressional Add. Not Applicable.

Technical:
Project Unit 0556, EW Counter Response. Not Applicable.
Project Unit 2175, Tactical Air Electronic Warfare. Corrective actions developed to address anomalies reported during OT have been incorporated and successfully demonstrated in flight testing. Upon build-up of additional decoys, DT flights will resume.
Project Unit 1742, EW Technical Development. Not Applicable.
Project Unit 2260, Specific Emmitter ID. Not Applicable.
Project Unit 9999, Congressional Add. Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N, EW DEVELOPMENT	PROJECT NUMBER AND NAME 0556, EW COUNTER RESPONSE	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0556 EW COUNTER RESPONSE	33.201	23.659	69.309	156.090	156.770	27.264	27.823
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) This project develops upgrades to cope with the increasingly complex and dense threat environment. The required improvements in EA-6B Electronic Attack (EA) will be achieved by applying state-of-the-art signal exploitation/processing/display techniques, improved tactics and jamming capabilities. Tactical communications connectivity improvements include Joint Tactical Terminal and Tactical Receive Equipment (TRE) Related Applications (TRAP), Tactical Digital Information Exchange System-B, Tactical Digital Information Link-J, Tactical Information Broadcast Services (TIBS), Tactical Reconnaissance Information Exchange System (TRIXS), USN/USAF Advisory Support Network (ASN) Intelnet, and Demand Assigned Multiple Access-capabilities within Force Net. The EA-6B weapon system is ultimately designed for precision targeting, jamming and destruction of enemy land based, 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, the EA-6B will support both carrier based tactical aircraft strike group operations, and joint forces, in dense radar controlled environments. This PE is directly supporting emerging asymmetric threats currently being addressed by the United States Navy (USN) and the Department of Defense (DOD). These efforts include the continued development of Force Protection/Global War on Terror (GWOT) (classified discussion upon request), Navigation (NAV) and Information Operations (I/O) applications, increased night vision and tracking capabilities, and enhanced communications jamming. The efforts under this project provide for the electronic countermeasures response to these advanced threat weapon systems and C3 networks which are expanding in density and technical complexity. This project funds the continuing development and integration of all EW and EA systems for the EA-6B electronic attack aircraft including improvements within precision Direction of Arrival (DOA), geo-location, Specific Emitter Identification (SEI), auto-Electronic Support Measures (ESM), and selective reactive jamming.

The test articles begun in FY 1999 are two EA-6B aircraft modified to support the Improved Capability (ICAP) III program and Low Band Transmitter (LBT) Engineering Development Models (EDMs). The two EA-6B ICAP III aircraft will be used as test articles during government test and evaluation of MIDS/Link-16, LBT and other EW improvements. The LBT EDMs are broken out as LBT Antenna Set EDMs and Amplifier Set EDMs. 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 Engineering and Manufacturing Development (E&MD) in September 1996, followed by Low Rate Initial Production (LRIP) in FY 2005 and Full Rate Production (FRP) approval (Milestone III) anticipated in FY 2008. All efforts and system upgrades include the conversion of and transition from the Tactical EA-6B Mission System (TEAMS) mission planner software to the Joint Mission Planning System (JMPS), including development of EA-6B Unique Planning Modules.

A requirement exists to allow the EA-6B to participate in various coordinated targeting scenarios such as Network Centric Warfare, Force Net, Improved Suppression of Enemy Air Defenses/Destruction of Enemy Air Defenses, and other strategic-and theatre-based DOD networks and strategies. Likewise, the ICAP III system shall be matured to enable the fusion and correlation of both organic and non-organic threat information to better present sensor and targeting information to the theatre commander via coordinated efforts with other airborne, ground and ship-based operations. A method of implementing this requirement is to include the EA-6B on the Link-16 EW Network. Incorporation of the full EW Link-16 message set into the EA-6B and participation of the ICAP III within the Network Centric Warfare arena will greatly improve the Strike Group Commander's situational awareness.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

ICAP III UPDATE	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	16.510	7.785	7.760
RDT&E Articles Qty			

(U) Efforts will concentrate on completing the integration and enhancement of LINK-16 and ALQ-218 capabilities into the ICAP III aircraft as well as resolving the OPEVAL/Verification of Correction of FOT&E related deficiencies issues associated with the integrationof LINK-16 and enhance the reactive assignment capability for supporting the EA-6B/EA-18G development. Continue optimizing the ICAP III weapon system performance to include integration of both software upgrades and 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), USQ-113 software improvements, Reactive Assignments and data fusion with national assets in an electronic warfare battle management architecture. The course of maturing ICAP III to full potential in the ForceNet environment will consist of Block upgrades to deliver approximately 18 months apart.

MISSION PLANNING	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.235	3.886	4.094
RDT&E Articles Qty			

(U) Replacement of the Tactical EA-6B Mission System (TEAMS) with the Joint Mission Planning Systems (JMPS) and associated EA-6B Unique Planning Components (UPC's).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604270N, EW DEVELOPMENT	0556, EW COUNTER RESPONSE

LINK - 16 MESSAGE SETS AND DATA LINKS	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.802	1.290	1.278
RDT&E Articles Qty			

(U) Complete testing and correction of deficiencies of the Link-16 modification. Mature the ICAP III weapon system and Link 16 network participation to its full potential by incorporating additional Electronic Warfare message sets enabling full integration with other EW national assets. These data link enhancements will enable the EA-6B ICAP III participation within Force Net and facilitate the EA contributions to the greater situational awareness allowed by Network Centric Warfare efforts.

JAMMER TECHNIQUES OPTIMIZATION (JATO)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	11.654	10.698	12.077
RDT&E Articles Qty			

(U) Continue software development and test support required to address and counter new and evolving radar and communications threats in support of existing weapons systems, EA-6B and emerging systems, EA-18G. JATO will continue to generate techniques, tactics, and procedures that will help to optimize the capabilities of ALQ-99 and ALQ-218 systems, and to assist in requirements definitions of emerging AEA systems. JATO also continues to lead efforts in support of GWOT and Force Protection issues. (classified discussion available upon request to PMA234).

AIRBORNE ELECTRONIC ATTACK (AEA)	FY2007	FY2008	FY2009
Accomplishments / Effort / Sub-total Cost			44.100
RDT&E Articles Qty			

(U) Conduct Next Generation Jammer (NGJ) technical maturation analysis/studies and complete concept refinement phase activities needed to support a Milestone A decision. Initiate NGJ technology development activities to reduce technological risk and determine appropriate set of technologies for use in NGJ.

C. OTHER PROGRAM FUNDING SUMMARY:	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total Cost
P-1 # 25, EA-6 Series	227.646	30.395	33.436	32.128	32.679	36.848	37.534	449.148	3422.775

D. 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 were awarded in FY05 and FY06. Following successful OT, a Sole Source Production contract was awarded in FY07.

The ICAP III contract, an E&MD Cost Plus Incentive Fee/Award Fee 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 Cost Plus Award Fee contract in FY 1999. LRIP contract award was completed in FY 2003. A Milestone III Navy Program Decision Meeting was held on 23 September 2005. The Acquisition Decision Memorandum was signed by ASN RDA on 21 November 2005. A Firm Fixed Price Full Rate Production contract was awarded in March 2006.

Exhibit R-3 Cost Analysis									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-1		PROGRAM ELEMENT 0604270N, EW DEVELOPMENT				PROJECT NUMBER AND NAME 0556, EW COUNTER RESPONSE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
ENGINEERING & TECH SRVC	VARIOUS	TBD	2.941			1.715	10/07	2.272	10/08	12.760	19.688	19.688
ESAD (SUPP) SYSTEMS ENG	VARIOUS	VARIOUS	.900								.900	.900
MGT & PROF SUPPT SRVC	TBD	TBD	.060			.062	10/07	.862	10/08	.310	1.294	1.294
PHD - ICAP III Blk Updates/MIDS	C-BOA	NORTHRUP GRUMMAN SYS, NY	3.986			.470	10/07	.281	10/08	5.280	10.017	10.017
PRIMARY HDW DEVELOP-ICAP III	C-BOA	VARIOUS	250.597	.874	10/06	.800	10/07	.425	10/08	2.000	254.696	254.696
SYSTEMS ENGINEERING	C-BOA	NORTHROP GRUM PRB SYS, INC, HOLLYWD, MD		2.722	10/06						2.722	2.722
PRIMARY HDW DEVELOP	VARIOUS	NORTHROP GRUMMAN SYS, BETHPAGE NY		.202	05/07						.202	.202
STUDIES & ANALYSIS	TBD	TBD	.539			.504	10/07	39.625	10/08	2.520	43.188	43.188
STUDIES & ANALYSIS	TBD	TBD						1.500	10/08		1.500	1.500
SYSTEMS ENGINEERING	WX	NAWCAD, PATUXENT RIVER MD	8.132	2.588	10/06	1.273	10/07	2.012	10/08	Continuing	Continuing	
SYSTEMS ENGINEERING/BLK UPDATE	WX	NAWCWD, PT MUGU CA	15.732	10.949	10/06	7.992	10/07	8.847	10/08	Continuing	Continuing	
SYSTEMS ENGINEERING	WX	NSWC DET, CRANE IN	3.084	2.687	10/06	.600	10/07	.600	10/08	Continuing	Continuing	
SYSTEMS ENGINEERING	WX	VARIOUS	3.900	2.081	10/06	1.922	10/07	2.381	10/08	Continuing	Continuing	
SYSTEMS ENGINEERING												
SUBTOTAL PRODUCT DEVELOPMENT			289.871	22.103		15.339		58.805		Continuing	Continuing	

Remarks: Dollars may not add due to rounding.

SUPPORT												
DEVELOPMENT SUPPORT - AEA	TBD	TBD						.500	01/09		.500	
DEVELOPMENT SUPPORT -JATO	SS/FP	JOHNS HOPKINS UNIV, COLUMBIA, MD	4.665	3.150	01/07	4.100	01/08	4.100	01/09	16.400	32.415	32.415
ENGINEERING & TECH SRVC	TBD	TBD						1.500	01/09		1.500	
ENGINEERING & TECH SRVC	VARIOUS	VARIOUS		1.809	VARIOUS					.060	1.869	1.869
ENGINEERING & TECH SRVC	FFP	TITAN SYSTEM CORP., MT. LAUREL, NJ		.535	12/06						.535	.535
SUBTOTAL SUPPORT			4.665	5.494		4.100		6.100		16.460	36.819	

Remarks:

TEST & EVALUATION												
OPER TEST & EVAL- ICAP III	WX	OPER T & E FOR CD 30, NORFOLK VA	.085	.872	10/06					.957	1.914	1.914
DEV TEST & EVAL - ICAP III UPDATE	WX	NAWCAD, PATUXENT RIVER MD	8.143	4.422	10/06	1.000	10/07	1.200	10/08	Continuing	Continuing	
DEVELOPMENTAL TESTING - MP	WX	VARIOUS	.378			1.550	10/07	.950	10/08	Continuing	Continuing	
OPER TEST & EVAL - ICAP III UPDATE	WX	OPER T & E FOR CD 30, NORFOLK VA	2.785			.500	10/07	.500	10/08	Continuing	Continuing	
OPERATIONAL TEST & EVAL- MP	WX	OPER T & E FOR CD 30, NORFOLK VA	.200			.400	10/07	.374	10/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			11.591	5.294		3.450		3.024		Continuing	Continuing	

Remarks: Funding is required to conduct ICAP III Blocks 3 and 4 and LBT developmental/operational test planning, execution and reporting.

MANAGEMENT												
PROGRAM MGMT SUPT - AEA	WX	TBD						.500	10/08		.500	
TRAVEL - AEA	TO	TBD						.100	10/08		.100	
TRAVEL - PMA-234	TO	TRAVEL VENDOR 1001 1003 1050, LEX PK MD		.260	10/06	.270	10/07	.280	10/08	1.120	1.930	
TRAVEL - NATEC	TO	NAV AIR TEC EN SV CMD, SAN DIEGO CA	.021	.050	10/06					.071	.142	
GOV ENGINEERING SUPT - MP	WX	NAWCWD, PT MUGU CA	2.385			.500	10/07	.500	10/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT			2.406	.310		.770		1.380		Continuing	Continuing	

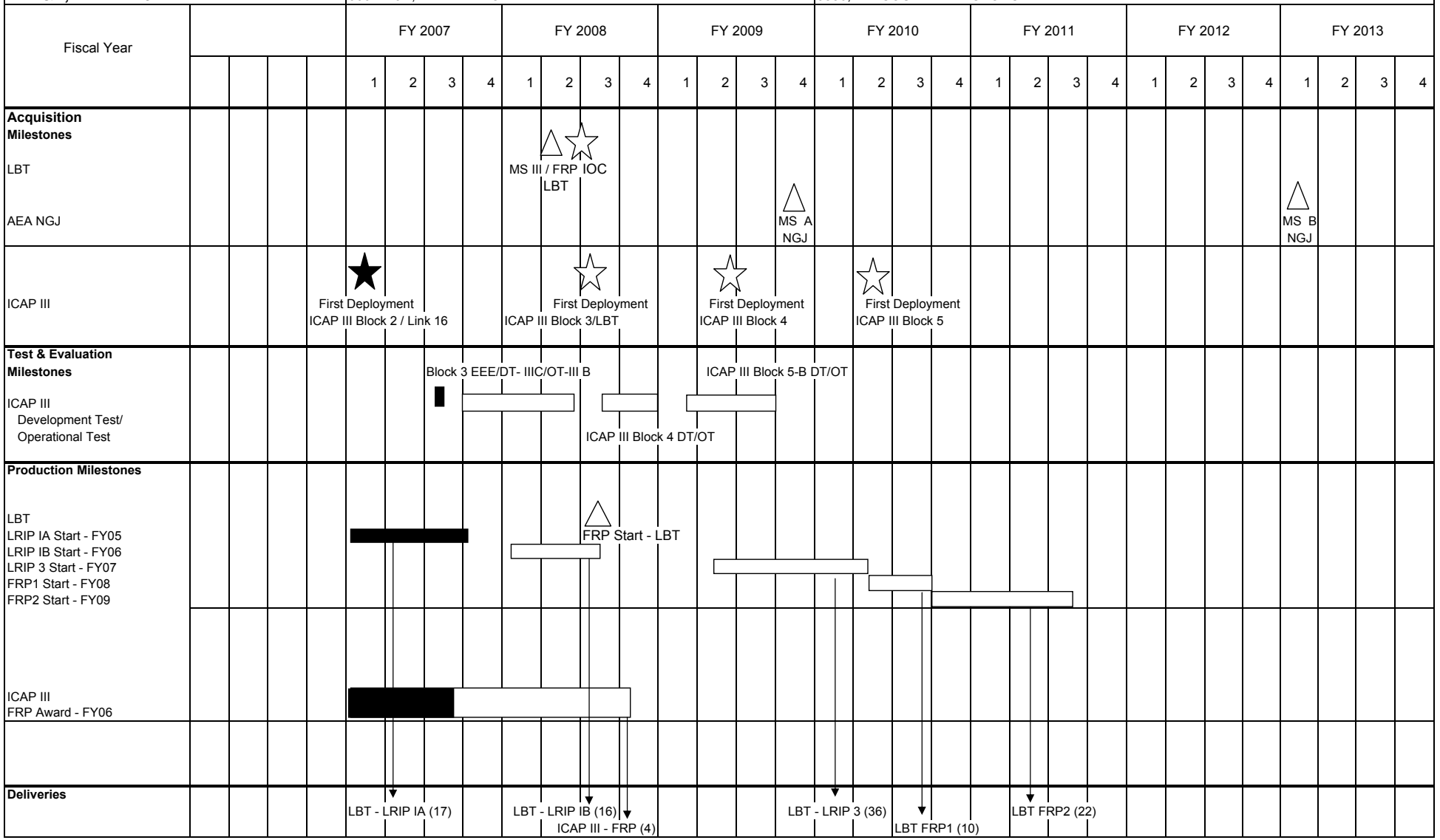
Remarks:

Total Cost			308.533	33.201		23.659		69.309		Continuing	Continuing	

CLASSIFICATION: UNCLASSIFIED

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

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N, EW DEVELOPMENT	0556, EW COUNTER RESPONSE



CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604270N, EW DEVELOPMENT				PROJECT NUMBER AND NAME 0556, EW COUNTER RESPONSE			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY2012	FY2013
Low Band Transmitter								
IOC LBT			2Q-3Q					
Full Rate Production (FRP) Decision LBT (MS III)			2Q					
Start Low-Rate Initial Production IA (LRIP)		1Q-4Q						
Start Low-Rate Initial Production IB (LRIP) Del			1Q-3Q					
Start Low-Rate Initial Production 3 (LRIP) Del				2Q-4Q	1Q-2Q			
Full Rate Production Start			3Q					
Full Rate Production 1 Deliveries					2Q-3Q			
Full Rate Production 2 Deliveries					4Q	1Q-3Q		
ICAP III								
First Deployment - ICAP III BLOCK 2 / LINK 16		1Q						
First Deployment - ICAP III BLOCK 3/LBT			3Q					
First Deployment - ICAP III BLOCK 4				2Q				
First Deployment - ICAP III BLOCK 5					2Q			
Block 3 DT- IIIC/OT-III B		3Q-4Q	1Q-2Q					
Block 4 DT- IIID/OT-III C			3Q-4Q					
Block 5 DT- IIID/OT-III C				1Q-3Q				
ICAP III FRP Deliveries			3Q-4Q					
AEA Next Gen Jammer (MS A)				4Q				
AEA Next Gen Jammer (MS B)								1Q

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 1742 EW Technical Development			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1742 EW Technical Development		**0.650**	**7.722**	**5.451**	**6.064**	**6.180**	**6.277**	**6.376**
RDT&E Articles Qty		**1**	**2**	**1**	**2**	**2**	**2**	**2**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Skunkworks is a CNO N6 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: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warefare Development	1742 EW Technical Development

B. Accomplishments/Planned Program

Test and Evaluation Equipment		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.650	0.660	0.500
RDT&E Articles Quantity		1	1	1

-(U) Continue airborne Information Warfare jammer development, test and evaluation to include ancillary equipment, cabling, hardware, antennas and installation on prototype aircraft.

Studies & Analysis		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			2.040	2.116
RDT&E Articles Quantity			N/A	N/A

-(U) Conduct studies and vulnerability analysis on emerging threats/targets for Electronic Warfare (EW) programs.

Software and Hardware Integration and Installation		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			3.000	
RDT&E Articles Quantity			1	

-(U) Provide software integration, hardware installation and refurbishment of fixed site EW asset.

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N Electronic Warfare Development	1742 EW Technical Development

B. Accomplishments/Planned Program (Cont.)

Develop and Integrate Systems		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			1.547	1.834
RDT&E Articles Quantity			N/A	N/A

-(U) Develops and fields EW capabilities in accordance with Fleet Forces Command prioritized signals first to be integrated into existing MCS-21 EW systems and deployed on air and surface platforms.

Computer Network Operations		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				0.500
RDT&E Articles Quantity				N/A

-(U) Funds CNO directed efforts towards computer network attack initiatives. Details held at a higher classification level.

Program Management Support		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			0.475	0.501
RDT&E Articles Quantity			N/A	N/A

-(U) Funds official travel expenses and required training to support Research & Development projects as well as consumable/simplified acquisitions expenses in support of the program management office.

C. OTHER PROGRAM FUNDING SUMMARY: Not Applicable

D. ACQUISITION STRATEGY: Not Applicable

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 1742 EW Technical Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	2.447	0.200	Various	0.344	Various	0.342	Various		3.333	
Ancillary Hardware Development											0.000	
Aircraft Integration	Various	Various		0.300	Various	0.345	Various	0.410	Various		1.055	
ES/EA Integration	WX	NRL, Washington DC				3.000	1Q FY08				3.000	
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			2.447	0.500		3.689		0.752		0.000	7.388	
Remarks:												
Development Support	WR	NAWC,WD China Lake	0.806			0.315	1Q FY08	0.347	1Q FY09		1.468	
Software Development	Various	Various				0.929	Various	1.235	Various		2.164	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	Various	Various				2.040	1Q FY08	2.116	1Q FY09		4.156	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.806	0.000		3.284		3.698		0.000	7.788	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME 1742 EW Technical Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	1.490	0.150	Various	0.250	Various	0.500	Various		2.390	
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			1.490	0.150		0.250		0.500		0.000	2.390	
Remarks: Supports the development of technical test plans and techniques for developed capabilities at various test facilities for multiple Navy platforms.												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support						0.186	Various	0.184	Various		0.370	
Travel	Various	Various	0.000	0.000		0.313	Various	0.317	Various		0.630	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.499		0.501		0.000	1.000	
Remarks: Provides for official travel and training expenses and miscellaneous consumables for the program management office.												
Total Cost			4.743	0.650		7.722		5.451		0.000	18.566	
Remarks:												

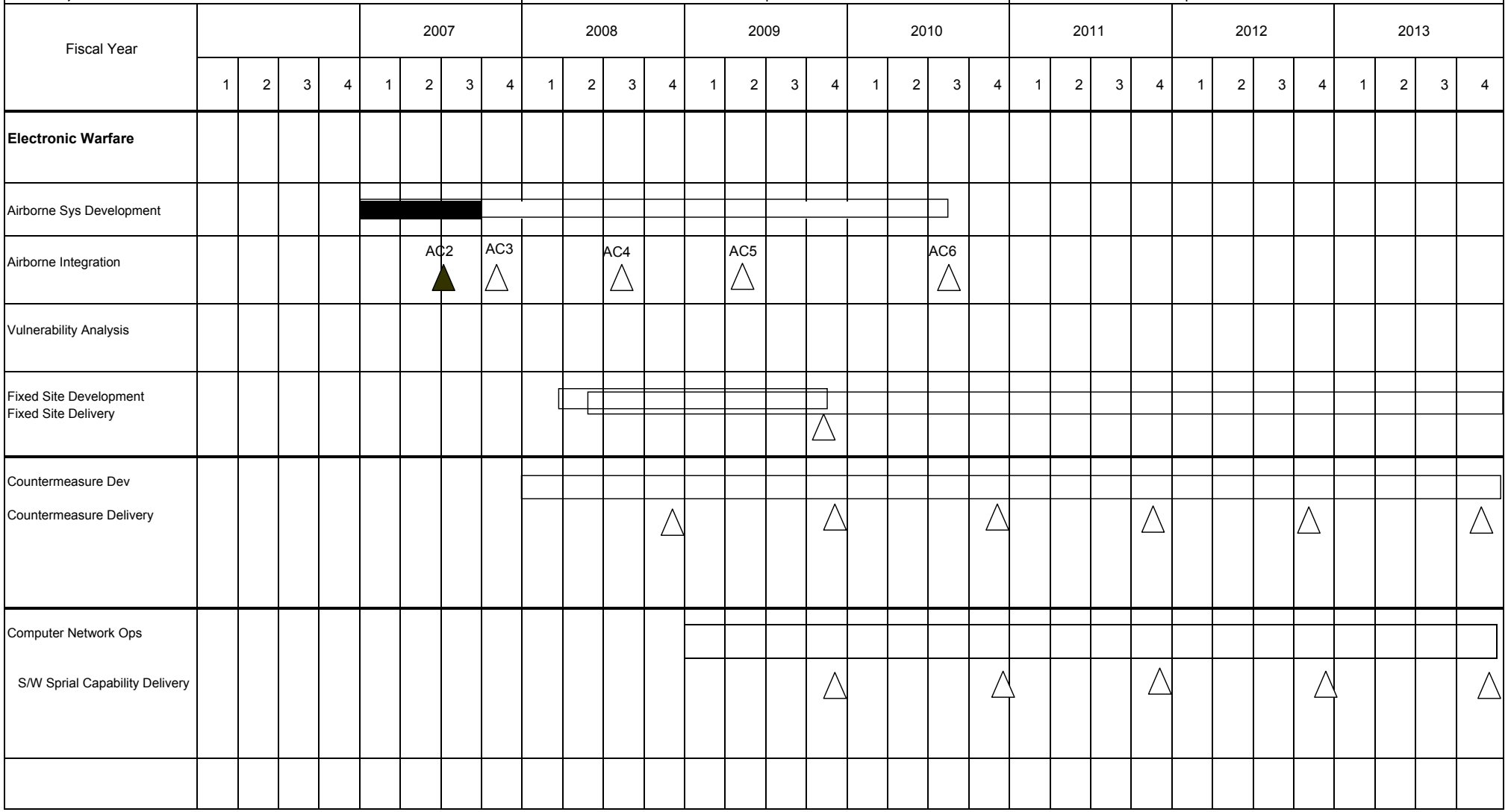
CLASSIFICATION: UNCLASSIFIED

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

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

PROGRAM ELEMENT NUMBER AND NAME: 0604270N Electronic Warfare Development

PROJECT NUMBER AND NAME: 1742 EW Technical Development



CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail					DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 1742 EW Technical Development			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Airborne System Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q			
Airborne System Integration		1Q, 4Q	3Q	2Q, 4Q	3Q			
Aircraft Developmental Testing		2Q, 4Q	4Q	3Q, 4Q				
Fixed Site Development			1Q-4Q	1Q-4Q				
Fixed Site Delivery				4Q				
Countermeasure Development			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Countermeasure Delivery			4Q	4Q	4Q	4Q	4Q	4Q
Vulnerabilty Analysis			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Computer Network Operations				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Computer Network Operations-Spiral Capability Delivery				4Q	4Q	4Q	4Q	4Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N, EW DEVELOPMENT	PROJECT NUMBER AND NAME 2175, TACTICAL AIR ELECTRONIC WARFARE	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2175 TACTICAL AIR ELECTRONIC WARFARE	33.241	8.073	31.496	30.915	10.236	3.666	.791
RDT&E Articles Qty	8						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project developed the new Fiber Optic Towed Decoy (FOTD) capability and integrated this new capability with the rest of the Electronic Warfare (EW) suite (i.e., Technique Generator (ALQ-214), Radar Warning Receiver (ALR-67(V)3) and Countermeasures Dispensing Set (ALE-47), the associated cockpit controls, displays and other avionics for the lead aircraft (F/A-18E/F).

FY 2007, Title IX funding was for the AAR-47(V)2 Missile Warning System, a passive, non-imaging missile detection system to protect helicopters and transports from Surface-to-Air Missiles (SAMs) infrared (IR) homing missiles and laser-aided laser-guided threats. Over 2500 systems are currently fielded on United States Navy (USN),United States Marine Corps (USMC), United States Air Force (USAF), United States Army (USA) and coalition Foreign Military Sales (FMS) uses. Current AAR-47A(V)2 UltraViolet (UV) Missile Warning Sensors require upgrade to provide improved warning of fielded SAMs in the current theaters of operation. Funds will complete engineering development effort of new AAR-47B(V)2 sensors for installation into USN,USMC, USAF, USA and Coalition FMS assault support aircraft. Redesign will be a form-fit replacement at the organizational (o-level) and be compatible with existing aircraft wiring (A-Kit).

FY 2008 begins development of a Digital Radio Frequency Memory (DRFM) Jammer for the F/A-18A+/C/D aircraft. Effort includes hardware and software development, integration, and testing to qualify the DRFM Jammer in the aircraft. In addition, this project will include development and qualification of the BOL Countermeasures Dispenser for the F/A-18A+/C/D aircraft. Project satisfies requirements contained within the Air Dominance Interface Control Document and is critical to ensure aircraft survivability and viability as a strike asset in threat environments for the next twenty years.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

DRFM Analysis of Alternatives (AOA)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	4.879		
RDT&E Articles Qty - Not Applicable			

FY 2007 Congressional Add

Fund DRFM Analysis of Alternatives, development of functional performance specification and documentation necessary for the release of a competitive Request For Proposal (RFP) and initiation of required acquisition Milestone B documentation. Development of required interfaces and structural analysis of the installation site to define mounting requirements.

Block 3 Fiber Optic Towed Decoy	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	8.814		
RDT&E Articles Qty - Not Applicable			

Fund IDECM Block 3 FOTD. Efforts include Completion of Block 3 FOTD Development, Integration, Combined Developmental Testing and Operational Testing, and Milestone III decision.

Integrate DRFM & BOL	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		8.073	31.496
RDT&E Articles Qty - Not Applicable			

Fund development and engineering efforts to produce the DRFM Jammer Engineering Development Models to conduct laboratory and flight testing to support incorporation into the F/A-18A+/C/D. Fund hardware and software development and integration. In addition, fund development and engineering efforts to produce BOL Dispenser Engineering Development Model units to conduct flight testing to support integration into the FA-18A+/C/D. Fund BOL development and integration effort in the F/A-18A+/C/D to include aircraft compatibility and effectiveness testing.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604270N, EW DEVELOPMENT	2175, TACTICAL AIR ELECTRONIC WARFARE

Engineering Development Effort, AAR-47 (V) 2	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	19.548		
RDT&E Articles Qty	8		

Complete engineering development effort of new AAR-47B(V)2 sensors for installation into USN, USMC, USAF, USA and Coalition FMS assault support aircraft. Eight (8) PDX Upgrade B Kits will be purchased as engineering articles for Contractor use in laboratory and environmental stress screening, (required for avionic systems).

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN-5, Line 50, Common ECM, OSIP 007-03, 057600	34.867	35.854	36.215	36.499	38.344	39.613	40.875	100.706	362.973
APN-5, Line 50, Common ECM, OSIP 009-10, 057600				4.734	31.278	68.202	59.020	209.993	373.227
APN-5, Line 50, Common ECM, OSIP 006-00, 057600	10.900		4.452	4.438	3.901	6.437	6.725	6.524	43.377
PANMC, Line 8, Airborne Expendable CM, 018200 (QA120 and allocated support under QA830 and QA800)	0.399	28.758	25.276	25.839	26.041	26.857	27.712	388.070	548.952

D. ACQUISITION STRATEGY:

IDECM Fiber Optic Towed Decoy sole source Full Rate Production (FRP) in FY 2008. DRFM Jammer will be a competitive System Development and Demonstration award in 3Q FY 2008, an Low Rate Initial Production (LRIP) award in FY 2011 and an FRP award in FY 2012. DRFM Jammer Engineering Development Model units will be procured as part of the development effort for use in laboratory and flight testing. BOL Countermeasures System will be full and open competition. An LRIP is planned for FY 2011. An FRP contract is planned for FY 2010.

Exhibit R-3 Cost Analysis									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604270N, EW DEVELOPMENT				PROJECT NUMBER AND NAME 2175, TACTICAL AIR ELECTRONIC WARFARE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration - DRFM	TBD	TBD				.100	Mar 2008	1.410	Feb 2009	5.330	6.840	
Aircraft Integration - IDECM	VARIOUS	VARIOUS	70.761								70.761	
Primary Hdw Dev - AAR-47 (FY07 SUPP)	CPFF	ATK MISSILE SYSTEMS COMPANY, CLEARWATER, FL		16.000	May 2007						16.000	16.000
Primary Hdw Dev - AAR-47 (FY07 SUPP)	MP	EGLIN AFB, FL		2.100	Jul 2007						2.100	
Primary Hdw Dev - AAR-47 (FY07 SUPP)	MP	NIGHT VISION SENSOR , FORT BELVOIR, VA		.064	Sep 2007						.064	
Primary Hdw Dev - BOL	TBD	TBD				1.704	Mar 2008	3.650	Dec 2008		5.354	
Primary Hdw Dev - DRFM	CPFF	VARIOUS		2.121	VARIOUS	3.597	Mar 2008	15.522	Dec 2008	18.991	40.231	40.231
Ship Suitability AAR-47	WX	NAWCAD, PATUXENT RIVER MD		.050	Sep 2007						.050	
Studies & Analysis - DRFM (CONG)	MP	NUWC KEYPORT DIV, KEYPORT, WA		.018	Jul 2007						.018	
Systems Eng - IDECM	CPFF	BAE SYSTEMS INFO.&ELEC.SYS.INTEGRATION INC, NASHUA,NH	10.541	1.759	VARIOUS						12.300	12.300
Systems Eng - IDECM	CPFF	VARIOUS	62.359	.200	Nov 2006						62.559	62.559
Systems Eng - IDECM	CPFF	RAYTHEON COMPANY, GOLETA, CA	.022	.450	VARIOUS						.472	.472
SUBTOTAL PRODUCT DEVELOPMENT			143.683	22.762		5.401		20.582		24.321	216.749	

Remarks:

SUPPORT												
Development /Eng Spt AAR-47 - (Non-FFRDC)	WX	NRL, WASHINGTON DC		.343	Sep 2007						.343	
Development/Eng Spt AAR-47	WX	VARIOUS		.220	VARIOUS						.220	
Integrated Log Spt - BOL	WX	NAWCAD, PATUXENT RIVER MD				.200	Mar 2008	.250	Nov 2008		.450	
Software Development - IDECM	WX	VARIOUS	6.843								6.843	
Software Development - DRFM	CPFF	TBD				1.260	Mar 2008	7.866	Nov 2008	8.234	17.360	17.360
SUBTOTAL SUPPORT			6.843	.563		1.460		8.116		8.234	25.216	

Remarks:

TEST & EVALUATION												
Dev Test & Eval Spt AAR-47	WX	NRL, WASHINGTON DC		.270	VARIOUS						.270	
Eng Spt - IDECM	WX	NAWCWD, CHINA LAKE CA	7.025	1.604	Oct 2006						8.629	
Eng Spt - IDECM	WX	VARIOUS	30.863	1.025	VARIOUS						31.888	
Eng/Log Spt - BOL	WX	TBD				.250	Mar 2008	.750	Nov 2008		1.000	
Eng/Log Spt - DRFM	WX	NAWCWD, CHINA LAKE CA		1.150	VARIOUS	.183	Mar 2008	.288	Dec 2008	5.569	7.190	
Eng/Log Spt - DRFM	WX	NAWCAD, PATUXENT RIVER MD		.515	VARIOUS	.308	Mar 2008	.757	Dec 2008	5.986	7.566	
Eng/Log Spt - DRFM	MP	DEFENSE TECHNICAL INFORMATION CENTER		.067	Aug 2007						.067	
IDECM Test Spt (OPTEVFOR)	WX	OPER T & E FOR CD 30, NORFOLK VA	1.413	3.236	Aug 2007						4.649	
IDECM Test Spt - (NON-FFRDC)	CPFF	VARIOUS	.712	.361	VARIOUS						1.074	1.074
Live Fire Test & Eval AAR-47	WX	NRL, WASHINGTON DC		.508	Nov 2006						.508	
Operational Test & Eval AAR-47	WX	NRL, WASHINGTON DC		.100	Nov 2006						.100	
Studies & Analysis - NON-FFRDC	CPFF	JOHN HOPKINS UNIVERSITY, LAUREL, MD		.774	Jul 2007						.774	.774
SUBTOTAL TEST & EVALUATION			40.014	9.610		.741		1.795		11.555	63.715	

Remarks: Totals may not add due to rounding.

MANAGEMENT												
AAR-47 Travel	TO	NAVAIR, PAXTUXENT RIVER MD		.050	Nov 2006						.050	
PM Spt DRFM (NON-FFRDC)	TBD	TBD				.146	Mar 2008	.676	Dec 2008	1.165	1.987	
Prog Mgmt Spt (BOL)	WX	NAWCAD, PATUXENT RIVER MD				.150	Mar 2008	.150	Nov 2008		.300	
Prog Mgmt Spt (DRFM)	WX	NAWCAD, PATUXENT RIVER MD				.075	Mar 2008	.077	Dec 2008	.333	.485	
Prog Mgmt Spt (IDECM)	WX	VARIOUS	19.261	.153	VARIOUS						19.414	
Program Management (Non-FFRDC)	CPFF	D P ASSOCIATES INC, ARLINGTON, VA		.077	Nov 2006						.077	.077
Travel (BOL)	TO	NAWCAD, PATUXENT RIVER MD				.100	Mar 2008	.100	Oct 2008		.200	
Travel (IDECM)	TO	VARIOUS	.085	.026	VARIOUS						.111	
Travel (IDECM)	TO	NAWCAD, PATUXENT RIVER MD	.256								.256	
SUBTOTAL MANAGEMENT			19.602	.306		.471		1.003		1.498	22.880	

Total Cost			210.142	33.241		8.073		31.496		45.608	328.560	

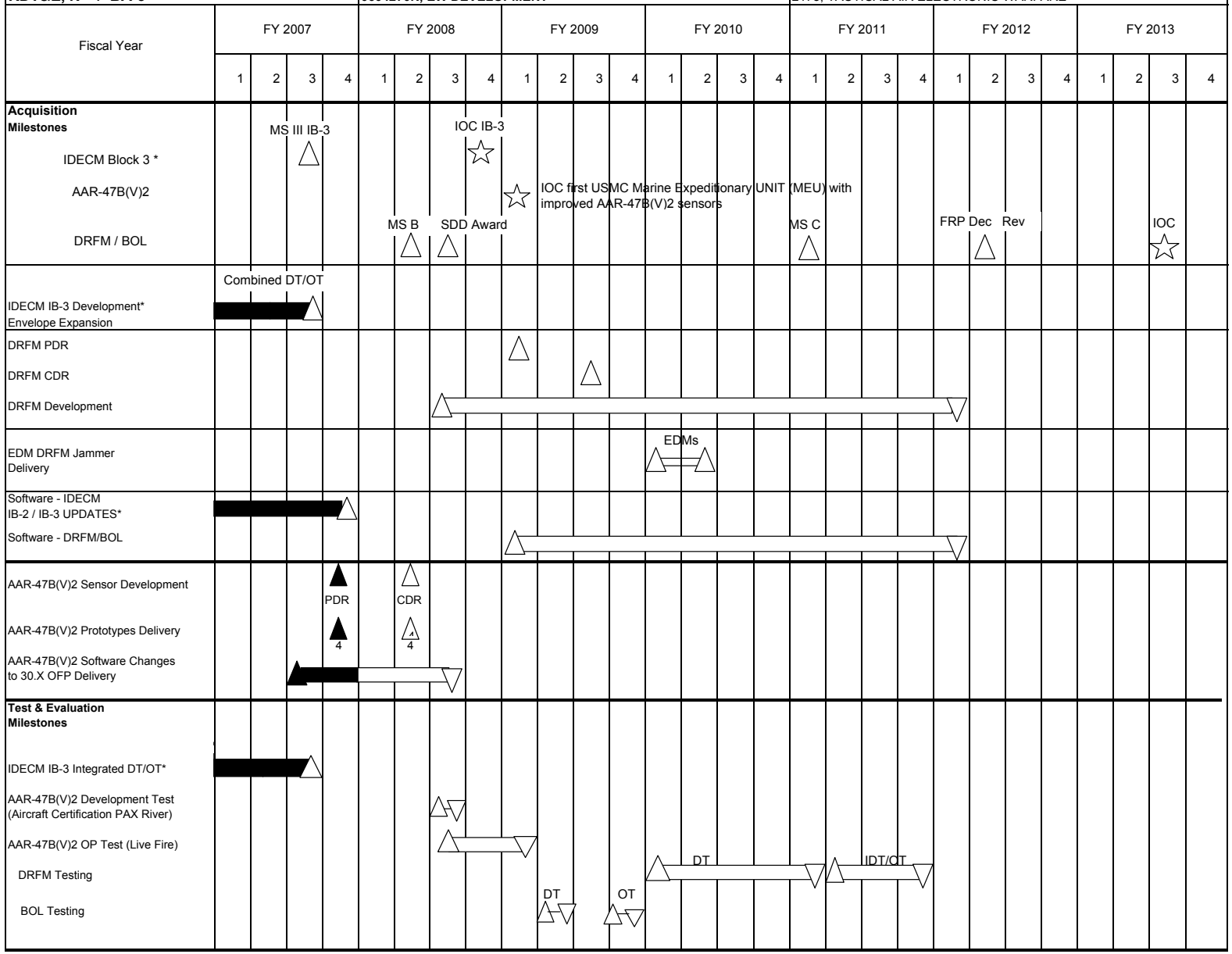
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2008

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

PROGRAM ELEMENT NUMBER AND NAME: **0604270N, EW DEVELOPMENT**

PROJECT NUMBER AND NAME: 2175, TACTICAL AIR ELECTRONIC WARFARE



* Upon approval of the IDECM Block III rebaseline plan by the Assistant Secretary of the Navy for Research and Development and Acquisition (ASNRDA), the schedule will be revised.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604270N, EW DEVELOPMENT			PROJECT NUMBER AND NAME 2175, TACTICAL AIR ELECTRONIC WARFARE			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IDECM Milestone III IB-3*	3Q						
IDECM IOC IB-3*		4Q					
AAR-47B(V)2 IOC			1Q				
DRFM/BOL MS B		2Q					
DRFM/BOL System Design Development (SDD) Award		3Q					
DRFM/BOL MS C					1Q		
DRFM/BOL FRP Decision Review						2Q	
DRFM/BOL IOC							3Q
IDECM IB-3 COMBINED DT/OT*	1Q-3Q						
Preliminary Design Review (PDR) Jammer			1Q				
Critical Design Review (CDR) - Jammer			3Q				
DRFM Development		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q	
Eng Dev Model (EDM) DRFM Jammer Delivery				1Q-2Q			
IDECM Software IB-2/IB-3 Updates*	1Q-4Q						
DRFM/BOL Software			1Q-4Q	1Q-4Q	1Q-4Q	1Q	
AAR-47B(V)2 Sensor Development PDR	4Q						
AAR-47B(V)2 Sensor Development CDR		2Q					
AAR-47B(V)2 Prototypes Delivery	4Q	2Q					
AAR-47B(V)2 Software Changes to 30.X OFP Delivery	3Q-4Q	1Q-3Q					
IDECM IB-3 Integrated DT/OT*	1Q-3Q						
AAR-47B(V)2 Developmental Test, Aircraft Certification		3Q					
AAR_47B(V)2 Op Test (Live Fire)		3Q-4Q	1Q				
DRFM Testing DT				1Q-4Q	1Q		
DRFM Testing IDT/OT					2Q-4Q		
BOL Testing DT			2Q				
BOL Testing OT			4Q				

* Upon approval of the IDECM Block III rebaseline plan by the Assistant Secretary of the Navy for Research and Development and Acquisition (ASNRDA), the schedule will be revised.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604270N, EW Development				PROJECT NUMBER AND NAME 2260 SPECIFIC EMITTER		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**0.680**	**0.744**	**0.676**	**0.701**	**0.713**	**0.726**	**0.740**
RDT&E Articles Qty							

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 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604270N, EW Development	2260 SPECIFIC EMITTER

B. Accomplishments/Planned Program

SENSOR FUSION	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.275	0.253	0.175
RDT&E Articles Quantity			

SENSOR FUSION. 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. FY07: Continued task to fuse additional sources of data with SEI data for automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Work toward increasing sensor fusion, collection and reporting automation helped reduce staffing and support remote access and control capability. Completed task to fuse Automatic Identification System (AIS) information with SEI both within WINSEI (Windows SEI) operational display and within the SEI database. This has provided a robust source of data intelligence on collected signals. FY08: Continue all efforts of FY07 less those noted as completed above. FY09: Continue all efforts of FY08 less those noted as completed above.

SYSTEM AUTOMATION	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.203	0.200	0.231
RDT&E Articles Quantity			

SYSTEM AUTOMATION. This effort supports development of a autonomous surveillance system capable of providing emitter signal information to a central location. FY07 Initiated and completed capability to automatically monitor for Critical Contacts of Interest. Initiated and completed capability to automate system SEI certification testing. Continued task to develop an unmanned, autonomous, remote collection and surveillance system. Continued task to automate fusion of other sensor information with SEI data collection. FY08: Continue all efforts of FY 2007 less those noted as completed above. FY09: Continue all efforts of FY 2008 less those noted as completed above.

TECHNOLOGY REFRESH & COMMUNICATION ENHANCEMENT	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.202	0.291	0.270
RDT&E Articles Quantity			

TECHNOLOGY REFRESH & COMMUNICATION ENHANCEMENT. This effort improves SEI system performance, real-time communication and tactical use of SEI which will be expanded with next generation SEI technology. FY07: Continued task to incorporate other SEI algorithms into deployed processing software. Continued task on integrating advanced SEI hardware with WINSEI software to support improved SEI system performance and capabilities for tactical and technical use, and which can be expanded with next generation SEI algorithms. Continued task to incorporate further message reporting formats for dissemination of SEI data and improve SEI interoperability. FY08: Continue all efforts of FY 2007 less those noted as completed above. Initiate task to expand collection capability to support additional radar types. FY09: Continue all efforts of FY 2008 less those noted as completed above.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604270N, EW Development	2260 SPECIFIC EMITTER	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2006	0.749	0.673	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not applicable										

D. ACQUISITION STRATEGY:

Not applicable

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N, EW DEVELOPMENT	PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADD	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
9999, CONGRESSIONAL ADD	.974	2.981						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9499C IR Signature Reduction	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.974		
RDT&E Articles Qty			

The proliferation of fourth generation shoulder-launched infrared sensing missiles provides one of the greatest challenges to national security at the present time. The Navy is looking for ways to reduce the threat IR missiles to aircraft from sources such as Man Portable Air Defense Weapon Systems especially against those slow climbing aircraft that contribute to the transportation of armed forces around the world. The resulting product of this research could give the military a more sure and dependable capability to guard against this threat.

This funding will be used to focus on research and lab equipment necessary to develop a laboratory for working with IR signature reduction. Crane Naval Surface Warfare Center along with Purdue University will provide the technology evaluation and testing for the research carried out to counteract these threats. Research will include candidate design assessments against various current and incoming-in-service IR missiles, including the effect of various atmospheric condition and clutter background.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9999C Band 4 Traveling Wave Tube (TWT)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		2.981	
RDT&E Articles Qty			

The FY 2008 Congressional Add is for the Band 4 traveling wave tube (TWT) replacement development program.

This funding will be used to focus on research and lab equipment necessary to develop a Point Mugu laboratory facility modernization.

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604273N, VH-71A Executive Helo Development			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	613.876	225.391*	1,047.835	212.947	34.979	35.556	36.149	
3058 VH-71 Replacement Helo Increment One	613.876	225.391	735.000	177.947	0	0	0	
3065 VH-71 Replacement Helo Increment Two	0	0	312.835	35.000	34.979	35.556	36.149	

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). Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. The VH-71 program provides the replacement helicopter for the VH-3D and VH-60N. In order for the VH-71 to be available to most effectively assume Presidential vertical lift mission by FY10, two Increments are being developed.

3058 Increment One: VH-71 Increment One will provide an initial limited capability to fulfill the immediate Presidential lift requirement. Three (3) test article aircraft, system design and development (SDD) efforts, maintenance trainers, and associated logistics were initiated in 2005 for Increment One. Included in the SDD contract were five (5) Increment One pilot production aircraft to support Initial Operational Capability (IOC). A fatigue test article is procured in FY09 to extend the service life of Increment One aircraft beyond 1500 fight hours. Adjustments will be required for funding beyond FY09 to extend SDD allowing for the completion of Increment One. Funding adjustments will be required in FY10 and beyond to extend SDD allowing for reduced risk associated with schedule and concurrency of development.

3065 - Increment Two: VH-71 Increment Two will be developed to complete all of the Presidential support requirements. Two test articles will be procured in FY09 to accommodate air vehicle structural differences between Increment 1 and 2 (main gear box, drive train, engines, tail unit and main rotor blades). The second test vehicle is being procured instead of modifying one of the Increment 1 test vehicles due to the extent of the air vehicle structural differences. Funding adjustments will be required in FY10 and beyond to extend SDD allowing for reduced risk associated with schedule and concurrency of development.

* FY 2008 execution is augmented by $465.5M of FY 2007 funds carried over to FY 2008. Total funding planned for execution in FY 2008 is $690.9M.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	630.185	270.971	492.214
FY 2009 President's Budget:	613.876	225.391	1,047.835
Total Adjustments	-16.309	-45.580	555.621
Summary of Adjustments			
Congressional Reductions		-40.000	
Congressional Rescissions			
Congressional Undistributed Reductions	-15.603	-5.580	
Congressional Increases			
Economic Assumptions			
Miscellaneous Adjustments	-0.706	0.000	555.621
Subtotal	-16.309	-45.580	555.621

Schedule: FY09 funds were adjusted due to execution associated with concurrency with Increment 1 & Increment 2 development, design, and production.

Technical: Same as Schedule

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604273N, VH-71A Executive Helo Development	PROJECT NUMBER AND NAME 3058, VH-71 Replacement Helo Increment One	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3058 VH-71 Replacement Helo Increment One	613.876	225.391	735.000	177.947	0	0	0	
RDT&E Articles Qty			1					

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). Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. The VH-71 program provides the replacement helicopter for the VH-3D and VH-60N. In order for the VH-71 to be available to most effectively assume Presidential vertical lift mission by FY10, two Increments are being developed. Increment One will provide an initial limited capability to fulfill the immediate Presidential lift requirement. Three (3) test article aircraft, system design and development (SDD) efforts, maintenance trainers, and associated logistics were initiated in 2005 for Increment One. Included in the SDD contract were five (5) Increment One pilot production aircraft to support Initial Operational Capability (IOC). Funding adjustments will be required in FY10 and beyond to extend SDD allowing for reduced risk associated with schedule and concurrency of development.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	45.431	49.235	33.016
RDT&E Articles Qty			

In-house, field activity, and contractor support of VH-71 Integrated Product Teams (IPTs) activities. Efforts include, but are not limited to, government development support, integrated logistics support, engineering support, program management support, systems engineering support, support equipment, technical pubs, and travel for VH-71 program.

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	16.144	20.400	13.176
RDT&E Articles Qty			

Test and Evaluation of test article aircraft, pilot production aircraft, and SDD assets, including Live Fire Test and Evaluation.

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	552.301	155.756	688.808
RDT&E Articles Qty			1

Contract award for initial test article aircraft, fatigue test article, long-lead pilot production aircraft efforts, System Design and Development (SDD) work efforts, low-rate initial production, and support of training systems efforts including but not limited to, aircrew / pilot trainers, training curriculum, and requisite training support.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost

D. ACQUISITION STRATEGY: The VH-71 program was designated an ACAT ID program. The program received milestone B/C approval from OUSD (AT&L) on 27 JAN 2005 and subsequently awarded an SDD contract to LMSI on 28 JAN 2005. FY09 funds were adjusted due to Increment Two execution associated with concurrency with Increment One development, design, and production.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604273N, VH-71A Executive Helo Development				PROJECT NUMBER AND NAME 3058, VH-71 Replacement Helo Increment One						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	C-CPAF	LOCKHEED MARTIN CORP, OWEGO, NY	1,331.193	535.382	Nov 2006	155.756	Nov 2007	682.000	Nov 2008	TBD	TBD	TBD
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD	2.349	3.490	Nov 2006	4.300	Nov 2007	.500	Nov 2008	TBD	TBD	
Training Development	C-CPAF	LOCKHEED MARTIN CORP, OWEGO, NY		4.989	Nov 2006					TBD	TBD	TBD
Training Development	WX	NAWCAD, PATUXENT RIVER MD		11.930	Nov 2006					TBD	TBD	
Training Development	TBD	TBD						29.975	Nov 2008	TBD	TBD	
SUBTOTAL PRODUCT DEVELOPMENT			1,333.542	555.791		160.056		712.475		TBD	TBD	

Remarks:

SUPPORT												
Develop Support Equip	VARIOUS	VARIOUS	19.473	1.682	Jan 2007	2.950	Jan 2008	.200	Jan 2009	TBD	TBD	
Integrated Logistics Sup	WX	NADEP, CHERRY POINT NC	1.053	1.059	Nov 2006	2.100	Nov 2007	.250	Nov 2008	TBD	TBD	
Integrated Logistics Sup	WX	NAWCAD, LAKEHURST NJ	1.179	3.845	Nov 2006	3.700	Nov 2007	.500	Nov 2008	TBD	TBD	
Integrated Logistics Sup	WX	NAWCAD, PATUXENT RIVER MD	.463	6.274	Nov 2006			.750	Nov 2008	TBD	TBD	
Integrated Logistics Sup	VARIOUS	VARIOUS	10.754	.123	Nov 2006	5.050	Nov 2007	.300	Nov 2008	TBD	TBD	
Studies & Analyses	C-FFP	LOCKHEED MARTIN CORP, OWEGO, NY	87.423								87.423	87.423
Studies & Analyses	C-FFP	SIKORSKY, AIRCRAFT, CT	87.422								87.422	87.422
Studies & Analyses	WX	NAWCAD, PATUXENT RIVER, MD	2.180								TBD	
SUBTOTAL SUPPORT			209.947	12.983		13.800		2.000		TBD	TBD	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD	.398	11.194	Nov 2006	9.400	Nov 2007	10.400	Nov 2008	TBD	TBD	
Dev Test & Eval	VARIOUS	VARIOUS	18.836	.543	Nov 2006	6.000	Nov 2007	1.500	Nov 2008	TBD	TBD	
Live Fire Test & Eval	WX	NAWCWD, CHINA LAKE CA	6.059	4.408	Nov 2006	5.000	Nov 2007	5.100	Nov 2008	TBD	TBD	
SUBTOTAL TEST & EVALUATION			25.293	16.145		20.400		17.000		TBD	TBD	

Remarks:

MANAGEMENT												
Contractor Eng Sup	VARIOUS	VARIOUS	7.823	1.432	Dec 2006	.634	Dec 2007	.613	Dec 2008	TBD	TBD	
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD	39.081	13.450	Nov 2006	13.066	Nov 2007	1.250	Nov 2008	TBD	TBD	
Government Eng Sup	VARIOUS	VARIOUS	1.055	1.160	Dec 2006	2.700	Dec 2007	.300	Dec 2008	TBD	TBD	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD	4.166	12.158	Nov 2006	8.764	Nov 2007	1.000	Nov 2008	TBD	TBD	
Program Mgmt Sup	VARIOUS	VARIOUS	23.380	.421	Dec 2006	5.236	Dec 2007	.250	Dec 2008	TBD	TBD	
Transportation	VARIOUS	NAVAIR, PAXTUXENT RIVER MD	.004	.020	Nov 2006	.010	Nov 2007	.012	Nov 2008	TBD	TBD	
Travel	VARIOUS	NAVAIR, PAXTUXENT RIVER MD	1.467	.316	Oct 2006	.725	Oct 2007	.100	Oct 2008	TBD	TBD	
SUBTOTAL MANAGEMENT			76.976	28.957		31.135		3.525		TBD	TBD	

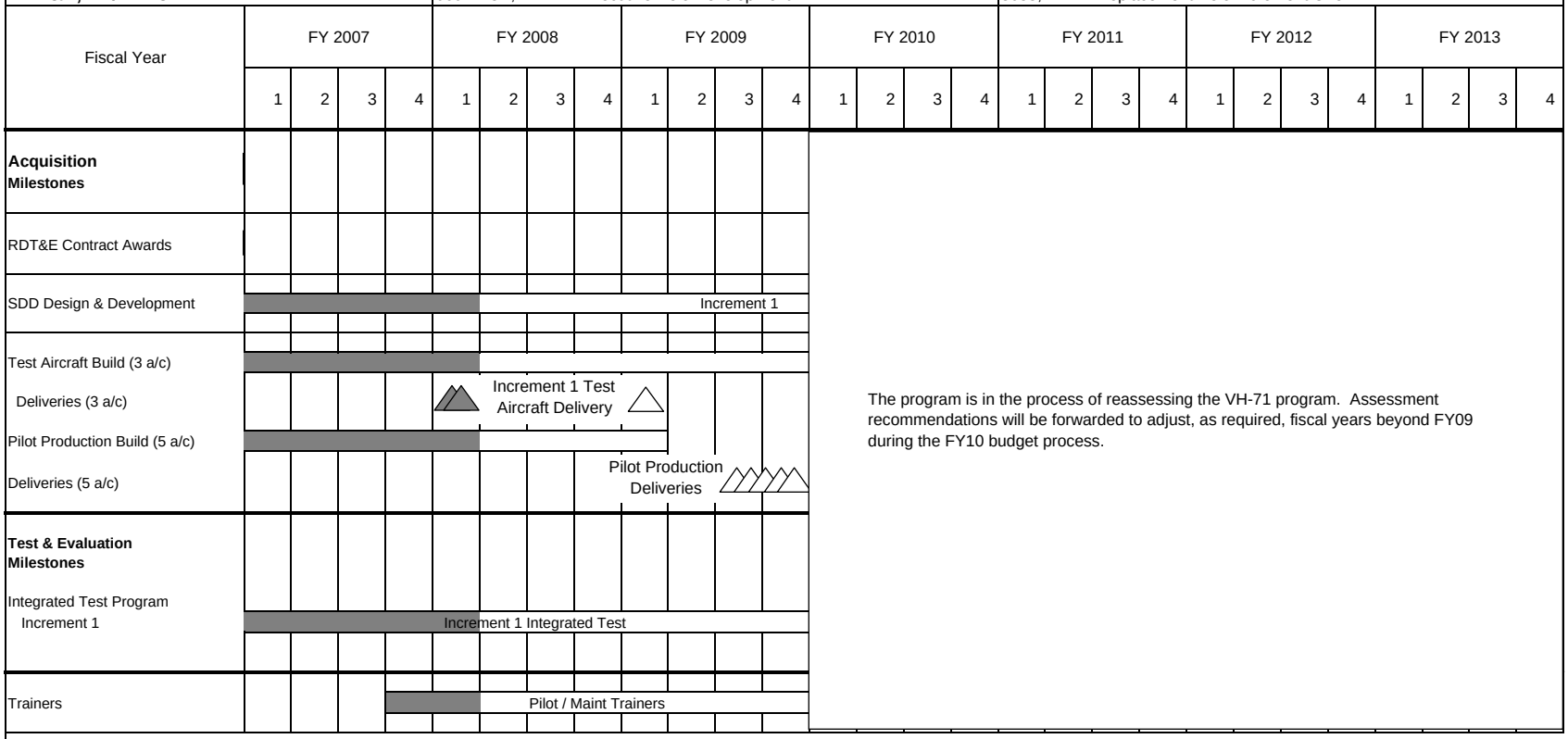
Remarks:

Total Cost			1,645.758	613.876		225.391		735.000		TBD	TBD	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604273N, VH-71A Executive Helo Development	3058, VH-71 Replacement Helo Increment One



The program is in the process of reassessing the VH-71 program. Assessment recommendations will be forwarded to adjust, as required, fiscal years beyond FY09 during the FY10 budget process.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604273N, VH-71A Executive Helo Develop			PROJECT NUMBER AND NAME 3058, VH-71 Replacement Helo Increment One			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SDD Design and Development	1Q-4Q	1Q-4Q	1Q-4Q				
Test Aircraft Build (3 a/c)	1Q-4Q	1Q-4Q	1Q-4Q				
Increment 1 Test Aircraft Delivery		1Q	1Q				
Pilot Production Build (5 a/c)	1Q-4Q	1Q-4Q	1Q				
Pilot Production Deliveries			3Q-4Q				
Integrated Test Program (Increment 1)	1Q-4Q	1Q-4Q	1Q-4Q				
Pilot / Maintenance Trainers	4Q	1Q-4Q	1Q-4Q				

The program is in the process of reassessing the VH-71 program. Assessment recommendations will be forwarded to adjust, as required, fiscal years beyond FY09 during the FY10 budget process.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604273N, VH-71A Executive Helo Development	PROJECT NUMBER AND NAME 3065, VH-71 Replacement Helo Increment Two	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3065 VH-71 Replacement Helo Increment Two	0	0	312.835	35.000	34.979	35.556	36.149	
RDT&E Articles Qty			2					

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). Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. The VH-71 program provides the replacement helicopter for the VH-3D and VH-60N. In order for the VH-71 to be available to most effectively assume Presidential vertical lift mission by FY10, two Increments are being developed. Increment Two will be developed to complete all of the Presidential support requirements. Two test articles will be procured in FY09 to accommodate air vehicle structural differences between Increment One and Two (main gear box, drive train, engines, tail unit and main rotor blades). The second test vehicle is being procured instead of modifying one of the Increment One test vehicles due to the extent of the air vehicle structural differences. Funding adjustments will be required in FY10 and beyond to extend SDD allowing for reduced risk associated with schedule and concurrency of development.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	0	0	48.100
RDT&E Articles Qty			

In-house, field activity, and contractor support of VH-71 Integrated Product Teams (IPTs) activities. Efforts include, but are not limited to,government development support, integrated logistics support, engineering support, program management support, systems engineering support,support equipment, technical pubs, and travel for VH-71 program.

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	0	0	4.600
RDT&E Articles Qty			

Test and Evaluation of test article aircraft, pilot production aircraft, and SDD assets, including Live Fire Test and Evaluation.

	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	0	0	260.135
RDT&E Articles Qty			2

Contract award for initial test article aircraft, System Design and Development (SDD) work efforts, low-rate initial production, and support of training systems efforts including but not limited to, aircrew / pilot trainers, training curriculum, and requisite training support.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
045500; VH-71A				371.708	408.845	416.671	424.584	696.780	2,318.588
060510; VH-71A Spares				83.238	49.250	47.069	51.526	138.329	369.412

D. ACQUISITION STRATEGY: The VH-71 program was designated an ACAT ID program. The program received milestone B/C approval from OUSD (AT&L) on 27 JAN 2005 and subsequently awarded an SDD contract to LMSI on 28 JAN 2005. FY09 funds were adjusted due to Increment Two execution associated with concurrency with Increment One development, design, and production.

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604273N, VH-71A Executive Helo Development						PROJECT NUMBER AND NAME 3065 VH-71 Replacement Helo Increment Two					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	C-CPAF	LOCKHEED MARTIN CORP, OWEGO, NY						244.010	Nov 2008	TBD	TBD	TBD
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD						2.000	Nov 2008	TBD	TBD	
Training Development	TBD	TBD						16.125	Nov 2008	TBD	TBD	
SUBTOTAL PRODUCT DEVELOPMENT								262.135		TBD	TBD	

Remarks:

SUPPORT												
Develop Support Equip	VARIOUS	VARIOUS						3.750	Jan 2009	TBD	TBD	
Integrated Logistics Sup	WX	NADEP, CHERRY POINT NC						1.950	Nov 2008	TBD	TBD	
Integrated Logistics Sup	WX	NAWCAD, LAKEHURST NJ						3.400	Nov 2008	TBD	TBD	
Integrated Logistics Sup	WX	NAWCAD, PATUXENT RIVER MD						5.300	Nov 2008	TBD	TBD	
Integrated Logistics Sup	VARIOUS	VARIOUS						.800	Nov 2008	TBD	TBD	
SUBTOTAL SUPPORT								15.200		TBD	TBD	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD						3.000	Nov 2008	TBD	TBD	
Dev Test & Eval	VARIOUS	VARIOUS						1.600	Nov 2008	TBD	TBD	
Live Fire Test & Eval	WX	NAWCWD, CHINA LAKE CA								TBD	TBD	
SUBTOTAL TEST & EVALUATION								4.600		TBD	TBD	

Remarks:

MANAGEMENT												
Contractor Eng Sup	VARIOUS	VARIOUS						.960	Dec 2008	TBD	TBD	
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD						11.400	Nov 2008	TBD	TBD	
Government Eng Sup	VARIOUS	VARIOUS						3.400	Dec 2008	TBD	TBD	
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD						10.232	Nov 2008	TBD	TBD	
Program Mgmt Sup	VARIOUS	VARIOUS						4.456	Dec 2008	TBD	TBD	
Transportation	VARIOUS	NAVAIR, PAXTUXENT RIVER MD						.008	Nov 2008	TBD	TBD	
Travel	VARIOUS	NAVAIR, PAXTUXENT RIVER MD						.444	Oct 2008	TBD	TBD	
SUBTOTAL MANAGEMENT								30.900		TBD	TBD	

Remarks:

Total Cost								312.835		TBD	TBD	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604273N, VH-71A Executive Helo Development	3065, VH-71 Replacement Helo Increment Two

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
SDD Design & Development									Increment 2																			
Test Aircraft Build (2 a/c)									Increment 2																			

The program is in the process of reassessing the VH-71 program. Assessment recommendations will be forwarded to adjust, as required, fiscal years beyond FY09 during the FY10 budget process.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604273N, VH-71A Executive Helo Developr			PROJECT NUMBER AND NAME 3065, VH-71 Replacement Helo Increment Two			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SDD Design and Development			1Q-4Q				
Test Aircraft Build (2 a/c)			1Q-4Q				

The program is in the process of reassessing the VH-71 program. Assessment recommendations will be forwarded to adjust, as required, fiscal years beyond FY09 during the FY10 budget process.

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE						
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)						
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Cost	**774.034**	**835.366**	**834.650**	**246.714**	**184.776**	**143.444**	**97.987**
3020 Multifunctional Information Distribution System (MIDS) JTRS	**159.908**	**80.141**	**27.449**	**3.000**	**0.000**	**0.000**	**0.000**
3073 Airborne/Maritime/Fixed Station (AMF) JTRS	**56.799**	**106.671**	**203.831**	**108.504**	**124.160**	**108.220**	**74.615**
3074 Ground Mobile Radio (GMR) JTRS	**202.944**	**231.643**	**196.320**	**36.559**	**10.803**	**2.262**	**0.000**
3075 Handheld/Manpack/Small Form Fit (HMS) JTRS	**132.884**	**168.359**	**164.766**	**32.239**	**5.246**	**0.000**	**0.000**
3076 JTRS Network Enterprise Domain (JNED)	**221.499**	**248.552**	**242.284**	**66.412**	**44.567**	**32.962**	**23.372**

In FY07-FY09, Program Element (PE) 0604280N represents the total JTRS RDT&E Budget (includes **Multifunctional Information Distribution System (MIDS) JTRS, Airborne/Maritime/Fixed Station (AMF) JTRS, Ground Mobile Radio (GMR) JTRS, Handheld/Manpack/Small Form Fit (HMS) JTRS, and JTRS Network Enterprise Domain (JNED).**

In FY10-FY13, Program Element (PE) 0604280N represents the Navy share (1/3) of the funding associated with all JTRS Development Projects. JTRS Common Development includes funding for: **MIDS JTRS, AMF JTRS, GMR JTRS, HMS JTRS and JNED.** As part of the JTRS joint program budget strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus in FY10-13 one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

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

(AMF) AMF JTRS is intended to support communications readiness and mission success, in the 2 MegaHertz (MHz) to 2 GigaHertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. AMF JTRS will provide the Warfighter with a modernized communications capability for more effective battlefield management and interoperability. AMF JTRS is a key enabler for the transformation of airborne communications toward network-centric operations. AMF JTRS is designed to perform as a reliable and dynamic family of advanced communications systems. As a result, AMF JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements. The system is multi-functional, multi-band, multi-mode, network capable and capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. AMF JTRS will operate with legacy equipment and waveforms currently used by civilian and military airborne, surface, subsurface, and fixed station platforms. AMF JTRS is intended to replace existing legacy radio systems, which are currently facing long-term sustainment issues and diminishing sources of material support. AMF JTRS capabilities will be developed in an incremental approach, with each increment building on the technological achievements of its predecessor, while providing expanded capabilities.

(MIDS) 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 technical objective of the MIDS JTRS program is to transform the current MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 enhanced throughput, Link-16 frequency re-mapping, and programmable crypto will also be realized in the MIDS JTRS design. In addition to the Link-16 and TACAN functionality, the MIDS JTRS Core terminal includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms currently in development with the JTRS Network Enterprise Domain (JNED). Total Core terminal program requirements include: Terminal development, F/A-18 Level 0 integration, software hosting (Operating Environment/Waveforms) and production transition. The Tactical Targeting Network Technology JTRS Platform Capability Package (TTNT JPCP) involves integration of an advanced low latency, high bandwidth, internet protocol-capable waveform that meets Time Sensitive Targeting Networking Technology requirements. TTNT JPCP program requirements include hardware and software changes, terminal development, qualification, and production transition. The TTNT JPCP is the integration of the TTNT waveform as the specific implementation of the Joint Airborne Networking - Tactical Edge (JAN-TE) waveform.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)

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

(GMR) GMR JTRS is a product line overseen by the JTRS Ground Domain Program Management Office. JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. JTRS will provide transformational communication capabilities for the warfighter. The JTRS GMR will provide networking capability using the Wideband Networking Waveform and Soldier Radio Waveform to connect the unmanned sensors to the decision makers "On-The-Move" (OTM) which will significantly reduce the decision cycle. JTRS GMR will provide the warfighter with mobile Internet-like capabilities such as voice, data, networking and video communications, as well as interoperability with legacy radios across the battlespace.

(HMS) HMS JTRS is a product line overseen by the JTRS Ground Domain Program Management Office. JTRS is the DoD family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. HMS provides a software re-programmable, networkable, multi-band, multi-mode system capable of simultaneous voice/data/video communication. HMS Increment 1 consists of the following form factors: 2 Channel Handheld, 2 Channel Manpack and Small Form Fit (SFF) embedded applications (SFF-A, B, C, D, I and J).

(JNED) JNED is responsible for the development and delivery of software-defined, legacy radio waveforms and networking waveforms that support Net-Centric operational warfare at sea, air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the Warfighter. The JNED team is responsible for (1) the overall management and oversight of the JTRS Waveform program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development and evolution of waveform software applications, (4) development of software cryptographic algorithms and equipment applications, (5) testing and certification of JTRS waveforms, network services, network management, and software products, and (6) JTRS networking and network management software components. Service acquisition agencies are responsible for acquiring and fielding host radio hardware and integrating JTRS into Service platforms.

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.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**R-1 ITEM NOMENCLATURE**
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)

PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2007	FY 2008	FY 2009
FY08/09 President's Budget	795.340	853.676	274.687
FY09 President's Budget	774.034	835.366	834.650
Total Adjustments	-21.306	-18.310	559.963
Summary of Adjustments			
Small Business Innovative Research (SBIR)	-17.836		
Federal Technology Transfer	-0.020		
JTRS RDT&E to O&M,N Reprogramming	-4.100		
Sec. 8097: Contractor Efficiencies		-1.372	
Sec. 8104: Revised Economic Assumptions		-4.055	
Sec. 8025: FFRDC Reduction		-0.582	
Execution Realignment		-12.301	
Misc. Adjustments	0.650		-1.227
Mobile User Objective System (MUOS) Terminals			27.000
JTRS Transfer from other Services			534.190
	-21.306	-18.310	559.963

(U) Schedule:

(U) Technical:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)

(U)OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	PY	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
RDTE, Army PE 0604805A, Project 615 (JTRS Cluster 1 / GMR)	641.959									
RDTE, Army PE 0604805A, Project 61A (JTRS Cluster 5 / HMS)	220.683									
0604805A Command, Control, Communications Sys. - Eng Dev Total	862.642	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
RDTE, Army PE 0604280A, Project 162 (AMF JTRS)		0.000	0.000	0.000	107.428	123.485	107.298	73.822	Continuing	Continuing
RDTE, Army PE 0604280A, Project 162 (MIDS JTRS)		0.000	0.000	0.000	2.979	0.000	0.000	0.000	Continuing	Continuing
RDTE, Army PE 0604280A, Project 162 (JNED)	738.567	0.000	0.000	0.000	65.629	44.504	33.127	24.011	Continuing	Continuing
RDTE, Army PE 0604280A, Project 162 (GMR JTRS)		0.000	0.000	0.000	35.727	10.574	2.248	0.000	Continuing	Continuing
RDTE, Army PE 0604280A, Project 162 (HMS JTRS)		0.000	0.000	0.000	31.660	5.139	0.000	0.000	Continuing	Continuing
0604280A Joint Tactical Radio System Total	738.567	0.000	0.000	0.000	243.423	183.702	142.673	97.833	Continuing	Continuing
RDTE, Air Force PE 0604280F, Project 5068 (AMF JTRS)	113.239	0.000	0.000	0.000	109.331	124.795	107.154	75.989	Continuing	Continuing
RDTE, Air Force PE 0604280F, Project 5068 (MIDS JTRS)		0.000	0.000	0.000	2.972	0.000	0.000	0.000	Continuing	Continuing
RDTE, Air Force PE 0604280F, Project 5068 (JNED)		0.000	0.000	0.000	67.178	45.016	35.628	24.174	Continuing	Continuing
RDTE, Air Force PE 0604280F, Project 5068 (GMR JTRS)		0.000	0.000	0.000	36.762	11.024	2.240	0.000	Continuing	Continuing
RDTE, Air Force PE 0604280F, Project 5068 (HMS JTRS)		0.000	0.000	0.000	32.266	5.344	0.000	0.000	Continuing	Continuing
0604280F Joint Tactical Radio Systems Total	113.239	0.000	0.000	0.000	248.509	186.179	145.022	100.163	Continuing	Continuing
O&M, 4A6M - Service Wide Communications (JTRS JPEO)	9.885	9.683	16.897	12.963	13.176	13.430	13.761	13.984	Continuing	Continuing
O&M, 4A6M - Service Wide Communications (JNED)				1.881					Continuing	Continuing
O&M, 4B7N - Space and Electronic Warfare Systems (MIDS JTRS)	3.543	0.461	0.629	3.748	3.811	3.890	3.743	3.820	Continuing	Continuing

(U) ACQUISITION STRATEGY:

In Feb 2005, all JTRS programs were realigned under the JPEO JTRS. In Nov 2005, the DAE and Senior JTRS Leadership selected a re-plan option which restructures JTRS to emphasize cost and schedule performance while executing a moderate technical risk plan.

(AMF JTRS) A joint AF/Navy/Army team manages the development of a common core radio design that will be the basis for satisfying the AMF requirements. AMF completed Pre-System Development and Demonstration (SDD) contracts in FY06, which were awarded to two, competing vendors in late FY04. These efforts included System and Software Development reviews, Preliminary Design Reviews and technical risk reduction activities. The AMF program plans to award an SDD contract, using a full and open competition acquisition strategy and a Cost Plus Incentive Fee (CPIF) contract in Feb 2008. This effort is expected to leverage technical solutions derived from efforts resulting from the Pre-SDD contracts. A Critical Design Review (CDR) is planned for Feb 2009. SDD development continues in FY09 for the AMF JTRS system Engineering Development Models (EDMs), associated testing and integration, development engineering and management support for associated JTR system components.

(MIDS JTRS) MIDS JTRS development will be initiated as a major modification to the MIDS-LVT using an Engineering Change Proposal to the existing production contracts. Development efforts include the Phase 2B Core terminal and the Phase 2C/2D Tactical Targeting Network Technology JTRS Platform Capability Package (TTNT JPCP). The U.S. prime contractors from the MIDS-LVT program (Data Link Solutions and ViaSat, Inc.) will cooperatively design and develop the Core terminal and TTNT JPCP. Each prime contactor will build and qualify Production Verification Terminals. The U.S. will implement a continuous competition strategy between DLS and ViaSat that will be maintained throughout the MIDS JTRS production phase. This strategy was successfully used on MIDS-LVT production.

(JNED) JNED, formerly Joint Waveforms Program Office, is responsible for common core activities including developing and evolving the software-defined legacy and networking waveforms that operate on multiple hardware sets and in all operational environments that support network-centric operational warfare, as well as common networking services solutions. Waveform developments will be procured through full and open contract competitions, except when special circumstances support sole source acquisition. The JNED program is developing Waveforms and Cryptographic Equipment applications (CEAs) for use within the JTRS community. The module developer will develop CEAs. The FY09 Budget supports continued development of waveforms, supporting software, and testing support, as well as the NSA evaluation of the aforementioned software crypto libraries.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)

(U) ACQUISITION STRATEGY (Cont.):

(GMR JTRS) This project supports the JTRS GMR SDD efforts. After a Milestone (MS) B Decision in 3QFY02, the GMR development effort was awarded to develop multi-channel ground and airborne configurations (airborne is now re-aligned under AMF). The JTRS GMR supports an evolutionary acquisition strategy and was based on an aggressive acquisition schedule. In June 2002, a Cost Plus Award Fee (CPAF) contract was competitively awarded to develop and/or acquire numerous SCA compliant waveforms, define common form-fit-function configurations for vehicular versions of the JTRS hardware, and successfully port the waveforms to JTRS hardware produced by two different developers. Although Waveform development is part of the contract, the Waveform development is funded and managed under the JTRS Network Enterprise Domain (JNED). Under GMR, a software reprogrammable radio providing the Warfighter with the multi-band and multi-mode capability, networkable radio system which provides simultaneous voice, data and video communications to increase interoperability, flexibility, and adaptability in support of varied mission requirements for vehicular platforms is being developed as a product under the PM JTRS Ground Domain. In FY05, the program underwent preliminary testing of hardware capabilities along with the program restructuring and on-going development of the operating system. The pre-Engineering Development Models (EDM) design is complete. The FY09 budget supports continued development and support for the GMR sets to include the operating environment, design of ground vehicular A-kits (installation kits) for platforms required for testing for System Integration Test (SIT)/Limited User Test (LUT), deliveries of EDM units and the start of SIT/LUT.

(HMS JTRS) This project supports the JTRS HMS SDD efforts. A MS B was achieved in Apr 2004 to begin the development of the HMS sets. Following full and open competition, a single CPAF contract was awarded in July 2004. The evolutionary acquisition strategy is based on incremental development, reduced requirements, and better reuse/teaming with other product lines and NSA. The contract is structured to address Increment 1, consisting of Phases 1 and 2. Increment 1, Phase 1 will develop Type 2 Small Form Fit-A (SFF-A), 1 and 2 channel, running SRW waveform for use in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 will develop 2 Channel Handhelds, 2 Channel Manpacks and 1 and 2 Channel Type 1 and Type 2 Small Form Fits (SFFs) B, C, D, I and J. The FY09 budget supports continued development of breadboards, Engineering Development Models (EDMs) and Phase 2 Contractor and Government Developmental Testing.

(U)MAJOR PERFORMERS:

Prime Contractors: AMF JTRS: SDD Contractor is TBD; MIDS JTRS: Data Link Solutions and ViaSat Inc.;
JNED: Boeing, Rockwell Collins, and ITT; GMR JTRS: Boeing; HMS JTRS: General Dynamics Decision Systems

(U)METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3020 MIDS JTRS			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Project Cost	**159.908**	**80.141**	**27.449**	**3.000**	**0.000**	**0.000**	**0.000**
3020 Multifunctional Information Distribution System (MIDS) JTRS	**159.908**	**80.141**	**27.449**	**3.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty							

In FY07-FY09, Project No. 3020 represents the total Multifunctional Information Distribution System (MIDS) JTRS RDT&E budget for those years.

In FY10, Project No. 3020 represents the Navy share (1/3) of the funding associated with MIDS JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus, one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

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

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 technical objective of the MIDS JTRS program is to transform the current MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 enhanced throughput, Link-16 frequency re-mapping, and programmable crypto will also be realized in the MIDS JTRS design. In addition to the Link-16 and TACAN functionality, the MIDS JTRS Core terminal includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms currently in development with the JTRS Network Enterprise Domain (JNED). Total Core terminal program requirements include: Terminal development, F/A-18 Level 0 integration, software hosting (Operating Environment/Waveforms) and production transition. The Tactical Targeting Network Technology JTRS Platform Capability Package (TTNT JPCP) involves integration of an advanced low latency, high bandwidth, internet protocol-capable waveform that meets Time Sensitive Targeting Networking Technology requirements. TTNT JPCP program requirements include hardware and software changes, terminal development, qualification, and production transition. The TTNT JPCP is the integration of the TTNT waveform as the specific implementation of the Joint Airborne Networking - Tactical Edge (JAN-TE) waveform.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3020 MIDS JTRS

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
MIDS JTRS	159.908	80.141	27.449
RDT&E Articles Quantity			

FY07: Continued MIDS JTRS Phase 2B development and qualification of the Core terminal program. Conducted Test Readiness Review. Began contractor First Article Qualification Testing (FAQT). Awarded production transition efforts. Continued MIDS JTRS TTNT JPCP Phase 2C activities. Provided MIDS JTRS support in systems engineering, hardware, software, Communications Security (COMSEC), logistics, airborne networking, configuration and data management and program management. Continued F/A-18 Level 0 platform integration, test and evaluation. Procured additional F/A-18 Test Assets for Developmental and Operational test. Began F/A-18 integrated logistics support planning.

FY08: Complete MIDS JTRS Phase 2B development and qualification of the Core terminal program. Obtain Core terminal certifications for Communications Security (COMSEC), Electromagnetic Compatibility (EMC) Features, Air Worthiness, SCA compliance and joint interoperability. Conduct Government testing. Achieve MS C. Award MIDS JTRS TTNT JPCP Phase 2D for full development. Provide MIDS JTRS support in systems engineering, hardware, software, Communications Security (COMSEC), logistics, airborne networking, configuration and data management and program management. Continue F/A-18 Level 0 platform integration, test and evaluation including developmental and operational test and support equipment development.

FY09: Continue MIDS JTRS Phase 2D development and qualification of the TTNT JPCP terminal. Provide MIDS JTRS support in systems engineering, hardware, software, COMSEC, logistics, airborne networking, configuration and data management and program management. Complete F/A-18 Level 0 platform integration, test and evaluation and support equipment development.

Note:
In FY07-FY09, Project No. 3020 represents the total MIDS JTRS RDT&E budget for those years.
In FY10, Project No. 3020 represents the Navy share (1/3) of the funding associated with MIDS JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus, one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

Exhibit R-3 Cost Analysis (MIDS JTRS page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)							PROJECT NUMBER AND NAME 3020 MIDS JTRS			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY07 Cost	FY07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
MIDS JTRS HW/SW (Phase 2B Core)	CPIF	DLS Cedar Rapids, IA	47.842	42.412	Nov-06	7.434	Nov-07			0.000	97.688	
MIDS JTRS HW/SW (Phase 2B Core)	CPIF	ViaSat Inc. Carlsbad, CA	43.198	51.047	Nov-06	7.416	Nov-07			0.000	101.661	
MIDS JTRS HW/SW (Phase 2C TTNT JPCP)	CPFF	DLS Cedar Rapids, IA	5.251	6.416	Feb-07					0.000	11.667	
MIDS JTRS HW/SW (Phase 2C TTNT JPCP)	CPFF	ViaSat Inc. Carlsbad, CA	3.071	2.478	Feb-07					0.000	5.548	
MIDS JTRS HW/SW (Phase 2D TTNT JPCP)	CPIF	DLS Cedar Rapids, IA				17.167	Feb-08	7.396	Nov-08	0.000	24.563	
MIDS JTRS HW/SW (Phase 2D TTNT JPCP)	CPIF	ViaSat Inc. Carlsbad, CA				14.767	Feb-08	7.396	Nov-08	0.000	22.163	
MIDS JTRS Production Transition	FFP	DLS Cedar Rapids, IA		13.548	Apr-07	5.223	Jan-08			0.000	18.771	
MIDS JTRS Production Transition	FFP	ViaSat Inc. Carlsbad, CA		2.768	Apr-07					0.000	2.768	
MIDS JTRS Preoperational Support	CPFF	DLS Cedar Rapids, IA				1.500	Jan-08	1.200	Nov-08	0.000	2.700	
MIDS JTRS Preoperational Support	CPFF	ViaSat Inc. Carlsbad, CA				1.500	Jan-08	1.200	Nov-08	0.000	2.700	
MIDS JTRS Spec. Development (Phase 2A)	FFP	DLS Cedar Rapids, IA	1.383							0.000	1.383	
MIDS JTRS Spec. Development (Phase 2A)	FFP	ViaSat Inc. Carlsbad, CA	0.704							0.000	0.704	
MIDS JTRS Proposal Prep (Phase 2B Core)	FFP	DLS Cedar Rapids, IA	0.600							0.000	0.600	
MIDS JTRS Proposal Prep (Phase 2B Core)	FFP	ViaSat Inc. Carlsbad, CA	1.774	0.148	Sep-07					0.000	1.922	
Subtotal Product Development			103.823	118.816		55.008		17.191		0.000	294.838	

Remarks:
The Phase 2C TTNT JPCP original award occurred in Mar 2006 to DLS and ViaSat. Contract modifications to extend the Phase 2C TTNT JPCP effort were awarded in Feb 2007.

Development Support												
* F/A-18 Level 0 Development Support (Unique)	WX	China Lake	1.471			0.056				0.000	1.527	
* F/A-18 Level 0 Integrated Logistics Support (Unique)	WX	Pax River	0.412					2.472	Nov-08	0.000	2.884	
Subtotal Support			1.882	0.000		0.056		2.472		0.000	4.410	

Remarks:
In PYs-FY09, Project No. 3020 represents the total MIDS JTRS RDT&E budget for those years.
In FY10, Project No. 3020 represents the Navy share (1/3) of the funding associated with MIDS JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

Exhibit R-3 Cost Analysis (MIDS JTRS page 2)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)							PROJECT NUMBER AND NAME 3020 MIDS JTRS			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY07 Cost	FY07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation												
* F/A-18 Level 0 Developmental Test & Evaluation (Unique)	WX	Pax River				4.376	Dec-07	0.450	Nov-08		4.826	
* F/A-18 Level 0 Operational Test & Evaluation (Unique)	WX	China Lake				1.095	Feb-08	0.243	Nov-08		1.338	
* F/A-18 Test Assets	FFP	DLS Cedar Rapids, IA		8.850	Apr-07						8.850	
* F/A-18 Test Assets	FFP	ViaSat Inc. Carlsbad, CA		7.365	Apr-07						7.365	
* F/A-18 EDMs	FFP	DLS Cedar Rapids, IA		2.740	Jul-07						2.740	
* F/A-18 EDMs	FFP	ViaSat Inc. Carlsbad, CA		2.475	Jul-07						2.475	
Government Testing	WX	SSC San Diego	0.340	0.405	Nov-06	0.790	Oct-07	0.201	Oct-08		1.736	
Engineering Support and Labor/SCS Changes	WX	China Lake		3.963	Various	4.042	Various	0.510	Various		8.515	
NAVAIR Labor	WX	Pax River		1.172	Various	2.053	Jan-08	1.500	Various		4.725	
ECP 6277 Preparation	WX	Boeing		1.563	Jun-07						1.563	
Subtotal T&E			0.340	28.533		12.356		2.904		0.000	44.133	
Remarks: * Items marked with an asterisk (*) designate Navy unique tasks.												
Management Support												
Contractor Engineering Support	CPFF	Various	4.236	3.531	Oct-06	3.917	Oct-07	1.206	Oct-08		12.890	
Government Engineering Support	WX	Various	6.612	5.157	Oct-06	5.702	Oct-07	2.160	Oct-08		19.631	
Program Management Support	CPFF	Various	1.215	3.226	Oct-06	2.628	Oct-07	1.266	Oct-08		8.334	
Airborne Networking Support	WX	SSC San Diego	0.634	0.454	Jul-07	0.225	Oct-07				1.313	
Travel			0.415	0.192		0.250		0.250			1.106	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			13.112	12.559		12.721		4.881		0.000	43.273	
Total Cost			119.157	159.908		80.141		27.449		0.000	386.654	

Remarks:
In PYs-FY09, Project No. 3020 represents the total MIDS JTRS RDT&E budget for those years.
In FY10, Project No. 3020 represents the Navy share (1/3) of the funding associated with MIDS JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus, one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3020 MIDS JTRS	

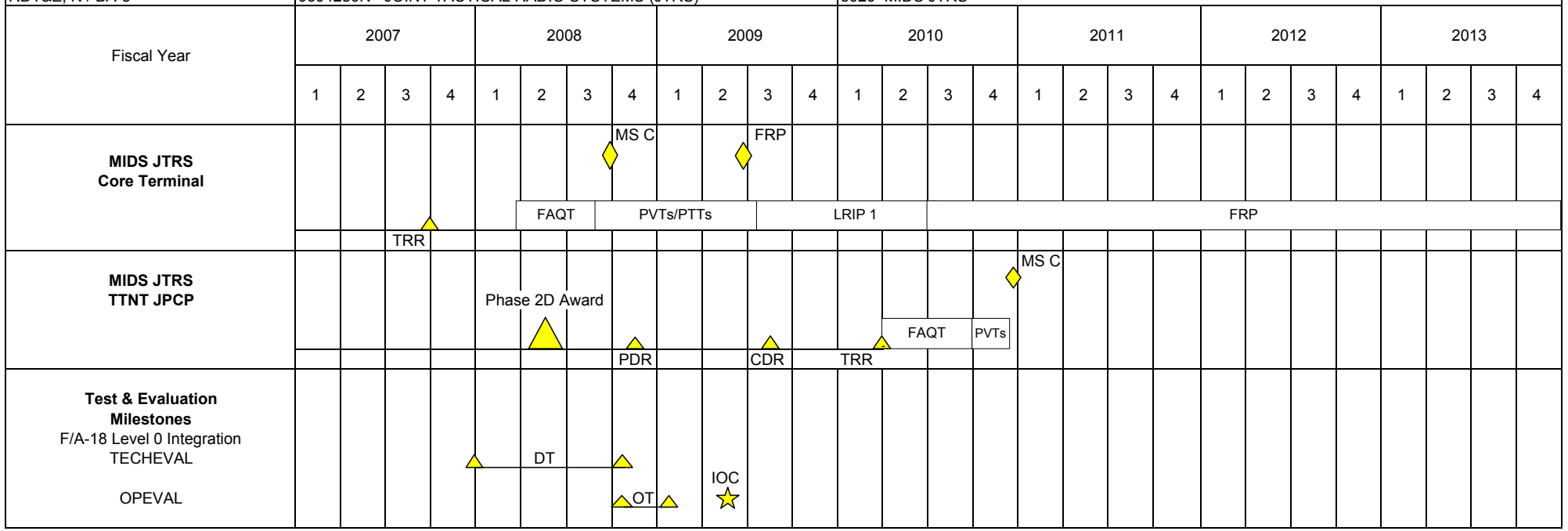


Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3020 MIDS JTRS			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MIDS JTRS Migration Core Terminal							
Phase 2B: Design, Development, Fabrication and Qualification							
System Development		4Q					
Preliminary Design Review (PDR)							
Critical Design Review (CDR)							
Quality Design and Build	3Q						
Test Readiness Review (TRR)	3Q						
Contractor Testing (FAQT)		1Q, 3Q					
Milestone C		3Q					
Government Testing		3Q					
Production Verification Terminal Delivery (PVT)		3Q, 4Q					
Production Transition Terminal Delivery (PTT)		3Q	3Q				
Test and Evaluation							
F/A-18 Level 0 Integration							
Technical Evaluation (TECHEVAL)		1Q, 4Q					
Operational Evaluation (OPEVAL)		4Q	1Q				
Initial Operating Capability			2Q				
Full Rate Production Decision			2Q				
MIDS JTRS TTNT JPCP							
Phase 2C: Specification Development	4Q						
Phase 2D: Design, Development, Fabrication and Qualification							
System Development		2Q		4Q			
Preliminary Design Review (PDR)		4Q					
Critical Design Review (CDR)			3Q				
Quality Design and Build			3Q	1Q			
Test Readiness Review (TRR)				1Q			
Contractor Testing (FAQT)				2Q, 3Q			
Government Testing				3Q, 4Q			
Production Verification Terminal Delivery (PVT)				4Q			
Fielding Decision				4Q			

Exhibit R-4a, Schedule Detail

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3020 MIDS JTRS		
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**
X3020 Multifunctional Information Distribution System (MIDS JTRS)	0.000	4.692	4.500	0.500	0.000	0.000	0.000

Note: In FY07-FY09, MIDS JTRS represents the total termination liability (TL) funding profile. In FY10 MIDS JTRS represents one-third of the total termination liability (TL) funding profile. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of TL is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

Instructions:

1. For all ACAT 1 programs with RDT&E funding, indicate the funds by year budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract by year.

Exhibit R-5 Termination Liability in Major Acquisition Programs RDTEN

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Project Cost	**56.799**	**106.671**	**203.831**	**108.504**	**124.160**	**108.220**	**74.615**
3073 Airborne/Maritime/Fixed Station (AMF) JTRS	**56.799**	**106.671**	**203.831**	**108.504**	**124.160**	**108.220**	**74.615**

In FY07-FY09, Project No. 3073 represents the total AMF JTRS RDT&E budget for those years.

In FY10-FY13, Project No. 3073 represents the Navy share (1/3) of the funding associated with AMF JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus, one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

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

AMF JTRS is intended to support communications readiness and mission success, in the 2MHz to 2GHz operating frequency range, by providing military commanders with the ability to command, control and communicate with their Forces via secure voice/video/data media forms. AMF JTRS will provide the Warfighter with a modernized communications capability for more effective battlefield management and interoperability. AMF JTRS is a key enabler for the transformation of airborne communications toward network-centric operations. AMF JTRS is designed to perform as a reliable and dynamic family of advanced communications systems. As a result, AMF JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements. The system is multi-functional, multi-band, multi-mode, network capable and capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. AMF JTRS will operate with legacy equipment and waveforms currently used by civilian and military airborne, surface, subsurface, and fixed station platforms. AMF JTRS is intended to replace existing legacy radio systems, which are currently facing long-term sustainment issues and diminishing sources of material support. AMF JTRS capabilities will be developed in an incremental approach, with each increment building on the technological achievements of its predecessor, while providing expanded capabilities.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
AMF JTRS	56.799	106.671	203.831
RDT&E Articles Quantity			

FY07: Request for Proposal (RFP) for the System Development and Demonstration (SDD) contract released Jan 2007. Source selection began in Mar 2007 with anticipated SDD contract award in 2nd quarter FY08. Continued engineering and management support for Navy specific JTRS implementation efforts.

FY08: Received Milestone B approval in 1st quarter FY08. System Development & Demonstration (SDD) contract award in 2nd Quarter FY08. Begin development efforts including hardware and software designs. Continue systems engineering and management support for associated JTR system components.

FY09: Continue SDD development for the AMF JTRS system including testing and integration activities leading to Critical Design Review (CDR) planned for Feb 09; hardware and non-waveform software development; platform integration development for AMF test program; NSA information assurance activities and verification of design; and waveform porting. Continue development engineering and management support for associated JTR system components.

Note:
In FY07-FY09, Project No. 3073 represents the total AMF JTRS RDT&E budget for those years.
In FY10-13, Project No. 3073 represents one-third of the total AMF JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of AMF is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3 Cost Analysis (AMF JTRS page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		**PROGRAM ELEMENT** 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				**PROJECT NUMBER AND NAME** 3073 Airborne/Maritime/Fixed Station (AMF) JTRS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
MIDS JTRS HW/SW (Phase 2A/2B Core)	CPIF	DLS Cedar Rapids, IA	8.563									
MIDS JTRS HW/SW (Phase 2A/2B Core)	CPIF	ViaSat Inc. Carlsbad, CA	2.559									
AMF JTRS Development - JTR System (Pre-SDD)	CPFF	The Boeing Company, Anaheim, CA/ Lockheed Martin, Manassas, VA	90.937							Cont.	Cont.	
AMF JTRS Development - JTR SET (SDD)	CPAF/IF	TBD		26.929	2Q08	76.120	2Q08	157.503	1Q09	Cont.	Cont.	
AMF JTRS - Requirements Planning and Risk Reduction	Various	Various	1.490	1.566	1-3Q07	1.540	1Q08			Cont.	Cont.	
AMF JTRS - Systems Engineering	Various	Various	16.302	15.037	1-4Q07	16.144	1-3Q08	21.442	1-2Q09	Cont.	Cont.	
Systems Engineering - JTRS Implementation-Navy Unique	Various	Various	13.538	2.096	1-4Q07					Cont.	Cont.	
H/W Development: DMR HF Power Amplifier	FFP	GDDS	2.800								2.800	
Systems Engineering - JTF WARNET	Various	Various	7.481								7.482	
Subtotal Product Development			143.670	45.628		93.804		178.945		Cont.	Cont.	
Remarks:												
Development Support												
AMF JTRS - Acquisition, and ILS Support	Various	Various	19.239	3.791	1-4Q07	3.204	1-2Q08	5.290	1-2Q09	Cont.	Cont.	
Software Dev: DMR Build 6.4	FFP	GDDS	12.861							Cont.	Cont.	
Subtotal Support			32.100	3.791		3.204		5.290		Cont.	Cont.	

Remarks:
In PYs, Air Force AMF JTRS funding resides in Air Force PE 0604280F, Project 5068. In PYs, Navy AMF JTRS funding resides in this PE, Project 3073.
In FY07-FY09, Project No. 3073 represents the total AMF JTRS RDT&E budget for those years.
In FY10-13, Project No. 3073 represents one-third of the total AMF JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of AMF is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3 Cost Analysis (AMF JTRS page 2)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		**PROGRAM ELEMENT** 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				**PROJECT NUMBER AND NAME** 3073 Airborne/Maritime/Fixed Station (AMF) JTRS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
AMF JTRS - Test and Evaluation and Test Support	Various	Various	3.860	3.661	1-4Q07	5.774	1-2Q08	14.880	1-2Q09	Continuing	Continuing	
DMR T&E (FOTE)	WX	SSC-SD	1.724								1.724	
DMR T&E (FOTE)	WX	SSC-CH	1.732								1.732	
Subtotal T&E			7.316	3.661		5.774		14.880		Continuing	Continuing	
Remarks:												
Management Services												
AMF Business Operations Management and Support	Various	Various	14.710	3.719	1-4Q07	3.889	1-4Q08	4.716	1-4Q09	Continuing	Continuing	
Subtotal Management			14.710	3.719		3.889		4.716		Continuing	Continuing	
Remarks:												
Total Cost			197.796	56.799		106.671		203.831		Continuing	Continuing	

Remarks:
In PYs, Air Force AMF JTRS funding resides in Air Force PE 0604280F, Project 5068. In PYs, Navy AMF JTRS funding resides in this PE, Project 3073.
In FY07-FY09, Project No. 3073 represents the total AMF JTRS RDT&E budget for those years.
In FY10-13, Project No. 3073 represents one-third of the total AMF JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of AMF is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile																									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)																								PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS			
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AMF JTRS Acquisition Milestone Schedule					MS B ▼															MS C ▼								
AMF JTRS Product Development Schedule						Contract Award ▼				CDR ▼						EDM Delivery ▼						LRIP Deliveries ▼						

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)					PROJECT NUMBER AND NAME 3073 Airborne/Maritime/Fixed Station (AMF) JTRS	
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B (MS-B)		1Q					
Contract Award SDD		2Q					
Critical Design Review (CDR)			2Q				
Eng Dev Model (EDM) Deliveries				4Q			
Milestone C (MS C)					4Q		
Low-Rate Initial Production I Delivery						2Q	

Exhibit R-4a, Schedule Detail

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	**PROGRAM ELEMENT NUMBER AND NAME** 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				**PROJECT NUMBER AND NAME** 3073 Airborne/Maritime/Fixed Station (AMF) JTRS		
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**
X3073 Airborne, Maritime, Fixed Site JTRS (AMF JTRS)	0.000	23.300	29.375	14.097	14.792	7.639	3.542

Note: FY07-09 amounts represent the total termination liability (TL) funding. FY10-13 amounts represent one-third of the total termination liability (TL) funding. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of AMF is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Instructions:

1. For all ACAT 1 programs with RDT&E funding, indicate the funds by year budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract by year.

Exhibit R-5 Termination Liability in Major Acquisition Programs RDTEN

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Project Cost	**202.944**	**231.643**	**196.320**	**36.559**	**10.803**	**2.262**	**0.000**
3074 Ground Mobile Radio (GMR) JTRS	**202.944**	**231.643**	**196.320**	**36.559**	**10.803**	**2.262**	**0.000**

In FY07-FY09, Project No. 3074 represents the total Ground Mobile Radio (GMR) JTRS RDT&E budget for those years.

In FY10-FY13, Project No. 3074 represents the Navy share (1/3) of the funding associated with GMR JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus, one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

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

GMR is a product line overseen by the JTRS Ground Domain Program Management Office. JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. JTRS will provide transformational communication capabilities for the warfighter. The JTRS GMR will provide networking capability using the Wideband Networking Waveform and Soldier Radio Waveform to connect the unmanned sensors to the decision makers "On-The-Move" (OTM) which will significantly reduce the decision cycle. JTRS GMR will provide the warfighter with mobile Internet-like capabilities such as voice, data, networking and video communications, as well as interoperability with legacy radios across the battlespace.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Ground Mobile Radio (Common)	202.944	231.643	196.320
RDT&E Articles Quantity			

FY07: In FY07, GMR JTRS efforts were transferred from PE 0604280A to PE 0604280N to support the revised JTRS joint program acquisition strategy. Continued Product Development including GMR JTRS Vehicular Hardware design and development of prototypes and technical engineering support. Continued Test and Evaluation including JTRS EPG test bed and test planning, test support, Electronic and Information Warfare Test and Evaluation, and labor. Continued JTRS Program Management Office support, and Systems Engineering and Technical support.

FY08: FY08 GMR JTRS funding supports the design, development and manufacture of Engineering Development Models (EDMs) for Ground Mobile Radio (GMR), technical support, Radio Application SW Functional Qualification Test, and Program Management Office support.

FY09: FY09 GMR JTRS funding will support the design, development, manufacture and delivery of EDMs for Ground Mobile Radio (GMR), technical support, Production Qualification Test (PQT), and Project Management Office support.

Note:
In FY07-FY09, Project No. 3074 represents the total GMR JTRS RDT&E budget for those years.
In FY10-FY13, Project No. 3074 represents the Navy share (1/3) of the funding associated with GMR JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus, one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

Exhibit R-3 Cost Analysis (JTRS GMR page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		**PROGRAM ELEMENT** 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				**PROJECT NUMBER AND NAME** 3074 Ground Mobile Radio (GMR JTRS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
JTRS GMR GFE	Various	Various	0.000	2.000	3Q	2.000	1-4Q			Cont.	Cont.	
JTRS GMR 1 SDD	C/CPAF	BOEING, Anaheim, CA	0.000	182.644	1-4Q	199.413	1-4Q	162.444	1-3Q	Cont.	Cont.	
JTRS DEVELOPMENT - System Engineering Support	Various	Various	0.000	1.420	1-2Q	1.728	1-2Q	1.575	1-2Q	Cont.	Cont.	
Technology Development efforts			0.000	0.000		5.100	2Q	7.092	2Q	Cont.	Cont.	
Subtotal Product Development			0.000	186.064		208.241		171.111		Cont.	Cont.	
Remarks:												
Development Support												
NTDRS			0.000	0.000						Cont.	Cont.	
JTRS Antenna Study			0.000	0.000		2.025	1-2Q			Cont.	Cont.	
JTRS Tech Support	Various	Various	0.000	1.940	1-2Q			1.716	1-2Q	Cont.	Cont.	
ABCS SE&I Effort			0.000	0.000						Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
Subtotal Support			0.000	1.940		2.025		1.716		Cont.	Cont.	

Remarks:
In PYs, GMR JTRS funding resides in Army PE 0604805A, Project 615.
In FY07-FY09, Project No. 3074 represents the total GMR JTRS RDT&E budget for those years.
In FY10-13, Project No. 3074 represents one-third of the total GMR JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of GMR is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3, Project Cost Analysis

Exhibit R-3 Cost Analysis (JTRS GMR page 2)													DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation													
JTRS EPG test bed & test planning	MIPR	EPG, Fort Huachuca, AZ	0.000	1.917	1-4Q	4.059	1-4Q	4.299	1-4Q	Cont.	Cont.		
JTRS M&S	MIPR	USAIC, Ft. Huachuca, AZ	0.000	0.500	2Q	2.000	2Q	0.870	2Q	Cont.	Cont.		
JTRS Test Inhouse Spt & Gov activities	Various	Various	0.000	2.237	1-2Q	2.336	1-2Q	3.075	1-2Q	Cont.	Cont.		
JTRS EOA/SIT/LUT/MOTE Test Activity	Various	EPG, Fort Huachuca, AZ/Various	0.000	0.105	1-3Q	0.720	1-3Q	4.674	1-3Q	Cont.	Cont.		
			0.000	0.000						Cont.	Cont.		
			0.000	0.000						Cont.	Cont.		
			0.000	0.000						Cont.	Cont.		
Subtotal T&E			0.000	4.759		9.115		12.918		Cont.	Cont.		
Remarks:													
Contractor Engineering Support													
JTRS Business Engineering Mgmt	Various	Various	0.000	3.911	1-4Q	3.984	1-4Q	3.984	1-4Q	Cont.	Cont.		
PMO Support	Various	Various	0.000	6.043	1-4Q	7.992	1-4Q	6.591	1-4Q	Cont.	Cont.		
JTRS Mitre support	MIPR	MITRE, Ft. Monmouth, NJ	0.000	0.227	2Q	0.286	2Q	0.000		Cont.	Cont.		
Subtotal Management			0.000	10.181		12.262		10.575		Cont.	Cont.		
Total Cost			0.000	202.944		231.643		196.320		Continuing	Continuing		

Remarks:
In PYs, GMR JTRS funding resides in Army PE 0604805A, Project 615.
In FY07-FY09, Project No. 3074 represents the total GMR JTRS RDT&E budget for those years.
In FY10-13, Project No. 3074 represents one-third of the total GMR JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of GMR is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)		PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)

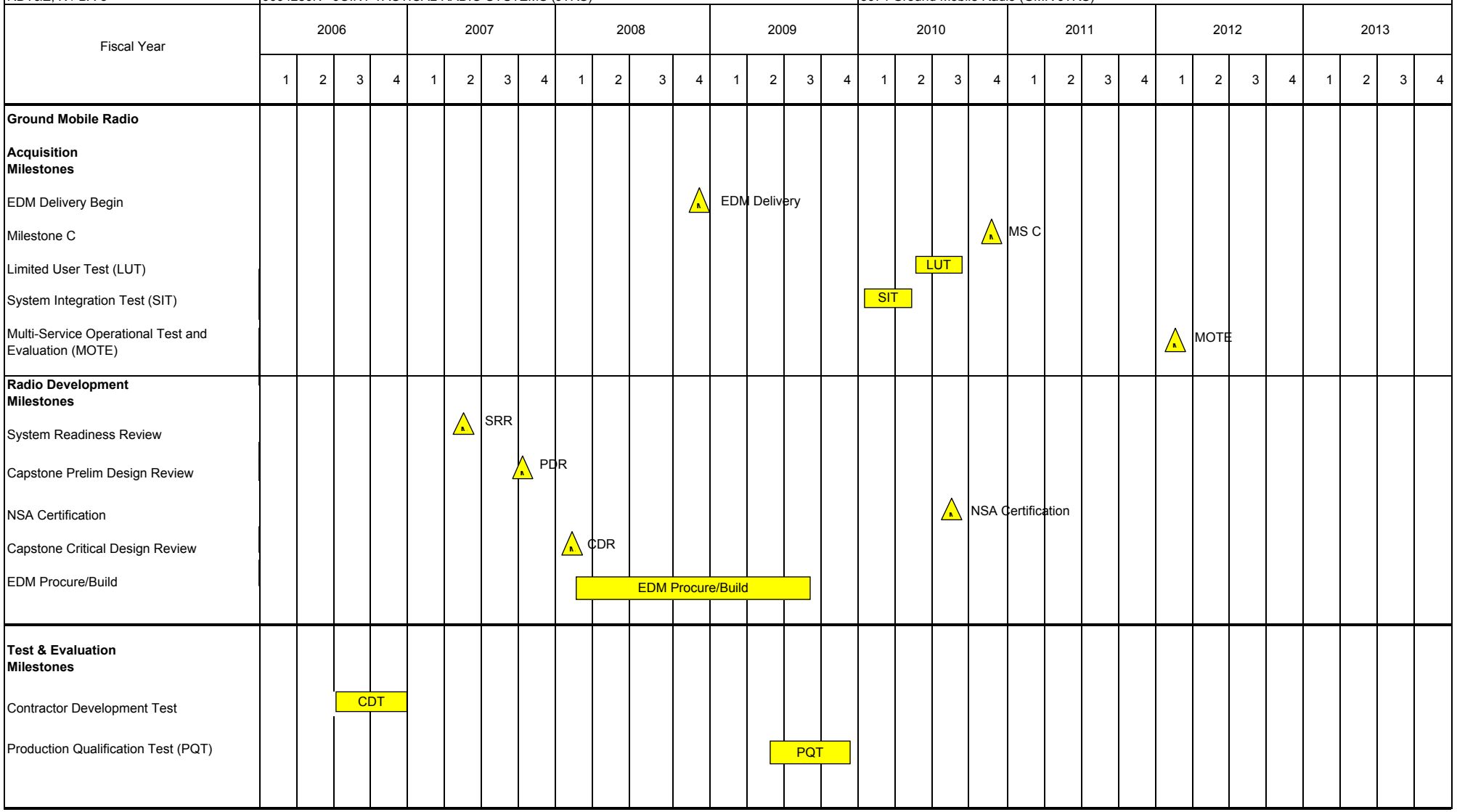


Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Readiness Review (SRR)	2Q						
Capstone Preliminary Design Review (PDR)	4Q						
Capstone Critical Design Review (CDR)		1Q					
EDM Procure/Build		1-4Q	1-3Q				
EDM Delivery Begin		4Q					
Production Qualification Test (PQT)			2-4Q				
JTRS - Army GMR System Integration Test (SIT)				1-2Q			
Limited User Test				2-3Q			
JTRS GMR Milestone C				4Q			
JTRS - Multi-Service Operational Test and Evaluation						1Q	
NSA Certification				3Q			

Exhibit R-4a, Schedule Detail

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3074 Ground Mobile Radio (GMR JTRS)		
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**
X3074 Ground Mobile Radio (GMR JTRS)	28.499	25.170	12.183	8.418	6.037	0.000	0.000

Note:
In FY07-FY09 GMR JTRS represents the total termination liability (TL) funding profile. In FY010-11, GMR JTRS represents one-third of the total termination liability (TL) funding profile. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of TL is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

Instructions:

1. For all ACAT 1 programs with RDT&E funding, indicate the funds by year budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract by year.

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Project Cost	**132.884**	**168.359**	**164.766**	**32.239**	**5.246**	**0.000**	**0.000**
3075 Handheld, Manpack, Small Form Fit (HMS) JTRS	**132.884**	**168.359**	**164.766**	**32.239**	**5.246**	**0.000**	**0.000**

In FY07-FY09, Project No. 3075 represents the total HMS JTRS RDT&E budget for those years.

In FY10-FY13, Project No. 3075 represents the Navy share (1/3) of the funding associated with HMS JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus, one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

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

HMS is a product line overseen by the JTRS Ground Domain Program Management Office. JTRS is the DoD family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. HMS provides a software re-programmable, networkable, multi-band, multi-mode system capable of simultaneous voice/data/video communication. HMS Increment 1 consists of the following form factors: 2 Channel Handheld, 2 Channel Manpack and Small Form Fit (SFF) embedded applications (SFF-A, B, C, D, I and J).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS	PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Handheld/Manpack/Small Form Fit (Common)	132.884	168.359	164.766
RDT&E Articles Quantity			

FY07: In FY07, JTRS HMS efforts were transferred from PE 0604280A to PE 0604280N to support the revised JTRS joint program acquisition strategy. Continued HMS Product Development of HMS sets, HMS Test and Evaluation, Program Management Office support, and Technical support.

FY08: FY08 HMS JTRS funding will support the design, development and manufacture of Engineering Development Models (EDMs) for Small Form Fit D (SFF-D); Technical support; Increment 1, Phase 1 Contractor Development Test (CDT) and Government Development Test (GDT); and Program Management Office support.

FY09: FY09 HMS JTRS funding will support the design, development and manufacture of EDMs for SFF-B, I, and J, as well as the 2 channel Handheld and Manpack; technica support; Increment 1, Phase 2 Government Development Test (GDT); and Program Management Office support.

Note:
In FY07-FY09, Project No. 3075 represents the total HMS JTRS RDT&E budget for those years.
In FY10-13, Project No. 3075 represents one-third of the total HMS JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of HMS is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3 Cost Analysis (JTRS HMS page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		**PROGRAM ELEMENT** 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				**PROJECT NUMBER AND NAME** 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
JTRS HMS Design, Development and Manufacture of Engineering Development Models (EDMs)	C/CPAF	General Dynamics C4 Systems, Scottsdale, AZ	0.000	100.880	4Q	133.495	1Q	120.525	1Q	Cont.	Cont.	
JTRS HMS Development System Engineering Support	Various	Various	0.000	10.829	1-4Q	6.722	1-2Q	6.485	1-2Q	Cont.	Cont.	
Technology Development efforts	Various	Various	0.000	1.700	2Q	1.219	2Q	5.100	2Q	Cont.	Cont.	
										Cont.	Cont.	
Subtotal Product Development			0.000	113.409		141.435		132.110		Cont.	Cont.	
Remarks:												
Development Support												
JTRS Technical Support	Various	Various	0.000	5.584	1-4Q	5.215	1-4Q	5.474	1-3Q	Cont.	Cont.	
										Cont.	Cont.	
Subtotal Support			0.000	5.584		5.215		5.474		Cont.	Cont.	

Remarks:
In PYs, HMS JTRS funding resides in Army PE 0604805A, Project 61A.
In FY07-FY09, Project No. 3075 represents the total HMS JTRS RDT&E budget for those years.
In FY10-13, Project No. 3075 represents one-third of the total HMS JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of HMS is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3, Project Cost Analysis

Exhibit R-3 Cost Analysis (JTRS HMS page 2)													DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation													
JTRS EPG test bed and planning	MIPR	EPG, Ft. Huachuca, AZ	0.000	0.100	4Q	0.100	2-4Q	0.700	1Q	Cont.	Cont.		
JTRS Modeling and Simulation	MIPR	USAIC, Ft. Huachuca, AZ	0.000	0.300	4Q	0.250	4Q	0.263	4Q	Cont.	Cont.		
JTRS Test In-house Support & Government Activities	Various	Various	0.000	2.413	1-4Q	8.891	1-4Q	12.569	1-3Q	Cont.	Cont.		
Phase 1 LUT	Various	Various	0.000	0.150	4Q	0.000	1-4Q	0.000	1Q	Cont.	Cont.		
Phase 1 IOTE	Various	Various	0.000	0.000		0.000		0.000	1-4Q	Cont.	Cont.		
Subtotal T&E			0.000	2.963		9.241		13.531		Cont.	Cont.		
Remarks:													
Contractor Engineering Support													
Project Management Office Support	Various	Various	0.000	7.797	1-4Q	9.072	1-4Q	10.355	1-4Q	Cont.	Cont.		
JTRS Business/ Engineering Management	Various	Various	0.000	3.130	1-4Q	3.395	1-4Q	3.296	1-4Q	Cont.	Cont.		
Subtotal Management			0.000	10.927		12.467		13.651		Cont.	Cont.		
Remarks:													
Total Cost			0.000	132.884		168.359		164.766		Continuing	Continuing		

Remarks:
In PYs, HMS JTRS funding resides in Army PE 0604805A, Project 61A.
In FY07-FY09, Project No. 3075 represents the total HMS JTRS RDT&E budget for those years.
In FY10-13, Project No. 3075 represents one-third of the total HMS JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of HMS is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)		PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)

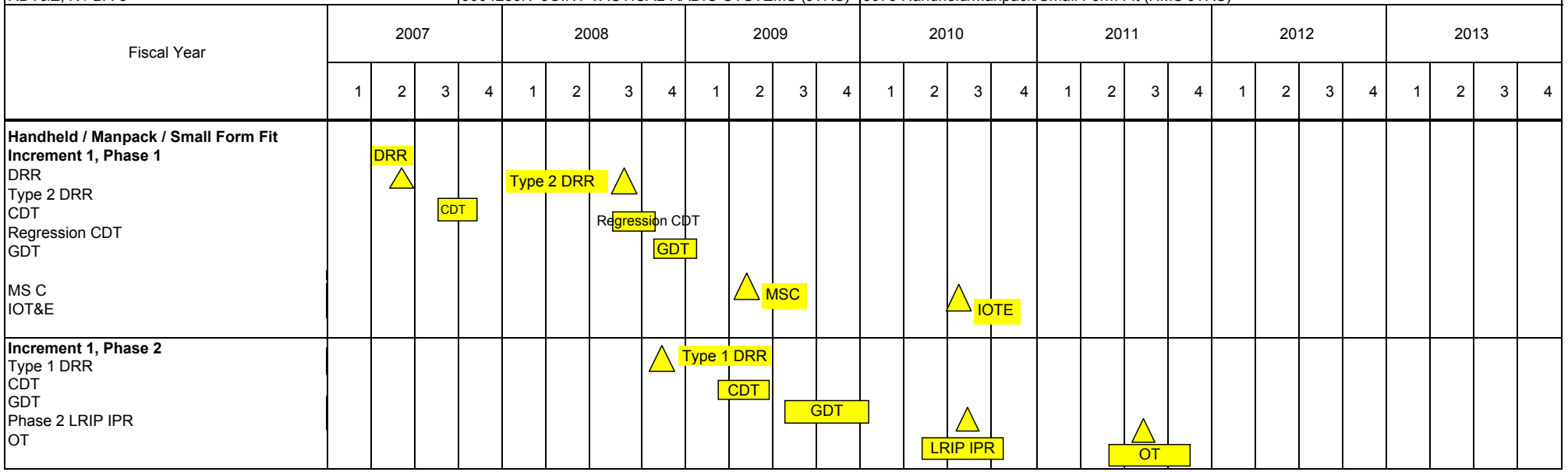


Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Increment 1, Phase 1							
DRR	2Q						
Type 2 DRR		3Q					
CDT	3-4Q						
Regression CDT		3-4Q					
GDT		4Q	1Q				
MS C			2Q				
IOT&E				3Q			
Increment 1, Phase 2							
Type 1 DRR		4Q					
CDT			1-2Q				
GDT			3-4Q	1Q			
LRIP IPR				3Q			
OT					3Q		

Exhibit R-4a, Schedule Detail

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	**PROGRAM ELEMENT NUMBER AND NAME** 0604280N JOINT TACTICAL RADIO SYSTEMS				**PROJECT NUMBER AND NAME** 3075 Handheld/Manpack/Small Form Fit (HMS JTRS)		
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**
X3075 JTRS Handheld / Manpack / Small Form Fit (HMS)	18.000	10.000	0.666	0.000	0.000	0.000	0.000

Note: In FY07-FY09, HMS JTRS represents the total termination liability (TL) funding profile. In FY10-13, HMS JTRS represents one-third of the total termination liability (TL) funding profile. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of TL is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

Instructions:

1. For all ACAT 1 programs with RDT&E funding, indicate the funds by year budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract by year.

Exhibit R-5 Termination Liability in Major Acquisition Programs RDTEN

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Project Cost	**221.499**	**248.552**	**242.284**	**66.412**	**44.567**	**32.962**	**23.372**
3076 JTRS Network Enterprise Domain (JNED)	**221.499**	**248.552**	**242.284**	**66.412**	**44.567**	**32.962**	**23.372**

In FY07-FY09, Project No. 3076 represents the total JNED RDT&E budget for those years.

In FY10-FY13, Project No. 3076 represents the Navy share (1/3) of the funding associated with the JNED program. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for one-third of the total program. Thus, one-third of JTRS Common Development is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

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

JNED is responsible for the development and delivery of software-defined, legacy radio waveforms and networking waveforms that support Net-Centric operational warfare at sea, air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the Warfighter. The JNED team is responsible for (1) the overall management and oversight of the JTRS Waveform program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development and evolution of waveform software applications, (4) development of software cryptographic algorithms and equipment applications, (5) testing and certification of JTRS waveforms, network services, network management, and software products, and (6) JTRS networking and network management software components. Service acquisition agencies are responsible for acquiring and fielding host radio hardware and integrating JTRS into Service platforms.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	3076 JTRS Network Enterprise Domain (JNED)

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
JTRS Network Enterprise Domain (JNED)	221.499	248.552	242.284
RDT&E Articles Quantity			

FY07 ($221.499): In FY07, JNED efforts were transferred from PE 0604280A to PE 0604280N to support the revised JTRS joint program acquisition strategy. Continued development and acquisition of Increment 1 networking waveforms that support Net-Centric operational warfare at sea, air and on the ground to extend the GIG to the last tactical mile and the warfighter. Continued JNED program support and other related activities to support the networking waveform development.

Networking Waveforms:

- **Wideband Networking Waveform (WNW)** ($56.056) is a high data rate networking waveform application that provides the lower tactical Internet backbone and connects tactical forces across the battle sphere. WNW will feature two signals-in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAIPE) capabilities, red-black switching, and internal routing of other WNW signals. Completed the development of Version 2.0 in 2Q FY07 and version 2.5 in 4Q FY07 to support FCS test events. Platforms included: GMR and AMF.

- **Soldier Radio Waveform (SRW)** ($27.533) will operate on JTR sets to provide a networked battlefield communications capability for disadvantaged users engaged in land combat operations and will support voice, data, and video communications on and over the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over IP capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as WNW. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. Completed development of SLICE Version 2.1 in 1Q FY07 to support Future Combat Systems test events. Platforms included: GMR, AMF and HMS.

- **Mobile User Objective System (MUOS)** ($9.511) will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. JNED program continued to modify this waveform, making it compatible and certifiable to meet DoD security requirements plus enable porting to JTR sets. Platforms included: AMF.

- Joint Airborne Networking - Tactical Edge (JAN-TE) ($17.000) will operate on JTR airborne sets to provide a networked tactical communications capability for tactical aircraft. JAN-TE will provide increased throughput, highly responsive connectivity, and ad hoc mobile networking for fighters engaged in air operations. This networking waveform is uniquely designed and engineered for highly maneuverable, fast moving aircraft for rapidly establishing networks to share high value data communications. Continued development of the JAN-TE waveform during this year. Platform included: MIDS.

Network Enterprise Services ($41.142): Continued development and acquisition of JTRS Network Enterprise Services (JNES) to include Enterprise Network Manager (ENM) and Enterprise Network Services (ENS). Continued to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering, problem resolution and support of Software Communications Architecture (SCA) activities. Completed and submitted a formal ENS and ENM Performance Requirements Document (PRD) 3.2.1 .

Legacy Radio Waveforms ($70.257) Continued the development and acquisition of legacy software and other related activities to support the legacy waveform development of High Frequency (HF) and Link 16. Continued to develop Build 2.2 of the Enhanced Position Location and Reporting System (EPLRS) development. Performed FQT for UHF SATCOM DAMA version 3.1 in 2Q FY07. Performed FQT for the Single-Channel Ground and Airborne Radio System (SINCGARS) version 1.3 in 3Q FY07 and version 1.4 in 4Q FY07. Completed FQT for JTRS Bowman Waveform in 3Q FY07. Provide technical guidance to Platform Program Management offices (PMO). Continued to support Waveform integration, test and evaluation to include hardware and software waveform certification process (SCA compliance testing) to meet program requirements. Continued JNED program management office support. Began Software Trouble Report (STR) correction to both software-defined legacy radio and networking waveforms.

Note:
In FY07-FY09, Project No. 3076 represents the total JNED RDT&E budget for those years.
In FY10-FY13, Project No. 3076 represents one-third of the total JNED RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of JNED is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
JTRS Network Enterprise Domain (JNED)	221.499	248.552	242.284
RDT&E Articles Quantity			

FY08 ($248.552): Continue development and acquisition of Increment 1 networking waveforms that support Net-Centric operational warfare at sea, air and on the ground to extend the GIG to the last tactical mile and the warfighter. Continue JNED program support and other related activities to support the networking waveform development.

Networking Waveforms:
- **Wideband Networking Waveform (WNW)** ($46.050) is a high data rate networking waveform application that provides the lower tactical Internet backbone and connects tactical forces across the battle sphere. WNW will feature two signals-in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAIPE) capabilities, red-black switching, and internal routing of other WNW signals. Complete development for version 3.0 in 2Q FY08. Platforms include: GMR and AMF.

- **Soldier Radio Waveform (SRW)** ($54.382) will operate on JTR sets to provide a networked battlefield communications capability for disadvantaged users engaged in land combat operations and will support voice, data, and video communications on and over the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over IP capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as WNW. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. Complete development and perform FQT for version 1.0 in 3Q FY08. Platforms include: GMR, AMF and HMS.

- **Mobile User Objective System (MUOS)** ($26.518) will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. JNED program will modif this waveform, making it compatible and certifiable to meet DoD security requirements plus enable porting to JTR sets. Platforms include: AMF.

- **Joint Airborne Networking -Tactical Edge (JAN-TE)** ($42.049) will operate on JTR airborne sets to provide a networked tactical communications capability for tactical aircraft. JAN-TE will provide increased throughput, highly responsive connectivity, and ad hoc mobile networking for fighters engaged in air operations. This networking waveform is uniquely designed and engineered for highly maneuverable, fast moving aircraft for rapidly establishing networks to share high value data communications. Platform include: MIDS.

Network Enterprise Services ($49.880)**:** Continue development and acquisition of JTRS Network Enterprise Services (JNES) to include Enterprise Network Manager (ENM) and Enterprise Network Services (ENS). Continue to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering and problem resolution and support of Software Communications Architecture (SCA) activities. Complete development of JTRS WNW Network Manager (JWNM) Version 3.0 in 3Q Fy08.

Legacy Radio Waveforms ($29.673) Continue the development and acquisition of legacy software and other related activities to support the legacy waveform development of High Frequency (HF). Complete Build 2.2 of the Enhanced Position Location and Reporting System (EPLRS) development and perform FQT in 1Q FY08. Complete the development and perform FQT for Link 16 in 2QFY08 Provide technical guidance to Platform Program Management offices (PMO). Continue to support Waveform integration, test and evaluation to include hardware and software waveform certification process (SCA compliance testing) to meet program requirements. Continue JNED program management office support. Continue Software Trouble Report (STR) correction to both software-defined legacy radio and networking waveforms.

Note:
In FY07-FY09, Project No. 3076 represents the total JNED RDT&E budget for those years.
In FY10-FY13, Project No. 3076 represents one-third of the total JNED RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program Thus, one-third of JNED is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)	3076 JTRS Network Enterprise Domain (JNED)

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
JTRS Network Enterprise Domain (JNED)	221.499	248.552	242.284
RDT&E Articles Quantity			

FY09 ($242.284): Continue development and acquisition of Increment 1 networking waveforms that support Net-Centric operational warfare at sea, air and on the ground to extend the GIG to the last tactical mile and the warfighter. Continue JNED program support and other related activities to support the networking waveform development.

Networking Waveforms:
- **Wideband Networking Waveform (WNW)** ($16.937) is a high data rate networking waveform application that provides the lower tactical Internet backbone and connects tactical forces across the battle sphere. WNW will feature two signals-in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAIPE) capabilities, red-black switching, and internal routing of other WNW signals. Complete development and perform FQT for version 4.0 in 2Q FY09. Platforms include: GMR and AMF.

- **Soldier Radio Waveform (SRW)** ($30.031) will operate on JTR sets to provide a networked battlefield communications capability for disadvantaged users engaged in land combat operations and will support voice, data, and video communications on and over the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over IP capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as WNW. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. Continue development of version 1.1. Platforms include: GMR, AMF and HMS.

- **Mobile User Objective System (MUOS)** ($53.537) will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. JNED program will modify this waveform, making it compatible and certifiable to meet DoD security requirements plus enable porting to JTR sets. Platforms include: AMF.

- **Joint Airborne Networking -Tactical Edge (JAN-TE)** ($35.187) will operate on JTR airborne sets to provide a networked tactical communications capability for tactical aircraft. JAN-TE will provide increased throughput, highly responsive connectivity, and ad hoc mobile networking for fighters engaged in air operations. This networking waveform is uniquely designed and engineered for highly maneuverable, fast moving aircraft for rapidly establishing networks to share high value data communications. Complete development and perform FQT for Phase 1 in 4Q FY09. Platform include: MIDS.

Network Enterprise Services ($671.315): Continue development and acquisition of JTRS Network Enterprise Services (JNES) to include Enterprise Network Manager (ENM) and Enterprise Network Services (ENS). Continue to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering and problem resolution and support of Software Communications Architecture (SCA) activities. Complete development of JTRS WNW Network Manager (JWNM) Version 4.0 in 3Q Fy09.

Legacy Radio Waveforms ($35.277) Continue the development and acquisition of legacy software and other related activities to support the legacy waveform development of High Frequency (HF). Complete development and perform FQT for HF Spiral 1 in 2Q FY09. Continue to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering and problem resolution and support of Software Communications Architecture (SCA) activities. Provide technical guidance to the Platform Program Management offices (PMO). Continue to support Waveform integration, test and evaluation to include hardware and software waveform certification process (SCA compliance testing) to meet program requirements. Continue JNED program management office support. Continue Software Trouble Report (STR) correction to both software-defined legacy radio and networking waveforms.

Note:
In FY07-FY09, Project No. 3076 represents the total JNED RDT&E budget for those years.
In FY10- FY13, Project No. 3076 represents one-third of the total JNED RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of JNED is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3 Cost Analysis (JTRS NED page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
Architecture Development and Validation, Evolve and Provide CM Mgmt of SCA	Various	Various	0.000	1.035	2Q	1.060	2Q	0.655	2Q	Cont.	Cont.	Cont.
Waveform Development:												
Wideband Networking Waveform (WNW)	CPAF	Boeing, Anaheim CA	0.000	56.056	1-2Q	46.050	1-2Q	16.937	1-2Q	Cont.	Cont.	Cont.
Soldier Radio Waveform (SRW)	Various	Various	0.000	27.533	1Q	54.382	1Q	30.031	1-2Q	Cont.	Cont.	Cont.
Mobile User Objective System (MUOS)	Various	Various	0.000	9.511	1Q	26.518	2Q	53.537	1-2Q	Cont.	Cont.	Cont.
Joint Airborne Networking -Tactical Edge (JAN-TE)	Various	Various	0.000	17.000	1-2Q	42.049	2Q	35.187	1-2Q	Cont.	Cont.	Cont.
Legacy Software-Defined Radio Waveforms	Various	Various	0.000	29.168	1-2Q	4.211	1-2Q	4.934	1-2Q	Cont.	Cont.	Cont.
Network Enterprise Services Development	Various	Various	0.000	41.142	2-3Q	49.880	1-2Q	71.315	1-2Q	Cont.	Cont.	Cont.
Software Sustainment And STR Engineering	Various	Various	0.000	21.866	2-3Q	3.332	1-2Q	9.323	1-2Q	Cont.	Cont.	Cont.
Certification (interim SCA Compliance Testing)	Various	Various	0.000	6.030	1-2Q	1.500	1-2Q	2.000	1-2Q	Cont.	Cont.	Cont.
Subtotal Product Development			0.000	209.341		228.982		223.919		Cont.	Cont.	Cont.
Remarks:												
Development Support												
FFRDC - MITRE Technical Support	MIPR	MITRE, Ft. Monmouth, NJ	0.000	4.186	1-2Q	11.342	1-2Q	10.589	1-2Q	Cont.	Cont.	Cont.
Subtotal Support			0.000	4.186		11.342		10.589		Cont.	Cont.	Cont.

Remarks: In PYs, funding for JNED resides in Army PE 0604280A, Project 162.
In FY07-FY09, Project No. 3076 represents the total JNED RDT&E budget for those years.
In FY10-FY13, Project No. 3076 represents one-third of the total JNED RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of JNED is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3 Cost Analysis (JTRS NED page 2)													DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)			PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation													
N/A	N/A	N/A	0.000	0.000		0.000		0.000		0.000	0.000		
Subtotal T&E			0.000	0.000		0.000		0.000		Cont.	Cont.	Cont.	
Remarks:													
Contractor Engineering Support													
Program Management Support	Various	Various	0.000	7.972	1-2Q	8.228	1-2Q	7.776	1-2Q	Cont.	Cont.	Cont.	
Subtotal Management			0.000	7.972		8.228		7.776		Cont.	Cont.	Cont.	
Remarks:													
Total Cost			0.000	221.499		248.552		242.284		Continuing	Continuing		

Remarks: In PYs, funding for JNED resides in Army PE 0604280A, Project 162.
In FY07-FY09, Project No. 3076 represents the total JNED RDT&E budget for those years.
In FY10-FY13, Project No. 3076 represents one-third of the total JNED RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, one-third of JNED is represented in this PE, one-third is represented in Army PE 0604280A, and one-third in Air Force PE 0604280F.

Exhibit R-3, Project Cost Analysis

EXHIBIT R4, Schedule Profile

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N /

PROGRAM ELEMENT NUMBER AND NAME
0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)

PROJECT NUMBER AND NAME
3076 JTRS Network Enterprise Domain (JNED)

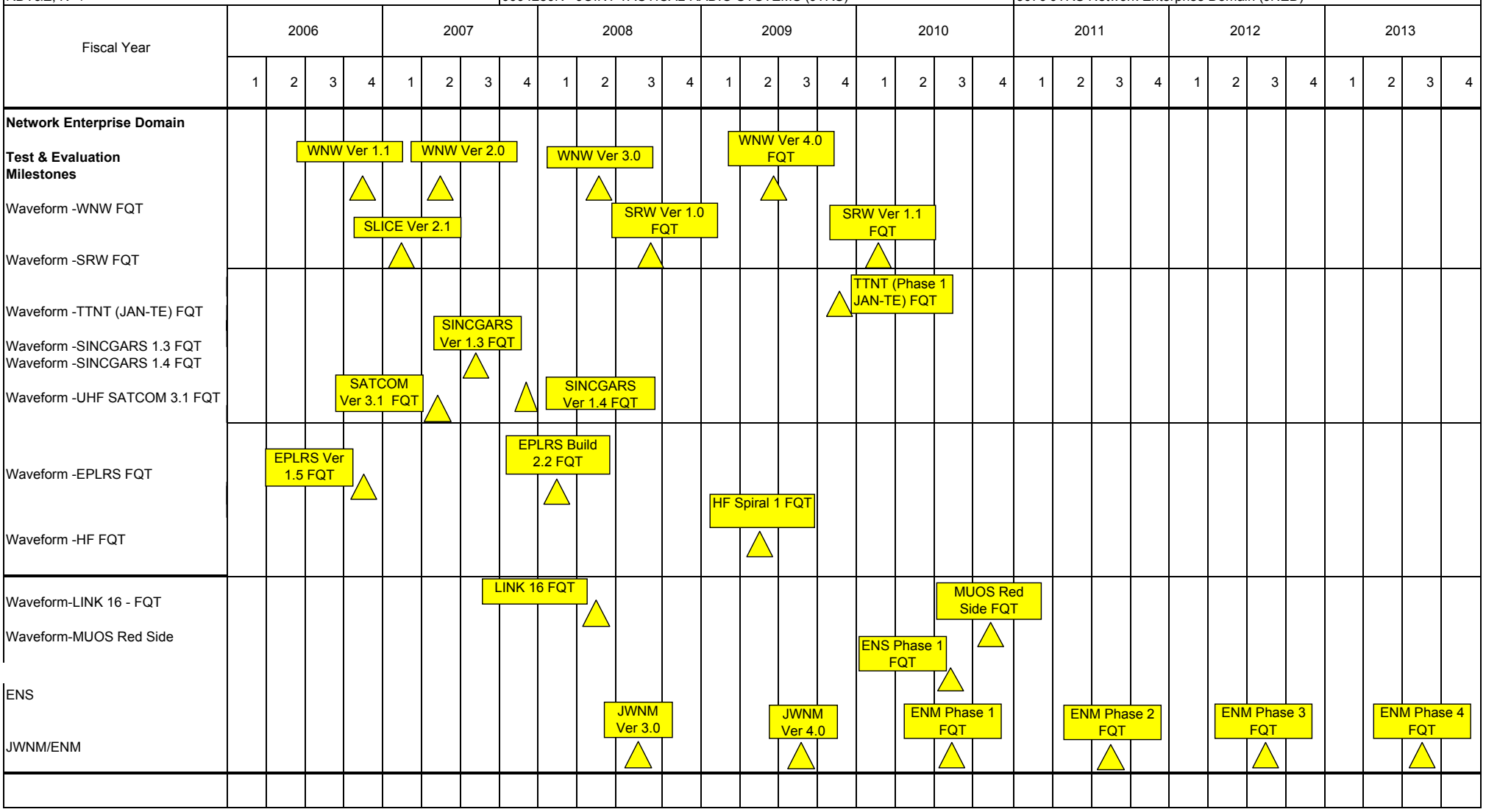


Exhibit R-4, Schedule Profile

Exhibit R-4a, Schedule Detail					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Waveform WNW								
WNW Version 1.1	4Q							
WNW Version 2.0		2Q						
WNW Version 3.0			2Q					
WNW FQT Version 4.0				2Q				
Waveform SRW								
SLICE Version 2.1		1Q						
SRW FQT Version 1.0			3Q					
SRW FQT Version 1.1					1Q			
Waveform TTNT (Phase 1 JAN-TE) FQT				4Q				
Waveform SINCGARS INC								
SINCGARS Version 1.3		3Q						
SINCGARS Version 1.4		4Q						
Waveform UHF SATCOM V3.1 FQT		2Q						
Waveform EPLRS								
EPLRS Version 1.5	4Q							
EPLRS Build 2.2 FQT			1Q					
Waveform HF FQT Spiral 1				2Q				
Waveform- Link 16 FQT			2Q					
Waveform - MUOS Red Side					4Q			
Enterprise Networking Services (ENS)								
Phase 1 FQT					3Q			
JTRS WNW Network Manager (JWNM) Version 3.0			3Q					
JTRS WNW Network Manager (JWNM) Version 4.0				3Q				
Enterprise Network Management (ENM)								
Phase 1 FQT					3Q			
Phase 2 FQT						3Q		
Phase 3 FQT							3Q	
Phase 4 FQT								3Q

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604280N JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT NUMBER AND NAME 3076 JTRS Network Enterprise Domain (JNED)		
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY2010**	**FY2011**	**FY2012**	**FY2013**
X3076 JTRS Network Enterprise Domain (JNED)	15.976	13.115	17.211	0.000	0.000	0.000	0.000

Note:
FY07-FY09 funding above represents the total JNED termination liability (TL) funding profile. FY10-FY13 funding above represents one-third of the total JNED termination liability (TL) funding profile. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for one-third of the total program. Thus, for FY09 and beyond, one-third of TL is represented in this PE, one-third is represented in Army PE 0604280A and one-third in Air Force PE 0604280F.

Instructions:

1. For all ACAT 1 programs with RDT&E funding, indicate the funds by year budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract by year.

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	797.040	629.323	678.936	822.728	896.962	664.315	519.199
2464 / "DD(X) Sys Design, Dev & Integration"	705.344	420.011	352.326	404.557	446.397	250.965	151.461
2735 / VSR - Volume Search Radar	4.906	0.000	0.000	0.000	0.000	0.000	0.000
3105 / BLK II Seeker Technology Development	0.000	0.981	0.000	0.000	0.000	0.000	0.000
3106 / Combat System Integration	8.974	29.708	57.701	80.220	91.409	93.210	95.055
3107 / CG(X) DEVELOPMENT	15.004	84.899	172.078	222.013	240.480	245.139	249.912
4009 / Advanced Gun System (AGS) on DD(X)	45.584	72.659	96.831	115.938	118.676	75.001	22.771
9999 / CONGRESSIONAL ADDS	17.228	21.065	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

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 DDG 1000 Class of U. S. Navy surface combatants, and CG(X), future cruiser development. The mission of the DDG 1000 class is to provide affordable and credible independent forward presence/deterrence and operate as an integral part of Naval, Joint or Combined Maritime Forces. DDG 1000 will provide advanced land attack capability in support of the ground campaign and contribute to Naval, Joint or Combined battlespace dominance in littoral operations. DDG 1000 will establish and maintain surface and sub-surface superiority, provide local air defense, and incorporate signature reduction to operate in all threat environments. DDG 1000 will have seamless Joint Interoperability to integrate all source information for battlespace awareness and weapons direction. CG(X) development efforts will mature the CG(X) design through Milestone B.

The following Congressional adds are contained in this Program Element:

FY07 Congressional Adds:

-Project 9999-Congressional Adds: $17.228 - This project consists of the following FY07 Congressional adds: Floating Area Network, Permanent Magnet Motor, Surface vessel electric actuator technology development, Wireless martime inspection system, Bio/Nano Micro Electro-Mechanical Systems (MEMS) Center for Defense Applications, and Micro Electro-Mechanical Systems (MEMS) Center for Defense Applications.

FY08 Congressional Adds:

-Project 9999-Congressional Adds: $21.065 - This project consists of the following FY08 Congressional adds: Floating Area Network, SmartLink Planar Scanner Antenna Mode,

Wireless Maritime Inspection System, Permanent Magnet Motor, Advanced Wireless Encryption Module, and Bio Nano Micro Electro-Mechanical Systems (MEMS) for Defense Applications.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY08 Pres Controls)	820.065	621.544	658.223
Current President's Budget (FY09 Pres Controls)	797.040	629.323	678.936
Total Adjustments	-23.025	7.779	20.713
Summary of Adjustments			
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		21.200	
Reprogrammings	-1.011		
SBIR/STTR Transfer	-21.003		
Undistributed General Adjustments	- 1.011	-13.421	-4.268
Program Adjustments			24.981
Subtotal	-23.025	7.779	20.713

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**				PROJECT NUMBER AND NAME **2464/"DD(X) Sys Design, Dev & Integration"**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	705.344	420.011	352.326	404.557	446.397	250.965	151.461
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses DDG 1000 development efforts required to deliver the Flight I DDG 1000 Class Ships. Major efforts include software requirements analysis, architectural and design code and unit testing, integration, qualification testing, and Independent Verification and Validation (IV&V) for software releases 4-6; hullform testing at NSWC-CD; conducting testing communication and sensor aperature cosite and electromagnetic interferance risk reductions testing for critical arrays; planning for IPS and ship control system testing and integration and tomahawk restrained firing test.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **2464/"DD(X) Sys Design, Dev & Integration"**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	591.017	386.786	313.807
RDT&E Articles Quantity	0	0	0

Development of the DDG 1000 Flight I software, COTS/GOTS software acquisition, code and unit testing, integration, qualification testing, and Independent Verification and Validation (IV&V). Development of a total system software architecture that defines the relationships and interfaces among the software segments, elements, components, and/or configuration items. Conduct the following events for the remaining software releases: Software Specification Review (S-SSR), Software Preliminary Design Review (S-PDR), Software Critical Design Review (S-CDR), Software Integration Readiness Review (SIRR), Test Readiness Review (TRR) and Software Certification Panel (SCP). Conduct all developmental software test planning, conduct, test data analysis and reporting in accordance with the DDG 1000 TEMP. Perform total ship system design analysis. Perform systems engineering, develop, and fully integrate into the DDG 1000 System an ES system for DDG 1000. Develop Next Generation Command and Control Processor (NGC2P) and Common Enterprise Display Systems (CEDS) Display Consoles.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	114.327	29.225	33.519
RDT&E Articles Quantity	0	0	0

Completion and testing of ship and warfare system engineering development models. Complete hullform testing at NSWC-Carderock. Planning for IPS and ship control system (SCS) testing and integration at NSWC-Philadelphia. Conduct communication and sense aperture cosite and electromagnetic interference risk reduction testing for critical arrays at the Wallops Island Test Facility. Conducted Tomahawk restrained firing test to verify Advanced Vertical Launching System (AVLS) protection measures. Conduct developmental testing and operation evaluation in accordance with TEMP. Conduct Live Fire Testing & vulnerability analysis in accordance with TEMP. Conduct signature range Non-Recurring Engineering (NRE) to upgrade ranges to support DDG 1000 test and evaluation.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	4.000	5.000
RDT&E Articles Quantity	0	0	0

This funding is to support DDG 1000 specific testing on the Self Defense Test Ship.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 211900 / SCN	2,557.268	2,906.867	2,553.783	2,713.895	2,427.039	2,619.142	2,347.368	CONT	

D. ACQUISITION STRATEGY:

The funding in this program element supports the DDG 1000 dual lead ship acquitision strategy.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **2464/"DD(X) Sys Design, Dev & Integration"**

E. MAJOR PERFORMERS:

Major Contractors - Raytheon, Lockheed Martin, BAE, Northrop Grumman Ship Systems, BIW

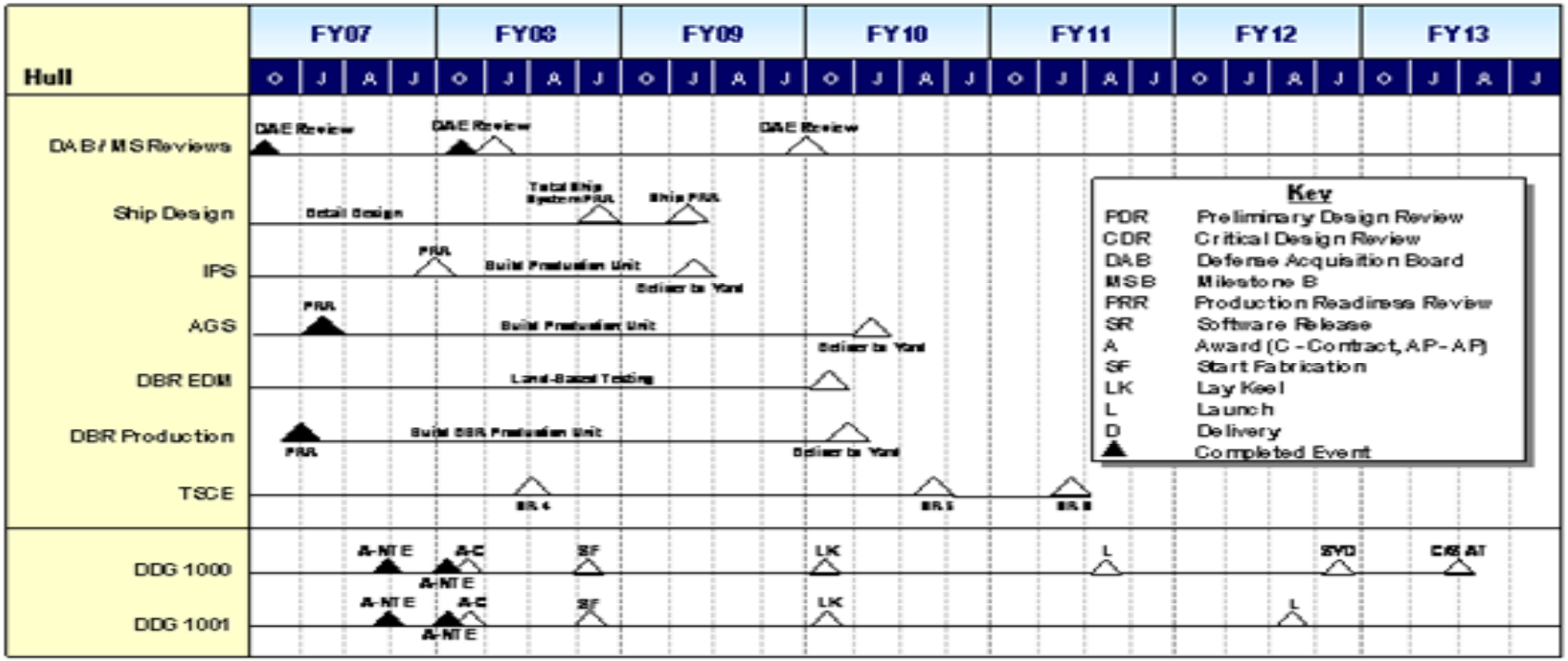
Government Field Activities - NSWC Carderock, NSWC Dahlgren, NSWC Port Hueneme

Universities - John Hopkins University, Applied Physics Lab (APL/JHU)

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**					PROJECT NUMBER AND NAME **2464/"DD(X) Sys Design, Dev & Integration"**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Initial System Concepts - Phase I	OTA	DD(X) Industry Team	54.800	0.000		0.000		0.000		0.000	54.800	54.800
Initial System Design - Phase II	OTA	DD(X) Industry Team	139.919	0.000		0.000		0.000		0.000	139.919	139.919
Primary H/W Development- Phase III	CPAF	DD(X) Design Agent (NGSS)	2,251.394	0.000		0.000		0.000		0.000	2,251.390	2,251.394
Ship Integration Development Phase IV	CPAF	DDG 1000 Dev & Test (Raytheon)	657.000	633.807	DEC-06	372.438	DEC-07	304.199	DEC-08	CONT	CONT	0.000
Subtotal Product Development			**3,103.113**	**633.807**		**372.438**		**304.199**		**CONT**	**CONT**	**2,446.113**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Live Fire Test & Evaluation	OTA	DD(X) Industry Teams	4.875	0.000		0.000		0.000		0.000	4.875	4.875
Live Fire Test & Evaluation	CPAF	DD(X) Design Agent	45.800	0.000		0.000		0.000		0.000	45.800	45.800
Live Fire Test & Evaluation	CPAF	Raytheon	27.100	2.000	DEC-06	2.000	DEC-07	2.000	DEC-08	CONT	CONT	0.000
Live Fire Test & Evaluation	WR	NSWC CD Bethesda MD	22.733	0.000		0.000		0.000		0.000	22.733	22.733
Live Fire Test & Evaluation	WR	NSWC DD Dahlgren VA	3.400	0.000		0.000		0.000		0.000	3.400	3.400
Live Fire Test & Evaluation	Various	Various	32.376	0.000		4.000	DEC-07	5.068	DEC-08	CONT	CONT	0.000
Test & Evaluation	Various	Various	0.000	25.300	DEC-06	21.400	DEC-07	30.800	DEC-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**136.284**	**27.300**		**27.400**		**37.868**		**CONT**	**CONT**	**76.808**
Remarks:												
Contractor Engineering Support	GSA/FFP	Anteon Arlington VA	25.397	0.000		0.000		0.000		0.000	25.397	25.397
Contractor Engineering Support	GSA	GRCI, Falls Church VA	8.361	0.000		0.000		0.000		0.000	8.361	8.361
Contractor Engineering Support	CPAF	Seaport, NAVSEA	25.580	6.462	DEC-06	0.000		0.000		CONT	CONT	0.000
Contractor Engineering Support	Misc	Various	22.964	0.000		0.000		0.000		0.000	22.964	22.964
Government Engineering Support	WR	NSWC DD Dahlgren VA	104.050	1.800	DEC-06	0.000		0.000		CONT	CONT	0.000
Government Engineering Support	WR	NSWC CD Bethesda MD	75.805	18.639	DEC-06	7.573	DEC-07	0.000		CONT	CONT	0.000
Government Engineering Support	WR	NSWC CR Crane IN	11.901	0.000		0.000		0.000		0.000	11.901	11.901
Government Engineering Support	WR	NSWC PHD Pt Hueneme CA	20.748	0.135	DEC-06	0.000		0.000		CONT	CONT	0.000
Government Engineering Support	WR	SSCSD San Diego CA	16.132	12.185	DEC-06	11.600	DEC-07	9.259	DEC-08	CONT	CONT	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**					PROJECT NUMBER AND NAME **2464/"DD(X) Sys Design, Dev & Integration"**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Government Engineering Support	WR	NUWC/N Newport RI	16.050	0.037	DEC-06	0.000		0.000		CONT	CONT	0.000
Government Engineering Support	WR	NSWC/PC Panama City, FL	13.627	0.000		0.000		0.000		0.000	13.627	13.627
Government Engineering Support	Various	Other Govt Activities	38.861	0.000		0.000		0.000		0.000	38.861	38.861
Program Managment Support	Various	Various	28.749	0.000		0.000		0.000		0.000	28.749	28.749
Travel	Various	Various	5.412	0.779	DEC-06	1.000	DEC-07	1.000	DEC-08	CONT	CONT	0.000
Labor (Research Personnel)	CPFF	APL/JHU Laurel MD	35.326	4.200	DEC-06	0.000		0.000		CONT	CONT	0.000
Subtotal Management Services			**448.963**	**44.237**		**20.173**		**10.259**		**CONT**	**CONT**	**149.860**
Remarks:												
Total Cost			**3,688.360**	**705.344**		**420.011**		**352.326**		**CONT**	**CONT**	**2,672.781**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **2464/"DD(X) Sys Design, Dev & Integration"**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**			PROJECT NUMBER AND NAME **2464/"DD(X) Sys Design, Dev & Integration"**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Release SR4		2Q					
Software Release SR5			2Q				
Software Release SR6				2Q			

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**				PROJECT NUMBER AND NAME **2735/VSR - Volume Search Radar**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	4.906	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

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 DDG 1000. This provides DDG 1000 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 was available in FY 06 to support Developmental Test/Operational Assessment (DT/OA) land-based testing.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **2735/VSR - Volume Search Radar**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	4.906	0.000	0.000
RDT&E Articles Quantity	0	0	0

Government Technical Engineering Services for VSR Engineering and Manufacturing Development. Performed oversight and assessment of VSR Engineering and Manufacturing Development efforts including Test and Evaluation. Supported VSR Land Based Testing in FY07.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 211900 / SCN	2,557.268	2,906.867	2,553.783	2,713.895	2,427.039	2,619.142	2,347.368	CONT	

D. ACQUISITION STRATEGY:

The funding in this program element supports the DDG 1000 dual lead ship acquitision strategy.

E. MAJOR PERFORMERS:

DDG1000 Design Agent - Northrop Grumman Ship Systems

Major Subcontractors - Raytheon, Lockheed Martin

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:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**				PROJECT NUMBER AND NAME **3105/BLK II Seeker Technology Development**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	0.981	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CG(X), the future cruiser, will focus on providing the Air and Missile Defense capabilities as part of the 21st Century family of surface combatants. CG(X) is the follow-on to the aging CG-47 class as they reach the end of their 35 year service life. This project encompasses efforts for the missile seeker development and integration within the mission system computer programs into the CG(X) class mission system. These missile seeker development and missile and combat system integration efforts include systems engineering, analysis, programmatic support, computer program development/modification, interface design, technical documentation, test site development and system testing to ensure fully functional systems integration.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **3105/BLK II Seeker Technology Development**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.981	0.000
RDT&E Articles Quantity	0	0	0

FY08: Initiate CG(X) Missile Seeker Preliminary Design studies and analysis to support missile and total ship system requirements documentation.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 211400 / SCN	0.000	0.000	0.000	0.000	3,234.494	0.000	3,064.439	CONT	CONT

D. ACQUISITION STRATEGY:

TBD - The Acquisition Strategy is currently in development in accordance with concept resulting from Analysis of Alternative, and is scheduled to be completed following Milestone A, scheduled 2nd quarter FY08.

E. MAJOR PERFORMERS:

Contractors - TBD - Based on results of Analysis of alternatives developed for Milestone A, scheduled for 2nd quarter FY08, and the Acquisition Strategy, scheduled to be finalized in FY08.

Field Activities - NSWC Carderock, NSWC Dahlgren, NSWC Port Hueneme

Universities - JHUAPL

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**				PROJECT NUMBER AND NAME **3106/Combat System Integration**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	8.974	29.708	57.701	80.220	91.409	93.210	95.055
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CG(X), the future cruiser, will focus on providing the Air and Missile Defense capabilities as part of the 21st Century family of surface combatants. CG(X) is the follow-on to the aging CG-47 class as they reach the end of their 35 year service life. This project encompasses efforts for the integration of communications, electronics, command and control, weapons, surveillance, Engineering Development Models (EDMs) and shipboard systems and mission system computer programs into the CG(X) class mission system. These integration efforts include systems engineering, analysis, computer program development/modification, interface design, technical documentation, mission system test site development and system testing to ensure fully functional mission sytems integration.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **3106/Combat System Integration**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.817	21.291	43.201
RDT&E Articles Quantity	0	0	0

FY07: Commenced system integration requirements studies and assess DDG1000 mission system component applicability to CG(X). FY08: Conduct Total Ship Systems Engineering for CG(X) Ship Systems, ship integration, combat system, command and control, C4ISR integrated system design, open architecture, software development, and re-use and certification. FY09:Continue Total Ship Systems Engineering for CG(X) Ship Systems, ship integration, combat system, command and control, C4ISR integrated system design, open architecture, software development, and re-use and certification.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.192	2.030	3.499
RDT&E Articles Quantity	0	0	0

FY07: Established Technical Team responsible for participation, oversight and monitoring of system integration effort. FY08: Development of top level Total Ship System Requirements documents. Review and evaluation of total ship system requirements, preliminary designs and contract designs. FY09: Evaluation of contract design against top level requirements. Review of contract design allocation and analysis.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	6.965	6.387	11.001
RDT&E Articles Quantity	0	0	0

FY07: Conducted Milestone A preparations, to include contract solicitation development for systems integration efforts. FY08: Initiate development of program documentation based on results of Analysis of Alternatives and finalized acquisition strategy. Develop acquisition documentation for competitive evaluation and selection process. FY09: Conduct contract administration for Mission System Engineering and Integration contract. Initiate development of Ship Detailed Contract Design Contract source selection documentation.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 211400 / SCN	0.000	0.000	0.000	0.000	3,234.494	0.000	3,064.439	CONT	CONT

D. ACQUISITION STRATEGY:

TBD - The Acquisition Strategy is currently in development in accordance with concept resulting from Analysis of Alternative, and is scheduled to be completed following Milestone A, scheduled for 2nd quarter FY08.

E. MAJOR PERFORMERS:

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **3106/Combat System Integration**

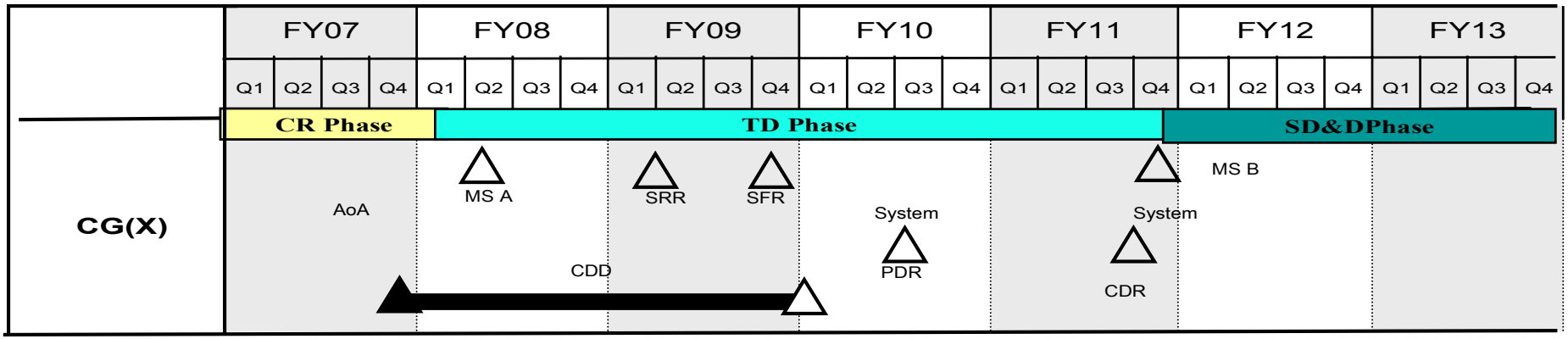
Contractors - TBD - Based on results of Analysis of alternatives developed for Milestone A, scheduled for 2nd quarter FY08, and the Acquisition Strategy, scheduled to be finalized in FY08.

Field Activities - NSWC Carderock, NSWC Dahlgren, NSWC Port Hueneme

Universities - JHUAPL

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**					PROJECT NUMBER AND NAME **3106/Combat System Integration**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Ship Integration	TBD	Various	0.000	0.000		21.291	JUN-08	43.201	JUN-09	CONT	CONT	0.000
Subtotal Product Development			**0.000**	**0.000**		**21.291**		**43.201**		**CONT**	**CONT**	**0.000**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Contractor Engineering Support	Various	Various	0.000	5.068	DEC-06	1.778	DEC-07	3.351	DEC-08	CONT	CONT	0.000
Government Engineering Support	Various	Various	0.000	3.906	DEC-06	6.639	DEC-07	11.149	DEC-08	CONT	CONT	0.000
Subtotal Management Services			**0.000**	**8.974**		**8.417**		**14.500**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**0.000**	**8.974**		**29.708**		**57.701**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **3106/Combat System Integration**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**			PROJECT NUMBER AND NAME **3106/Combat System Integration**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A		2Q					
Preliminary Design Review				3Q			
Critical Design Review					3Q		
Milestone B					4Q		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**				PROJECT NUMBER AND NAME **3107/CG(X) DEVELOPMENT**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	15.004	84.899	172.078	222.013	240.480	245.139	249.912
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CG(X), the future cruiser, will focus on providing the Air and Missile Defense capabilities as part of the 21st Century family of surface combatants. CG(X) is the follow-on to the aging CG-47 class as they reach the end of their 35 year service life. This project encompasses efforts for total ship system development and integration of Hull, Mechnical and Electrical (HM&E) and shipboard systems into the CG(X) class. These engineering development and integration efforts include systems engineering, analysis, computer program development, interface design, Engineering Development Models (EDMs), technical documentation and system testing to ensure a fully functional CG(X) system design. This project will mature the CG(X) design through several ship design cycles and baselines. Preparation and execution of a program level Preliminary Design Review (PDR) and Critical Design Reveiw (CDR) will occur through these efforts.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **3107/CG(X) DEVELOPMENT**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.000	62.894	128.739
RDT&E Articles Quantity	0	0	0

FY07: Completed the AoA and brief results to the Defense Acquisition Executive (DAE). FY08: Award Mission System Engineering and Integration Agent contract. Initiate Preliminary Design and System Integration for the CG(X) Total Ship System. Develop Ship Systems Baseline concepts. FY09: Initiate Total Ship Systems Integration requirements. Allocate requirements to functional baseline design. Develop ship system baseline system element requirements.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	7.222	5.817	11.238
RDT&E Articles Quantity	0	0	0

FY07: Conducted Concept Design model development and upgrades. Conducted CG(X) technology assessment. FY08: Development of top level Total Ship System Requirements documents. Review and evaluation of total ship system requirements, preliminary designs and contract designs. FY09: Evaluation of contract design against top level requirements. Review of contract design allocation and analysis.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	5.782	16.188	32.101
RDT&E Articles Quantity	0	0	0

FY07: Executed Milestone A preparation and acquisition strategy development. FY08: Initiate development of program documentation based on results of Analysis of Alternatives and finalized acquisition strategy. Develop acquisition documentation for competitive evaluation and selection process. FY09: Conduct contract administration for Mission System Engineering and Integration contract. Initiate development of Ship Detailed Contract Design Contract source selection documentation.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 211400 / SCN	0.000	0.000	0.000	0.000	3,234.494	0.000	3,064.439	CONT	CONT

D. ACQUISITION STRATEGY:

TBD - The Acquisition Strategy is currently in development in accordance with concept resulting from Analysis of Alternative, and is scheduled to be completed following Milestone A, scheduled for 2nd quarter FY08.

E. MAJOR PERFORMERS:

Contractors - TBD - Based on results of Analysis of alternatives developed for Milestone A, scheduled for 2nd quarter FY08, and the Acquisition Strategy, scheduled to be finalized in FY08.

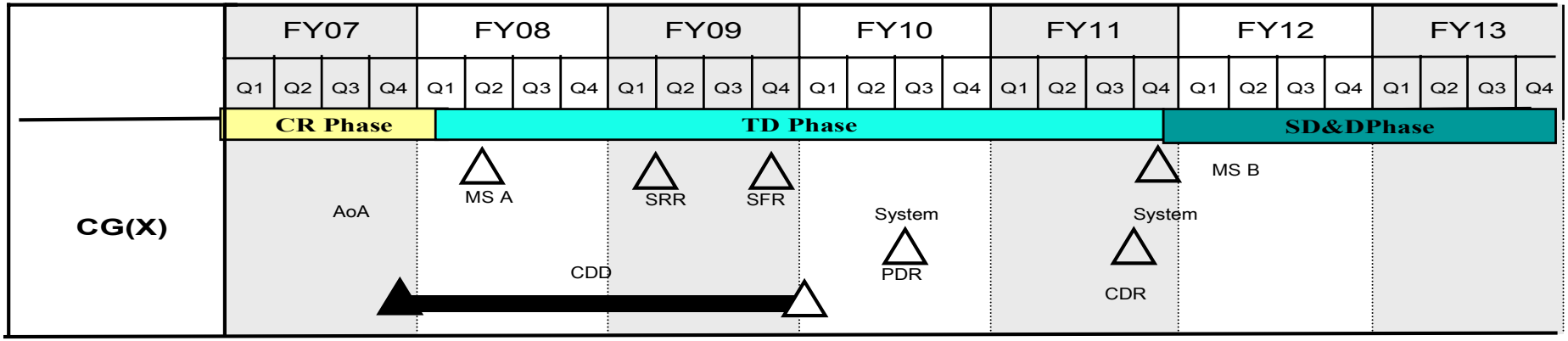
CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **3107/CG(X) DEVELOPMENT**

Field Activities - NSWC Dahlgren, NSWC Port Hueneme, NSWC Corona, NSWC Carderock

Universities - JHU/APL

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**					PROJECT NUMBER AND NAME **3107/CG(X) DEVELOPMENT**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Ship Integration	TBD	Various	0.000	0.000		62.894	JUN-08	128.739	JUN-09	CONT	CONT	0.000
Subtotal Product Development			**0.000**	**0.000**		**62.894**		**128.739**		**CONT**	**CONT**	**0.000**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Contractor Engineering Support	Various	Various	4.847	8.090	DEC-06	5.757	DEC-07	11.934	DEC-08	CONT	CONT	0.000
Government Engineering Support	Various	Various	14.541	6.914	DEC-06	16.248	DEC-07	31.405	DEC-08	CONT	CONT	0.000
Subtotal Management Services			**19.388**	**15.004**		**22.005**		**43.339**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**19.388**	**15.004**		**84.899**		**172.078**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **3107/CG(X) DEVELOPMENT**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**			PROJECT NUMBER AND NAME **3107/CG(X) DEVELOPMENT**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone A		2Q					
Preliminary Design Review				3Q			
Critical Design Review					3Q		
Milestone B					4Q		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**				PROJECT NUMBER AND NAME **4009/Advanced Gun System (AGS) on DD(X)**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	45.584	72.659	96.831	115.938	118.676	75.001	22.771
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

These funds provide for the development of the Advanced Gun System (AGS) and the development, qualification, transition to production and initial production of the Long Range Attack Projectile (LRLAP) associated with the development of DDG 1000. 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 10 rounds per minute) with a magazine capacity sufficient in size for meeting USMC operational requirements. LRLAP will be stored throughout its life cycle in an 8 round pallet which is handled by the AGS magazine. By palletizing the munition AGS is able to significantly reduce manning and improve munition reliability, safety and resupply. The LRLAP EDM guided flight tests began in Dec 2004. System Design and Development began in FY06 with final land based qualification testing planned in FY09 and FY10. The Long Range Land Attack Projectile (LRLAP) will deliver a high explosive unitary payload with Global Positioning System (GPS) accuracy.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **4009/Advanced Gun System (AGS) on DD(X)**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.388	0.000	0.000
RDT&E Articles Quantity	0	0	0

AGS Qualification

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	43.196	47.846	48.384
RDT&E Articles Quantity	0	0	0

LRLAP System Design, Development and qualification testing.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	24.813	48.447
RDT&E Articles Quantity	0	0	0

Procurement of LRLAP rounds for qualification testing.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 211900 / SCN	2,557.268	2,906.867	2,553.783	2,713.895	2,427.039	2,619.142	2,347.368	CONT	CONT

D. ACQUISITION STRATEGY:

The funding in this program element supports the DDG 1000 dual lead ship acquitision strategy.

E. MAJOR PERFORMERS:

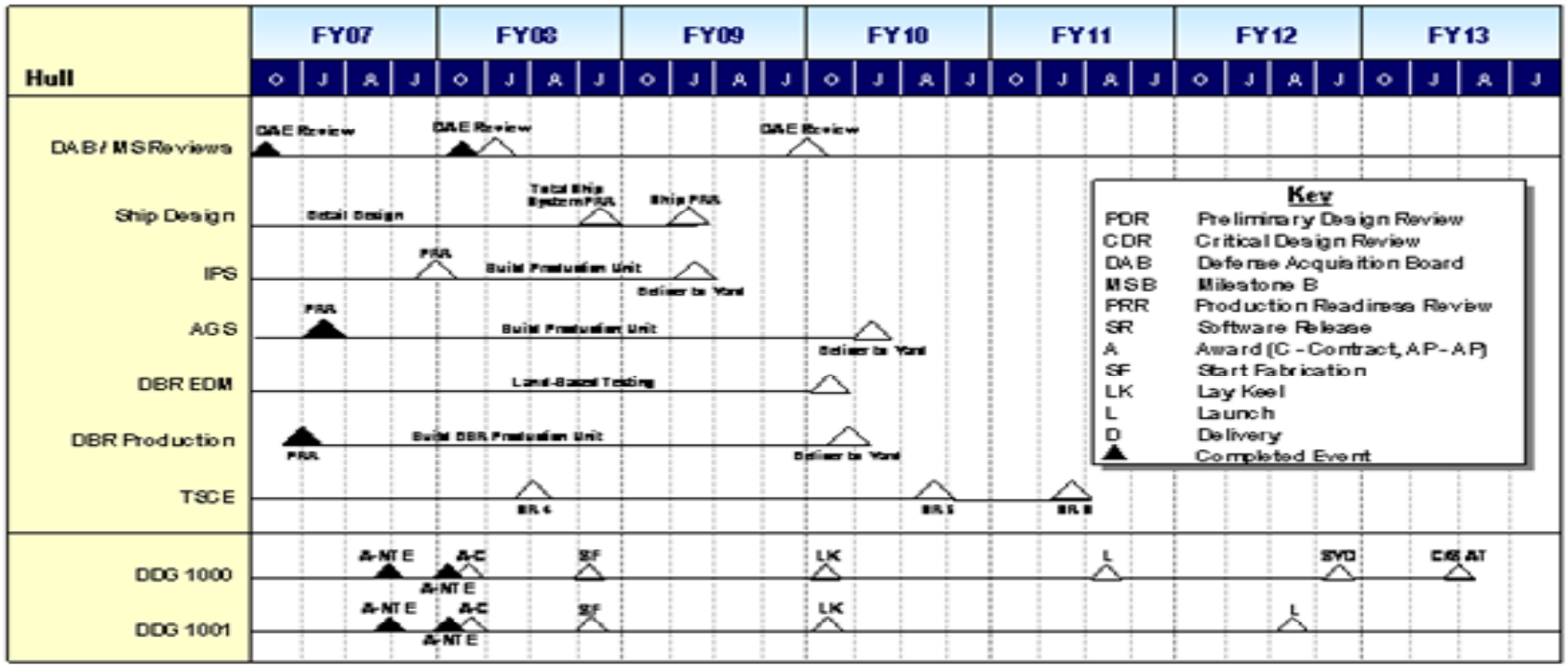
Major Contractors- BAE Systems, Lockheed Martin and Northrop Grumman Ship Systems

Field Activities - NSWC Carderock, NSWC Dahlgren, NSWC Port Hueneme, NSWC Port Hueneme Louisville detachment, NSWC Indian Head

Universities - N/A

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**					PROJECT NUMBER AND NAME **4009/Advanced Gun System (AGS) on DD(X)**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Primary Hardware Development	CPAF	DDG 1000 Design Agent	242.684	0.000		0.000		0.000		0.000	242.684	242.684
Primary Hardware Development	845/804	DDG 1000 Industry Teams	177.435	0.000		0.000		0.000		0.000	177.435	177.435
Primary Hardware Development	CPAF	BAE/Lockheed Martin	44.813	24.284	DEC-06	62.796	DEC-07	78.031	DEC-08	CONT	CONT	0.000
Subtotal Product Development			**464.932**	**24.284**		**62.796**		**78.031**		**CONT**	**CONT**	**420.119**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Test & Evaluation	Various	Various	0.000	21.300	DEC-06	1.800	DEC-07	2.800	DEC-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**0.000**	**21.300**		**1.800**		**2.800**		**CONT**	**CONT**	**0.000**
Remarks:												
Contractor Engineering Support	GSA/CPFF	Anteon Arlington VA	7.026	0.000		0.000		0.000		0.000	7.026	7.026
Contractor Engineering Support	Various	Other Contractors	15.577	0.000		0.497	JUN-08	3.850	JUN-09	CONT	CONT	0.000
Government Engineering Support	WX	NSWC DD Dahlgren VA	17.558	0.000		3.433	DEC-07	4.860	DEC-08	CONT	CONT	0.000
Government Engineering Support	WX	NSWC PHD Pt Hueneme CA	8.945	0.000		3.420	DEC-07	4.860	DEC-08	CONT	CONT	0.000
Government Engineering Support	WX	Other Gov't Activities	11.536	0.000		0.713	DEC-07	2.430	DEC-08	CONT	CONT	0.000
Subtotal Management Services			**60.642**	**0.000**		**8.063**		**16.000**		**CONT**	**CONT**	**7.026**
Remarks:												
Total Cost			**525.574**	**45.584**		**72.659**		**96.831**		**CONT**	**CONT**	**427.145**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **4009/Advanced Gun System (AGS) on DD(X)**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**			PROJECT NUMBER AND NAME **4009/Advanced Gun System (AGS) on DD(X)**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Production Design	1Q						
Production Readiness Review	2Q						
Build Production Unit	2Q-4Q	1Q-4Q	1Q-4Q	1Q			
Deliver to Yard				1Q			

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
9999N SmartLink Planar Scanner Antenna Mode	0.000	1.590	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funds the development, design, and implementation of low-cost, low-RCS, small planar scanner antenna for tactical SATCOM on Navy surface ships, aircraft and vehicles. Goals demonstrate planar scanner technology for war-fighter use.

	FY 2007	FY 2008	FY 2009
9999N Advanced Wireless Encryption Module	0.000	2.385	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funds the development of a flexible module that can be used to upgrade the security of a wireless local area network (WLAN) currently being used by the Navy. The project will create an affordable and advanced encryption module that will allow the use of the WLAN for communications up to the SECRET level.

	FY 2007	FY 2008	FY 2009
9833N Floating Area Network	1.951	3.974	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funds thedevelopment of a Floating Area Network (FAN) enabling a direct Line of Sight (LOS), wireless, Transmission Control Protocol/Internet Protocol (TCP/IP) network among intra-battle group ships.

	FY 2007	FY 2008	FY 2009
9834C Permanent Magnet Motor	10.693	8.943	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funds the development and factory testing of specific technology solutions in the areas of motor and component thermal management, insulation design and breakdown mechanisms, and motor electrical component reliability.

	FY 2007	FY 2008	FY 2009
9835C Surface Vessel Electric Actuator Tech Dev	1.365	0.000	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funded the development of the next generation linear electric actuators as a replacement for hydraulic systems. Actuators convert energy from hydraulic, air or electric power to achieve mechanical movement and control of heavy or remote devices.

	FY 2007	FY 2008	FY 2009
9836C Wireless Maritime Inspection System	0.976	0.993	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funds the development of a wireless capability that aids Maritime Interdiction Operations (MIO) information exchange.

	FY 2007	FY 2008	FY 2009

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604300N/SC-21 TOTAL SHIP SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**	

9A35N Bio/nano-MEMS Center for Defense Applications	1.267	3.180	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funds the University of Louisville Bio/Nano-MEMS Center that will create a multi-disciplinary science and engineering team to carry out comprehensive research, design and testing directed toward insertion of advanced, reliable MEMS devices into fielded military systems.

	FY 2007	FY 2008	FY 2009
9A36N MEMS Center for Defense Applications	0.976	0.000	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funded the University of Louisville MEMS Center to create a multidisciplinary science and engineering team that will carry out a comprehensive research, design and testing directed toward insertion of advanced, reliable MEMS devices into fielded military systems. The Bio/Nano-MEMS Center will interface with systems□ programs to identify MEMS solutions and technologies that address and satisfy performance requirements.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	174.508	143.065	188.500	166.393	147.457	118.727	96.186
1447 / Surf Combatant Combat System Imp	140.812	139.686	188.500	166.393	147.457	118.727	96.186
3044 / Solid State/SPY Radar	30.439	0.000	0.000	0.000	0.000	0.000	0.000
9999 / Congressional Adds	3.257	3.379	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

The AEGIS Combatant Combat System Engineering 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 AEGIS Combat System (ACS) changes. This program provides the ACS engineering and weapon system development 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, the extensive use of Commercial Off-the-Shelf (COTS) equipment throughout the combat system requires necessary COTS refresh development efforts to pace the core Baseline development work. AEGIS Combat System engineering includes the CG/DDG Open Architecture (OA) effort, including rearchitected computer programs, to the AEGIS fleet. CG/DDG OA positions the Cruisers and Destroyers 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. The AEGIS Modernization Program will identify and introduce an Open Architecture Computing Environment (OACE) compliant with Open Architecture standards and initiatives for hardware and software. As part of the Naval Integrated Fire Control Counter Air (NIFC-CA) program, SM-6 integration efforts are also incorporated into the ACS.

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 multi-mission capabilities, supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as robust Ballistic Missile Defense (BMD) 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. Modularity of hardware and software, a designed in growth path for technology insertion, and Open Architecture (OA) Compliance are required for performance and technology enhancements throughout service life. Project 3044 funding has been realigned to PE 0604501N starting in FY08.

Congress included the following changes to the FY07 President's Budget and the FY07 Defense Appropriations Act: +.971M for Smart Integrated Data Environment, +.976M for Smart Link Planar Scanner Antenna Modernization, +1.310M for Gas Turbine Electric Start System Technology. Congress included the following changes to the FY08 President's Budget and the FY08 Defense Appropriations Act: +2.385 for AEGIS Combat System Information Center (CIC), +0.994M for Smart Integrated Data Environment.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous Presidents Budget: (FY08 PB CONTROLS)	178.304	142.810	132.101
Current Presidents Budget: (FY09 PB Controls)	174.508	143.065	188.500
Total Adjustments	-3.796	0.255	56.399
Summary of Adjustments:	FY 2007	FY 2008	FY 2009
Reprogrammings	0.000	0.000	0.000
Undistributed General Reductions	-0.305	-3.124	-0.818
Program Adjustment	-3.491	3.379	57.217
Subtotal	-3.796	0.255	56.399

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**				PROJECT NUMBER AND NAME **1447/Surf Combatant Combat System Imp**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	140.812	139.686	188.500	166.393	147.457	118.727	96.186
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides Cruiser & Destroyer AEGIS Combat System (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 AEGIS Weapons System (AWS) and ACS changes. The ACS capabilities have continually evolved. Baseline (B/L) 2 (CG 52-58) introduced the Vertical Launching System, TOMAHAWK Weapon System, and Anti-Submarine Warfare upgrades. B/L 3 (CG 59-64) introduced the AN/SPY-1B Radar, AN/UYQ-21 consoles, and UYK-43 "low boy" computers. B/L 4 (CG 65-73) introduced the production of AN/UYK-43/44 computers with superset computer programs developed for the DDG 51. Baseline 5 was introduced in FY1992 DDGs and included the Joint Tactical Information Distribution System (JTIDS) [Tactical Data Information Link (TADIL)16], Command and Control Processor (C2P), Combat Direction Finding, Tactical Data Information Exchange System, AN/SLQ-32 (V)3 Active Electronic Counter Countermeasures, and AEGIS Extended Range (ER) Missile. B/L 5 was developed in two steps (Phases): Phase 1 integrated AEGIS ER and supported the missile Initial Operational Capability; Phase 3 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. B/L 5 Phase 3 is now resident on baseline 3 & 4 CGs and DDG 51-78. Baseline 6 Phase I introduced COTS, Fiber Distributed Data Interface (FDDI) Local Area Network (LAN), UYQ-70 consoles, Cooperative Engagement Capability (CEC) for CGs, and an adjunct COTS computer for AEGIS Display System (ADS). It supported OPEVAL of CEC in CGs 66 and 69 and was introduced in the DDG 51 class beginning with DDG 79. B/L 6 Phase 1 is now resident on CGs 59, 65, 66, 68, 69 and 71. B/L 6 Phase 3 was introduced on DDG 85-90 and is being backfit onto DDGs 79-84. B/L 6 Phase 3 upgrades included embarked helicopters, Fiber Optics as applied to Data Multiplexing (FODMS), implementation of affordability initiatives, adjunct computers for all AWS elements, CEC for DDGs, and Battle Force Tactical Trainer (BFTT), Advanced Display System, Evolved Sea Sparrow Missile (ESSM) Identification (ID) upgrades Phase 1, Advanced TOMAHAWK Weapon System (ATWCS) Phase II, Fire Control System Upgrades, and the Joint Maritime Command Information System (JMCIS). B/L 7 Phase 1 is installed in the DDG 51 class beginning with DDG 91. Major Baseline 7 upgrades include but are not limited to introduction and integration of a new radar (AN/SPY-1D(V) upgrade), all UYK-43 and adjunct computers to be replaced with COTS-based advanced computer processing, AN/SQQ-89(V)15, and the Remote Mine Hunting System. B/L 7P1R (DDG 103-112) upgrades the computer infrastructure, Close In Weapon System (CIWS), Air Control, and introduced Open Architecture (OA) products into the main development line. The Modernization Baselines will provide new technology to replace aging military equipment currently fielded on AEGIS platforms to extend service life and provide a viable combatant for naval use into the future. These baselines should reduce the lifecycle costs to maintain combat systems and streamline the development. The Cruiser Modernization Baseline (CGM CR2) upgrades the computing infrastructure in a Technical Insertion (TI 08) and provides for computer program enhancements via Advanced Capability Build 08 (ACB 08) which will modernize CG 52-58 with new computing architecture and upgraded displays. This effort will leverage the AEGIS Open Architecture (AOA) development work. The enhancements will include Open Architected components, improve air dominance, gun weapon system capabilities, and force protection. The Cruiser Modernization Baseline (TI 08/ACB 08) will be introduced on USS BUNKER HILL CG 52 in FY08. The AEGIS Modernization Baseline (AMOD CR3) will modernize CG 59-73 and DDG 51-78 with a new computing architecture through technical insertion (TI 12), upgraded display consoles, computer program enhancements and introduce increased weapon capabilities into the AEGIS Combat System through Advanced Capability Build 12 (ACB 12). The AEGIS Modernization Baseline will include all enhancements identified for Cruiser

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **1447/Surf Combatant Combat System Imp**

Modernization and increase Underwater capabilities. New Capabilities introduced into AEGIS for Destroyers (DDG 51-78) will include Multi-Mission Signal Processor (MMSP), Single Sensor Naval Integrated Fire Control - Common Air (NIFC-CA), Standard Missile - 6 (SM-6), and Ballistic Missile capability (BMD). New capabilities introduced into the AEGIS Modernization Baseline for Cruiser (CG 59-73) will include Naval Integrated Fire Control - Common Air (NIFC-CA) and Standard Missile - 6 (SM-6) integration. The AMOD Baseline (TI 12/ACB 12) will be introduced in FY11 for the lead Cruiser and FY12 for the lead Destroyer. These baselines are essential for establishing a foundation for the rapid capability insertion. This process will allow rapid implementation of new capabilities into the fleet to counter threat gaps identified.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDTEN/BA 5	**0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**	**1447/Surf Combatant Combat System Imp**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	18.518	12.609	24.050
RDT&E Articles Quantity	0	0	0

Accomplishments/Planned: Continued computer program development of Cruiser Modernization COTS Refresh 2 (CGM CR2) (including Technical Insertion (TI 08) and Advanced Capability Build (ACB) 08) effort targeted for Baseline 2 Cruisers in FY08 and foundational for Baseline 3/4 Cruisers in FY11. Incorporated planned functionality for both legacy and Open Architecture (OA) elements for ACB08.
Successfully completed Program Assessment Review (PAR) in 4Q FY07 and computer program developmental testing of the AOA computer program. Effort highly leverages AEGIS Open Architecture. Initiated Navy testing of the ACB08/AOA computer program. Planned near term events for CGM CR2 include: Continuation of Navy Testing of the AOA computer program for CGM CR2 integration, computer program development and platform integration through certification.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	18.891	10.881	22.416
RDT&E Articles Quantity	0	0	0

Accomplishments/Planned: Continue to provide for the operations and maintenance of the Combat System Engineering Development Site (CSEDS), Program Generation Center, Computer Program Test Site, and Land Based Test Site in support of AEGIS computer program development, testing, and integration for all AEGIS Weapon System (AWS) products. Planned activities include continuation of support for combat system development and integration.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	11.475	6.727	4.863
RDT&E Articles Quantity	0	0	0

Accomplishments/Planned: Provided funds for labs and field activities to support forward fit and backfit baseline upgrades in order to conduct engineering and scientific studies and analysis to minimize the risk in the introduction of increased warfighting capability. Studies produced by the Applied Physics Lab and the Naval Surface Warfare Center - Dahlgren Division (NSWC-DD) ensure effective management and requirement definition for Commercial Off The Shelf (COTS) hardware upgrades and capability insertion. NSWC-DD personnel also provide on site technical support and serve as co-developers for AEGIS products . Labs and field activities participate at contractor facilities during development, testing, and evaluation of upgrades to the ACS. The CMA JCTD effort within this effort plans to demonstrate a net-centric enabled tool kit by using data and information fusion capabilities that would then be applicable to our modern ship systems such as AEGIS.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	38.690	41.549
RDT&E Articles Quantity	0	0	0

Accomplishments/ Planned: Began initial requirements definition and alignment with the Ballistic Missile Defense Program for incorporation of the BMD capability. Planned efforts include: Initial design and development of the Multi-Mission Signal Processor in support of the Preliminary Design Review scheduled for 2Q FY08 and the Critical Design Review scheduled for 2Q FY09; Subsystem design completion, hardware design, hardware selection and initiation of the fabrication of a Combat System Engineering

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDTEN/BA 5	**0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**	**1447/Surf Combatant Combat System Imp**

Development Site (CSEDS) System to support developmental testing and integration; Maintain alignment with the Ballistic Missile Defense program and the associated Ballistic Missile Defense Signal Processor (BSP) Adjunct to incorporate BMD capability within MMSP during AEGIS Modernization (Technical Insertion (TI) 12 / Advanced Capability Build (ACB) 12) fielding.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	69.243	37.356	8.730
RDT&E Articles Quantity	0	0	0

Accomplishments/ Planned: This effort re-architects the AEGIS computer program for SPY (Radar), AEGIS Display System (ADS), and Weapon Control System (WCS) in accordance with and compliant with Navy Open Architecture specifications and standards, incrementally introducing the re-architected products in a spiral fashion to Cruiser Modernization COTS Refresh 2 (CGM CR2) - Advanced Capability Build (ACB) 08 for Baseline 2 Cruisers. Demonstrated Spiral 3 development progress in focused engineering events for the SPY OA, Weapons OA, Display OA, and System Services product areas. Completed Spiral 3 testing in 1QFY08. Performed an Engineering Assessment (EA) in 1Q FY08.
Planned: Continue support of CGM CR2 - ACB 08 integration with open architecture products and assist in testing for delivery to the Baseline 2 Cruisers.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	10.000	24.237	59.471
RDT&E Articles Quantity	0	0	0

Accomplishments: Defining COTS Refresh 3 Technical Architecture (TA) by providing design, development, and test efforts to establish an Open Architecture Computing Environment (OACE) capable of hosting the Open Architecture Computer Program developed as an AEGIS superset to operate on DDG 51-78 or Baseline 3 or 4 CG equipped with CR3 computing infrastructure defined as Technical Insertion(TI) 12, leveraging Cruiser Modernization (CR2) activity as the point of departure. Provides for integration of AEGIS Combat System (ACS) capability enhancements through Advanced Capability Build (ACB) 12 including Multi-Mission Signal Processor integration, Standard Missile (SM) - 6 integration, and single sensor Naval Integrated Fire Control-Counter Air (NIFC-CA) capability integration.
Conducted System Design Review (SDR) in 1Q FY08. Commenced activities and requirements allocation in support of System Specification Review (SSR), planned for 3Q FY08.
Planned: Develop, test, and integrate an AEGIS Modernization (AMOD) COTS Refresh 3 (CR3) superset combat system applicable to Baseline 3 and 4 Cruisers and DDG Modernization ships for an OACE hardware configuration. The AEGIS Modernization computer program will be able to run in a COTS Refresh 2 computing environment. Near term plans include conducting AMOD SSR in 3Q FY08 and AMOD Preliminary Design Review (PDR) in 1Q FY09.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	12.685	9.186	19.421
RDT&E Articles Quantity	0	0	0

Accomplishments/Planned: Continued development efforts for Naval Integrated Fire Control Counter Air (NIFC-CA), SM-6/AEGIS integration. Conducted Initial Process Review 2 and completing the initial requirements definition as part of AEGIS Modernization (AMOD) Advanced Capability Build (ACB) 12. Conducted Performance Analyses and Trade studies, Modeling studies and SM-6 algorithmic studies and Simulation completed to assist in design development. Planned activities include continuing analysis and design efforts to complete System Design Review (SDR) in FY08 and Preliminary Design Review (PDR) in FY11, with Initial Operating Capability in FY13 as part of AMOD ACB 12. Efforts in FY08 and beyond support systems engineering, integration, and test of US Army Joint Land Elevated Network Sensors (JLENS) into NIFC-CA "From the Sea" (FTS) kill chain.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDTEN/BA 5	**0604307N/SURFACE COMBATANT COMBAT SYS ENGINEERING**	**1447/Surf Combatant Combat System Imp**	

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.000	8.000
RDT&E Articles Quantity	0	0	0

Planned: Begin the identification, development, and integration of Navy-directed component-level improvements for the combat system to support the insertion of capability upgrades to address new threats and improve performance. This effort also includes test activities to ensure combat system operability throughout the Rapid Capability Insertion Process (RCIP). Targeted components include Common Air Control and Open Architecting of SPY-1D(V) Radar Control Computer Program.

C. OTHER PROGRAM FUNDING SUMMARY:

*Note: OPN LI 2980 Other Program Funding Summary reflects relevant funding for Multi Mission Signal Processor only.

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
SCN LI2122 - DDG 51	354.347	47.742	0.000	0.000	0.000	0.000	0.000		
OPN LI2980 - Multi Mission Signal Processor	0.000	0.110	0.200	18.150	14.570	0.000	0.000	CONT	CONT
OPN LI0960 - CG Modernization	231.167	216.031	271.170	389.776	410.283	459.048	468.868	CONT	CONT
OPN LI5246 - AEGIS Support Equipment	76.695	93.641	99.243	117.953	116.304	115.739	110.788	CONT	CONT
OPN LI0900 - DDG Modernization	32.027	52.694	165.496	189.784	348.765	358.334	383.320	CONT	CONT
R&D 0603879N 3031 - SIAP (IABM Integration for DDG Mod)	10.000	15.646	19.050	25.100	13.100	11.800	3.100	CONT	CONT
R&D 0604378N 3159 - NIFC-CA	14.359	11.252	10.533	12.075	15.136	6.311	5.331	CONT	CONT

D. ACQUISITION STRATEGY:

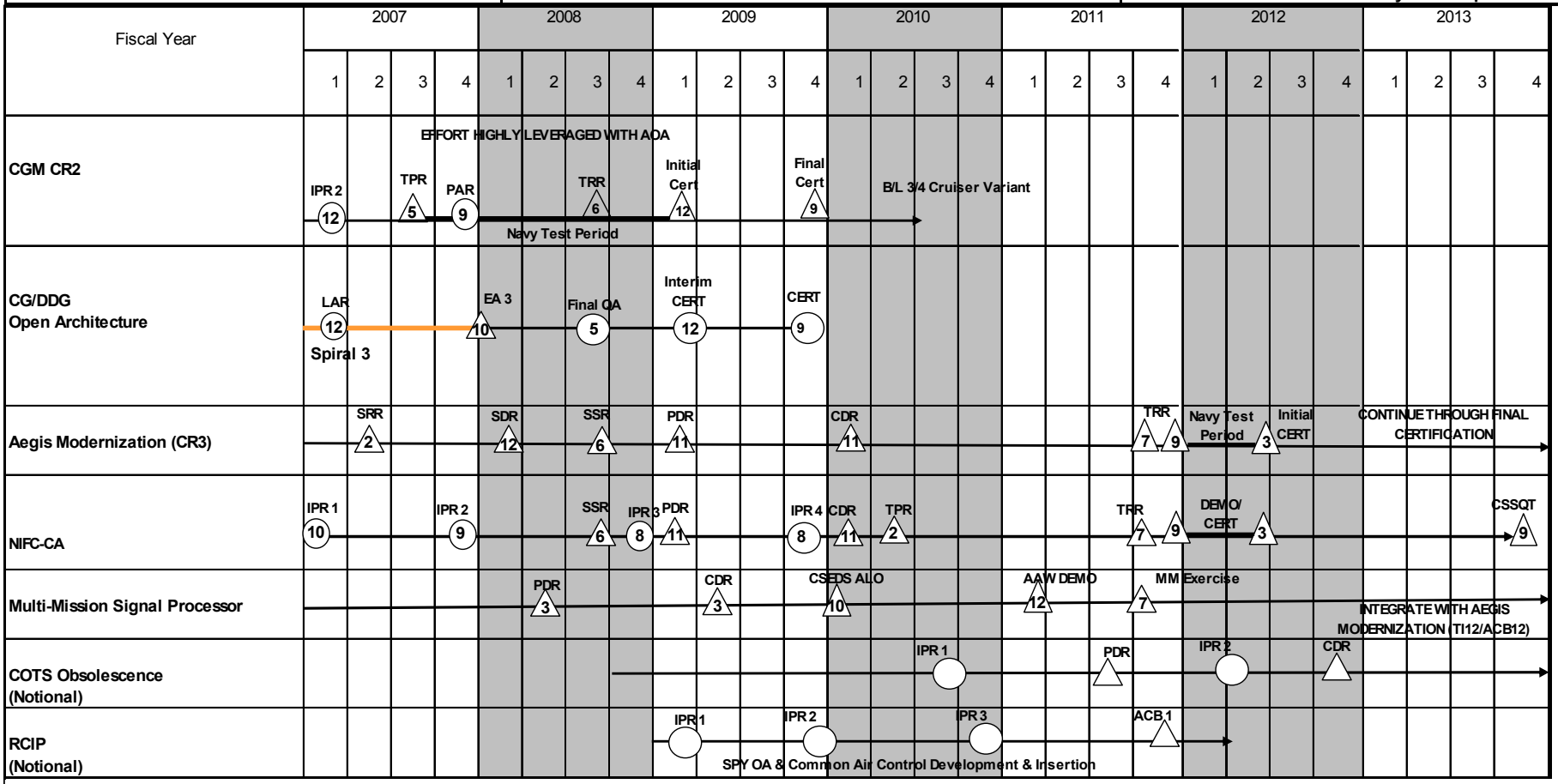
Combat System Improvements are implemented in Baselines as described in the project mission statement. In FY 1998, Lockheed Martin was awarded an omnibus contract (sole source) to develop and integrate combat system improvements, which supported AEGIS Baseline Upgrade Development efforts. After the combat system is completed and tested, the computer program and associated equipment are delivered to the new construction shipbuilders and modernization shipyards 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 Government Furnished Equipment (GFE) deliverable to the Production Test Center for equipment test and check out. Various competitive contracts will be pursued in the FY08/FY09 timeframe to procure component-level combat system upgrades and capability enhancements with multiple vendors. These software enhancements will then be integrated into the combat system for AEGIS platforms by a platform systems engineering agent to ensure performance and guard against regression in a shipboard environment.

E. MAJOR PERFORMERS:

Lockheed Martin (LM) Maritime Systems and Sensors (MS2) - Moorestown, NJ (Combat System Engineering Agent)
NSWC Dahlgren Division (NSWC DD)- Dahlgren, VA (Lifetime Support Engineering Agent)

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**					PROJECT NUMBER AND NAME **1447/Surf Combatant Combat System Imp**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Systems Engineering	SS/CPAF	Lockheed, Moorestown, NJ	1,118.090	97.095	JAN-07	97.845	JAN-08	128.078	DEC-08	CONT	CONT	0.000
Systems Engineering	SS/CPFF	APL, Baltimore MD	28.360	0.817	NOV-06	0.760	NOV-07	1.400	NOV-08	CONT	CONT	0.000
Systems Engineering	WR/RCP	NSWC Dahlgren, VA	177.250	8.915	NOV-06	7.714	NOV-07	13.543	NOV-08	CONT	CONT	0.000
Systems Engineering	SS/CPAF	BAE Systems, Rockville, MD	12.940	5.089	FEB-07	5.572	FEB-08	4.987	FEB-09	CONT	CONT	0.000
Systems Engineering	WR	NSWC Port Hueneme, CA	32.140	2.148	NOV-06	1.952	NOV-07	2.452	NOV-08	CONT	CONT	0.000
Systems Engineering	WR/RCP	NWAS Corona, CA	20.780	1.325	NOV-06	1.315	NOV-07	1.159	NOV-08	CONT	CONT	0.000
Systems Engineering	WR	SPAWAR	6.110	0.840	NOV-06	0.905	NOV-07	0.864	NOV-08	CONT	CONT	0.000
Systems Engineering	WR/RCP	Various	48.870	1.047	TBD	0.576	TBD	7.823	TBD	CONT	CONT	0.000
Award Fees	SS/CPAF	Lockheed , Moorestown, NJ	140.150	13.600	JUL-07	13.600	JUL-08	16.709	JUL-09	CONT	CONT	0.000
Award Fees	SS/CPAF	BAE Systems, Rockville, MD	1.080	0.250	TBD	0.250	TBD	0.250	TBD	CONT	CONT	0.000
Award Fees	SS/CPAF	Alion Science, Washington, DC	0.500	0.250	TBD	0.250	TBD	0.250	TBD	CONT	CONT	0.000
Award Fees	WR/RCP	Various	2.790	0.000		0.000		1.800	TBD	CONT	CONT	0.000
Subtotal Product Development			**1,589.060**	**131.376**		**130.739**		**179.315**		**CONT**	**CONT**	**0.000**
Remarks:												
Test and Evaluation	SS/CPAF	Lockheed, Moorestown, NJ	27.230	2.838	JUL-07	2.767	JUL-08	4.125	JUL-09	CONT	CONT	0.000
Test and Evaluation	WR	NSWC Port Hueneme, CA	9.150	0.724	NOV-06	0.689	NOV-07	0.643	NOV-08	CONT	CONT	0.000
Test and Evaluation	WR/RCP	Various	15.340	1.523	TBD	1.257	TBD	1.119	TBD	CONT	CONT	0.000
Test and Evaluation	CPFF	APL, Baltimore, MD	3.500	0.000		0.000		0.000		0.000	3.500	0.000
Subtotal Test and Evaluation			**55.220**	**5.085**		**4.713**		**5.887**		**CONT**	**CONT**	**0.000**
Remarks:												
Program Management Support	SS/CPAF	Alion Science, Washington, DC	8.300	4.000	FEB-07	3.897	FEB-08	2.979	FEB-09	CONT	CONT	0.000
Program Management Support	WR/RCP	Various	8.620	0.351	TBD	0.337	TBD	0.319	TBD	CONT	CONT	0.000
Subtotal Management Services			**16.920**	**4.351**		**4.234**		**3.298**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**1,661.200**	**140.812**		**139.686**		**188.500**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **1447/Surf Combatant Combat System Imp**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**			PROJECT NUMBER AND NAME **1447/Surf Combatant Combat System Imp**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
CG Modernization: Initial Process Review (IPR) 2	1Q						
CG Modernization: Test Program Review (TPR)	3Q						
CG Modernization: Navy Integrated Test Period	3Q	THROUGH	1Q				
CG Modernization: Program Assessment Review (PAR)	4Q						
CG Modernization: Test Readiness Review (TRR)		3Q					
CG Modernization: Initial Certification			1Q				
CG Modernization: Final Certification			4Q				
CG/DDG Open Architecture: Spiral 3 Lifecycle Architecture Review (LAR)	1Q						
CG/DDG Open Architecture: Spiral 3 Engineering Assessment (EA) 3		1Q					
CG/DDG Open Architecture: Final Quality Assurance (QA)		3Q					
CG/DDG Open Architecture: Interim Certification			1Q				
CG/DDG Open Architecture: Certification (CERT)			4Q				
AEGIS Modernization: System Readiness Review (SRR)	2Q						
AEGIS Modernization: System Design Review (SDR)		1Q					
AEGIS Modernization: System Specification Review (SSR)		3Q					
AEGIS Modernization: Preliminary Design Review (PDR)			1Q				
AEGIS Modernization: Critical Design Review (CDR)				1Q			
AEGIS Modernization: Test Readiness Review (TRR)					4Q		
AEGIS Modernization: Navy Integrated Test Period					4Q THROUGH	2Q	
AEGIS Modernization: Initial Certification						2Q	
NIFC-CA: In Process Review (IPR) 1	1Q						
NIFC-CA: In Process Review (IPR) 2	4Q						
NIFC-CA: Software Specification Review (SSR)		3Q					
NIFC-CA: In Process Review (IPR) 3		4Q					
NIFC-CA: Preliminary Design Review (PDR)			1Q				
NIFC-CA: In Process Review (IPR) 4			4Q				
NIFC-CA: Critical Design Review (CDR)				1Q			
NIFC-CA: Technical Requirements Review (TRR)				2Q			
NIFC-CA: Test Readiness Review (TRR)					4Q		
NIFC-CA: Demo/Certification/Integrated Test Period					4Q THROUGH	2Q	

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**			PROJECT NUMBER AND NAME **1447/Surf Combatant Combat System Imp**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
NIFC-CA: Combat Systems Qualification Trials (CSSQT)							4Q
Multi-Mission Signal Processor: Preliminary Design Review (PDR)		2Q					
Multi-Mission Signal Processor: Critical Design Review (CDR)			2Q				
Multi-Mission Signal Processor: CSEDS AEGIS Light Off (ALO)				1Q			
Multi-Mission Signal Processor: AAW Demonstration					1Q		
Multi-Mission Signal Processor: Multi-Mission Exercise					4Q		
COTS Obsolescence: Initial Process Review (IPR) 1				3Q			
COTS Obsolescence: Preliminary Design Review (PDR)					3Q		
COTS Obsolescence: Initial Process Review (IPR) 2						2Q	
COTS Obsolescence: Critical Design Review (CDR)						4Q	
RCIP: Initial Process Review (IPR) 1			1Q				
RCIP: Initial Process Review (IPR) 2			4Q				
RCIP: Initial Process Review (IPR) 3				4Q			
RCIP: Advanced Capability Build (ACB) 1					4Q		

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDTEN/BA 5	**0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**	**9999/CONGRESSIONAL ADDS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.971	0.000	0.000
RDT&E Articles Quantity	0	0	0

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 will be expanded to incorporate an engineering casualty control exercise component and subsequently will be transitioned to shipboard use and further developed to incorporate the full range of potential capability.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.976	0.000	0.000
RDT&E Articles Quantity	0	0	0

This project began as a light-weight, portable shipboard antenna utilizing C-Band mainly for enhancement of crew quality of life. Also under the original effort an additional, interchangeable antenna and feed at the Super High Frequency (SHF) was being designed. The Navy focus has changed to a requirement for designs that are stealthy with low radar cross section for new ships. To meet that requirement, Malibu Research has been retasked under the original effort to investigate an alternate optimum frequency and form factor configurations for an antenna to meet quality of life applications. This task is using a compact planar scanner using a lens scanning antenna technique and will be flush mounted/embedded into the ship structure. The task is therefore to design, fabricate and demonstrate a Super High Frequency (SHF) and a Global Broadcast System (GBS) antenna that will fit into the DOD's present and future information dominance architecture.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.310	0.000	0.000
RDT&E Articles Quantity	0	0	0

This program will support the development of new technology for the Gas Turbine Electric Start System (GT-ESS) prototypes for the CG-47 and DDG-51 class ships.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	3.379	0.000
RDT&E Articles Quantity	0	0	0

FY08 Congressional Adds:

$0.994M for Smart Integrated Data Environment

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

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**

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 will be expanded to incorporate an engineering casualty control exercise component and subsequently will be transitioned to shipboard use and further developed to incorporate the full range of potential capability.

$2.385M for AEGIS Combat Information Center (CIC) Virtualization/Common presentation layer integration

The AEGIS Combat Information Center Virtualization effort is a concept to standardize combat information center display systems across the Surface Navy Fleet beginning with AEGIS class ships, both Cruisers and Destroyers. This effort integrates existing open architecture design and code with common displays to deliver a universal system to the sailor targeting Cruiser and Destroyer Modernization upgrades. AEGIS CIC Virtualization continues the migration to software-based applications, increasing maintainability and reliability of the combat system.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604311N/LPD-17 CLASS SYSTEMS INTEGRATION**						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	8.070	4.213	0.985	5.135	0.977	0.997	1.017
2283 / LPD-17 Class System Integration	8.070	4.213	0.985	5.135	0.977	0.997	1.017

A. MISSION DESCRIPTION:

The 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. The RDT&E,N funding will be used for system engineering and integration efforts that will resolve obsolesence issues facing the LPD 17 class components, as well as develop further reductions in life cycle costs and will integrate performance upgrades in a rapid, affordable manner. These efforts will result in well-defined specifications and drawings in system integration design packages that provide technical baselines for follow-on ship procurements. 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. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget	5.937	4.300	0.993
FY 2009 President's Budget	8.070	4.213	0.985
Total Adjustments	2.133	-0.087	-0.008
Summary of Adjustments			
Misc. Adjustments	2.133	-0.087	-0.008

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI303600 (LPD 17 SCN)		1,497.826	103.216						
BLI303600 (LPD 17 SCN AP)	379.685	49.651							

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604311N/LPD-17 CLASS SYSTEMS INTEGRATION**				PROJECT NUMBER AND NAME **2283/LPD-17 Class System Integration**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	8.070	4.213	0.985	5.135	0.977	0.997	1.017
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The 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.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604311N/LPD-17 CLASS SYSTEMS INTEGRATION**	PROJECT NUMBER AND NAME **2283/LPD-17 Class System Integration**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Systems Engineering/Integration	3.236	3.913	0.985
RDT&E Articles Quantity	0	0	0

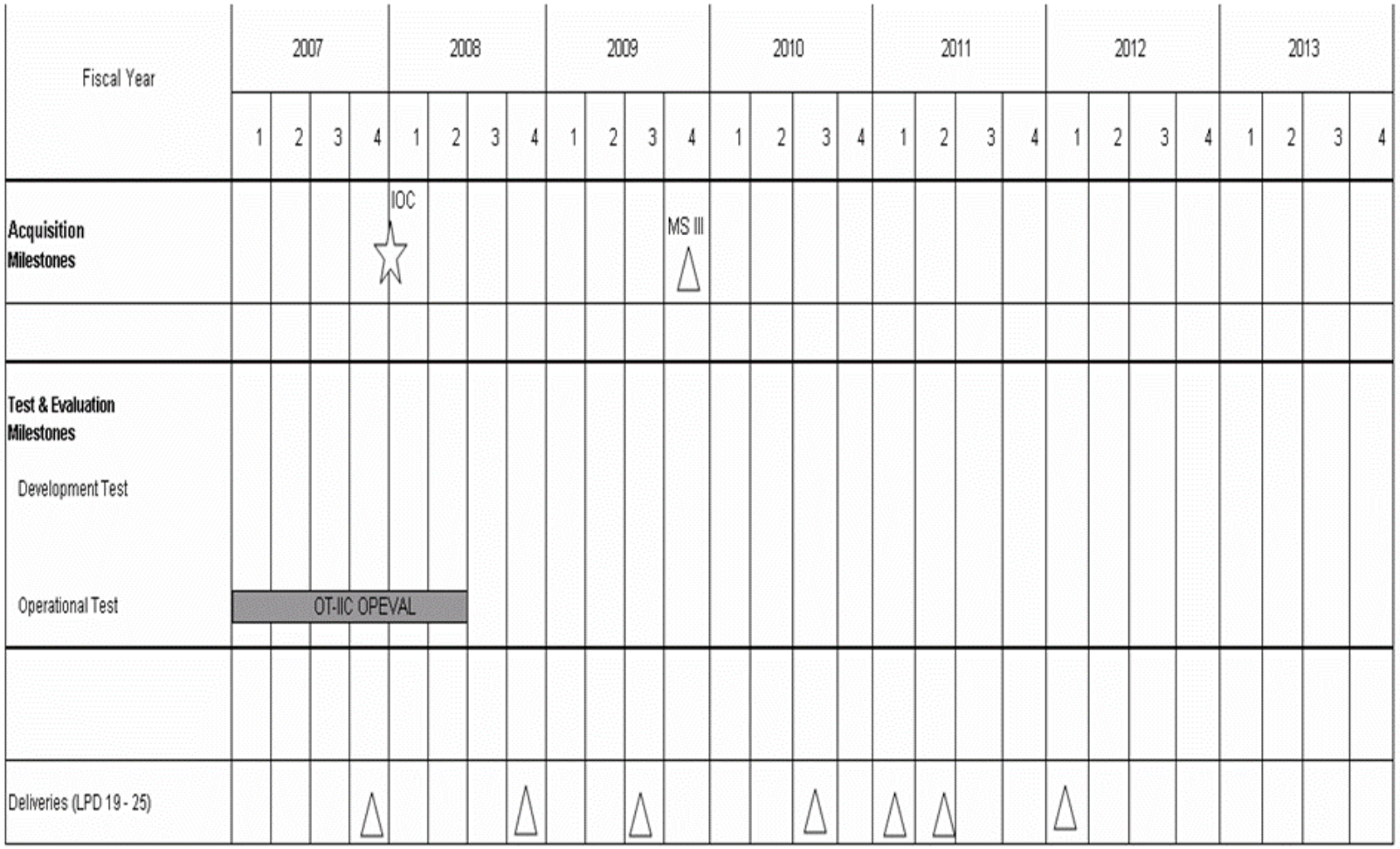
Continue Naval Expeditionary Warfare Systems Engineering efforts and Integration efforts for unique LPD 17 Class systems, including efforts to resolve obsolescence issues impacting the class.

	FY 2007	FY 2008	FY 2009
OT&E	4.834	0.300	0.000
RDT&E Articles Quantity	0	0	0

Funding allows for operational test force support, range time, procurement of rounds/targets for testing, and other related costs as defined by the Test and Evaluation Master Plan (TEMP). Operational Testing is on-going and will finish in FY 2008.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604311N/LPD-17 CLASS SYSTEMS INTEGRATION**					PROJECT NUMBER AND NAME **2283/LPD-17 Class System Integration**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Systems Engineering and Integration	Various	Various	2.700	3.236	SEP-07	3.913	FEB-08	0.985	DEC-08	4.048	14.882	0.000
Subtotal Product Development			**2.700**	**3.236**		**3.913**		**0.985**		**4.048**	**14.882**	**0.000**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
OT&E/Interoperability	WR	OPTEVFOR	6.258	4.834	NOV-06	0.300	NOV-07	0.000		0.000	11.392	0.000
Subtotal Test and Evaluation			**6.258**	**4.834**		**0.300**		**0.000**		**0.000**	**11.392**	**0.000**
Remarks:												
Total Cost			**8.958**	**8.070**		**4.213**		**0.985**		**4.048**	**26.274**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604311N/LPD-17 CLASS SYSTEMS INTEGRATION**	PROJECT NUMBER AND NAME **2283/LPD-17 Class System Integration**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604311N/LPD-17 CLASS SYSTEMS INTEGRATION**			PROJECT NUMBER AND NAME **2283/LPD-17 Class System Integration**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operational Evaluation (OT-IIC) (OPEVAL)	1Q - 4Q	1Q - 2Q					
Lead Ship IOC		1Q					
Milestone III			4Q				

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604329N, SMALL DIAMETER BOMB	
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	9.775	9.623	19.574	22.440	10.137	35.047	40.767
3072 SMALL DIAMETER BOMB	9.775	9.623	19.574	22.440	10.137	35.047	40.767

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

Small Diameter Bomb (SDB) Increment II is an ACAT ID program providing the warfighter a capability to attack mobile targets in weather. The Air Force is the executive service. SDB Increment II addresses the following warfighter requirements: attack mobile targets; multiple kills per pass; multiple ordnance carriage; all weather operations; near-precision munitions capability; capability against fixed targets; reduced munitions footprint; increased weapons effectiveness; minimized potential for collateral damage; reduced susceptibility of munitions to countermeasures; and a migration path to net centric ops capability. Threshold aircraft is the F-15E for the Air Force and JSF for the Navy. Objective aircraft include the F/A-22, B-1, B-2, F-117, F-16, B-52, Predator B, F/A-18 E/F and the Navy Unmanned Combat Air System (N-UCAS). SDB Increment II will continue incremental development to pursue network CENTRIC interoperability. SDB Increment II is a key component of the Air Force's Global Strike Task Force CONOP.

Navy funding will provide for risk reduction activities, participation in common efforts, and development and evaluation of Navy-unique and interoperability requirements. Additionally, Navy funding is provided to conduct weapons data link message development and testing through Joint Capability Technolodgy Demonstration (JCTD) efforts to achieve risk reduction efforts and weapons interoperability. The Joint Surface Warfare (JSuW) is one current JCTD being conducted to analyze weapons data link message development. Navy SDB II Initial Operating Capability is scheduled for FY 2016 on JSF Conventional Take-Off and Landing (CTOL) and Short Take-Off Vertical Landing (STOVL) aircraft.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	9.983	9.832	9.818
Current President's Budget:	9.775	9.623	19.574
Total Adjustments	-0.208	-0.209	9.756

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions		-0.062	
Congressional Increases			
Economic Assumptions			-0.066
Miscellaneous Adjustments	-0.208	-0.147	9.822
Subtotal	-0.208	-0.209	9.756

Schedule: Not applicable

Technical: Not applicable.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604329N, SMALL DIAMETER BOMB	PROJECT NUMBER AND NAME 3072, SMALL DIAMETER BOMB	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3072 SMALL DIAMETER BOMB	9.775	9.623	19.574	22.440	10.137	35.047	40.767	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Small Diameter Bomb (SDB) Increment II is an ACAT ID program providing the warfighter a capability to attack mobile targets in weather. The Air Force is the executive service. SDB Increment II addresses the following warfighter requirements: attack mobile targets; multiple kills per pass; multiple ordnance carriage; all weather operations; near-precision munitions capability; capability against fixed targets; reduced munitions footprint; increased weapons effectiveness; minimized potential for collateral damage; reduced susceptibility of munitions to countermeasures; and a migration path to ne centric ops capability. Threshold aircraft is the F-15E for the Air Force and JSF for the Navy. Objective aircraft include the F/A-22, B-1, B-2, F-117, F-16, B-52, Predator B, F/A-18 E/F and the Navy Unmanned Combat Air System (N-UCAS). SDB Increment II will continue incremental development to pursue network CENTRIC interoperability. SDB Increment II is a key component of the Air Force's Global Strike Task Force CONOP.

Navy funding will provide for risk reduction activities, participation in common efforts, and development and evaluation of Navy-unique and interoperability requirements. Additionally, Navy funding is provided to conduct weapons data link message development and testing through Joint Capability Technolodgy Demonstration (JCTD) efforts to achieve risk reduction efforts and weapons interoperability. The Joint Surface Warfare (JSuW) is one current JCTD being conducted to analyze weapons data link message development. Navy SDB II Initial Operating Capability is scheduled for FY 2016 on JSF Conventional Take-Off and Landing (CTOL) and Short Take-Off Vertical Landing (STOVL) aircraft.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Contractor Risk Reduction	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Co	4.050	4.582	3.514
RDT&E Articles Qty			

Participate in the 42-month risk reduction phase with Boeing and Raytheon. The Navy's participation is to ensure Navy-unique requirements are included in SDB II design and development and to understand interoperability requirements.

Conduct Weapon Data Link Testing/JSUW	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Co	2.500	1.200	9.900
RDT&E Articles Qty			

Conduct Weapons Data Link message development and testing. This will facilitate the incorporation of these new message sets into the JSF when the aircraft becomes available. Beginning in FY08, funding is provided to accomplish Joint Surface Warfare efforts and in FY09 to accomplish Hard Target Void Sensing efforts. Both efforts will enhance Strike Warfare survivability in development of Small Diameter Bomb II.

SDB II Support and Integration	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Co	3.225	3.841	6.160
RDT&E Articles Qty			

Government and Support Contractor participation in risk reduction activities to include Seeker and Other Trade Studies, Joint Strike Fighter fit checks, Shipboard Suitability, Electromagnetic Environmental Effects, System Safety, Climatic/Dynamic Environments, catapulted/arrested landings testing, and multiple weapon carriage system requirements and other risk reduction activities.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
USAF PE 0604329F (SDB) (Note 1)	89.887	144.270	125.112	129.864	77.850	79.366	80.989	156.905	909.383
Missile Procurement - USAF PE 0207327F	98.669	95.297	148.142	165.658	138.347	140.818	143.706	101.191	1,031.828

Note 1: Costs reflect USAF PB09 submission for all project units included in the SDB PE, including SDB I, SDB II, and Focused Lethality Muntion (FLM) program.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604329N, SMALL DIAMETER BOMB	PROJECT NUMBER AND NAME 3072, SMALL DIAMETER BOMB

D. ACQUISITION STRATEGY:

The Air Force selected Boeing in August 2003 as the SDB Increment I prime contractor following a 24-month CAD. Currently, SDB Increment I is in Low Rate Initial Production (LRIP) after successfully achieving Milestone C in April 2005.

The SDB Increment II acquisition strategy is to conduct a full and open competition to select up to two contractors to compete during a planned 42-month risk reduction phase prior to entering SDD. This competition began April 17, 2006 with the signature of contracts to the competing contractors: 1) Raytheon and 2) the team of Boeing and Lockheed Martin. An SDD cost-type contract is planned to be awarded early in FY 2010.

The Navy funding will support Navy-unique efforts for SDB Phase II, such as aircraft integration, ship suitability, studies and analysis, and program management and government in-house support. These efforts will be performed on several cost-type contracts or through cost reimbursable work requests to government activities and contractors.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604329N, SMALL DIAMETER BOMB				PROJECT NUMBER AND NAME 3072, SMALL DIAMETER BOMB						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration	C/CPFF	Lockheed Martin, JSF	.101	.550	May 2007	.320	Feb 2008	.991	Feb 2009	38.271	40.233	40.233
Primary Hardware Development	C/CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	6.180	1.571	Feb 2007	2.800	Feb 2008	1.716	Feb 2009	.529	12.796	12.796
Primary Hardware Development	C/CPFF	RAYTHEON MISSILE SYSTEMS CO, TUCSON, AZ	2.000	1.100	Feb 2007	2.800	Feb 2008	1.716	Feb 2009	.529	8.145	8.145
Primary Hardware Development	TBD	TBD						3.160	Feb 2009	65.408	68.568	68.568
Ship Suitability	WX	VARIOUS	.421	.377	Nov 2006	.090	Nov 2007	.650	Nov 2008	5.260	6.798	
Ship Suitability	C/CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO		.347	Feb 2007	.300	Feb 2008				.647	.647
Ship Suitability	TBD	TBD						.900	Jan 2009	8.857	9.757	9.757
SUBTOTAL PRODUCT DEVELOPMENT			8.702	3.945		6.310		9.133		118.854	146.944	

Remarks: Primary Hardware Development FY06 through FY09 includes cost for the 42-month risk reduction phase. Funding for McDonnell Douglas represents the Boeing/Lockheed Martin team. Primary H/W development TBD to reflect the downselect to one contractor after risk reduction phase. FY2009 Primary H/W supports the JSuW efforts.

SUPPORT												
Software Development	SS/CPFF	Various	5.990								5.990	5.990
Software Development	SS/CPFF	MCDONNELL DOUGLAS CORP, SAINT LOUIS, MO	3.435	2.500	Nov 2006						5.935	5.935
Software Development	WX	NAWCWD, CHINA LAKE CA	.465								.465	
Studies & Analyses (APL)	C/CPFF	JOHNS HOPKINS UNIV, BALTIMORE MD	2.395	.200	Mar 2007	.291	Mar 2008	.679	Mar 2009	2.870	6.435	6.435
SUBTOTAL SUPPORT			12.285	2.700		.291		.679		2.870	18.825	

Remarks: Studies and Analyses include Navy activities to define CONOPS and better define Navy-specific and interoperability requirements, such as Weapon Data Link ACTD, Seeker Trade Studies, and Data Link Trade Studies. The weapon data link software development effort develops requirements, establishes design architecture and dramatically reduces risk for integration of SDB Increment II WDLN ICD into JSF. F/A-18 H5E Software Configuration Set will be utilized as a surrogate test bed to incorporate WDLN ICD.

TEST & EVALUATION												
Developmental Test and Evaluat	TBD	TBD								12.240	12.240	
Operational Test and Evaluatic	TBD	TBD						1.000	Oct 2008	12.340	13.340	
SUBTOTAL TEST & EVALUATION								1.000		24.580	25.580	

Remarks:

MANAGEMENT												
Contractor Eng Sup	C/CPFF	TBD	.195	.460	Dec 2006	.410	Dec 2007	.422	Dec 2008	7.195	8.682	8.682
Government Eng Sup	WX	NAWCWD, CHINA LAKE CA	2.054	1.110	Nov 2006	1.103	Nov 2007	1.109	Nov 2008	23.457	28.833	
Government Eng Sup	WX	VARIOUS	1.968	.860	Nov 2006	.809	Nov 2007	6.531	Nov 2008	22.298	32.466	
Program Mgmt Sup	WX	TBD		.250	Nov 2006	.250	Nov 2007	.250	Nov 2008	1.515	2.265	
Program Mgmt Sup - MSS (NON-FE	WX	VARIOUS	.409	.250	Dec 2006	.250	Dec 2007	.250	Dec 2008	1.640	2.799	
Travel	MIPR	ASC 26 OG/OGP, EGLIN AFB FL	.397	.200	Oct 2006	.200	Oct 2007	.200	Oct 2008	2.100	3.097	
SUBTOTAL MANAGEMENT			5.023	3.130		3.022		8.762		58.205	78.142	

Remarks:

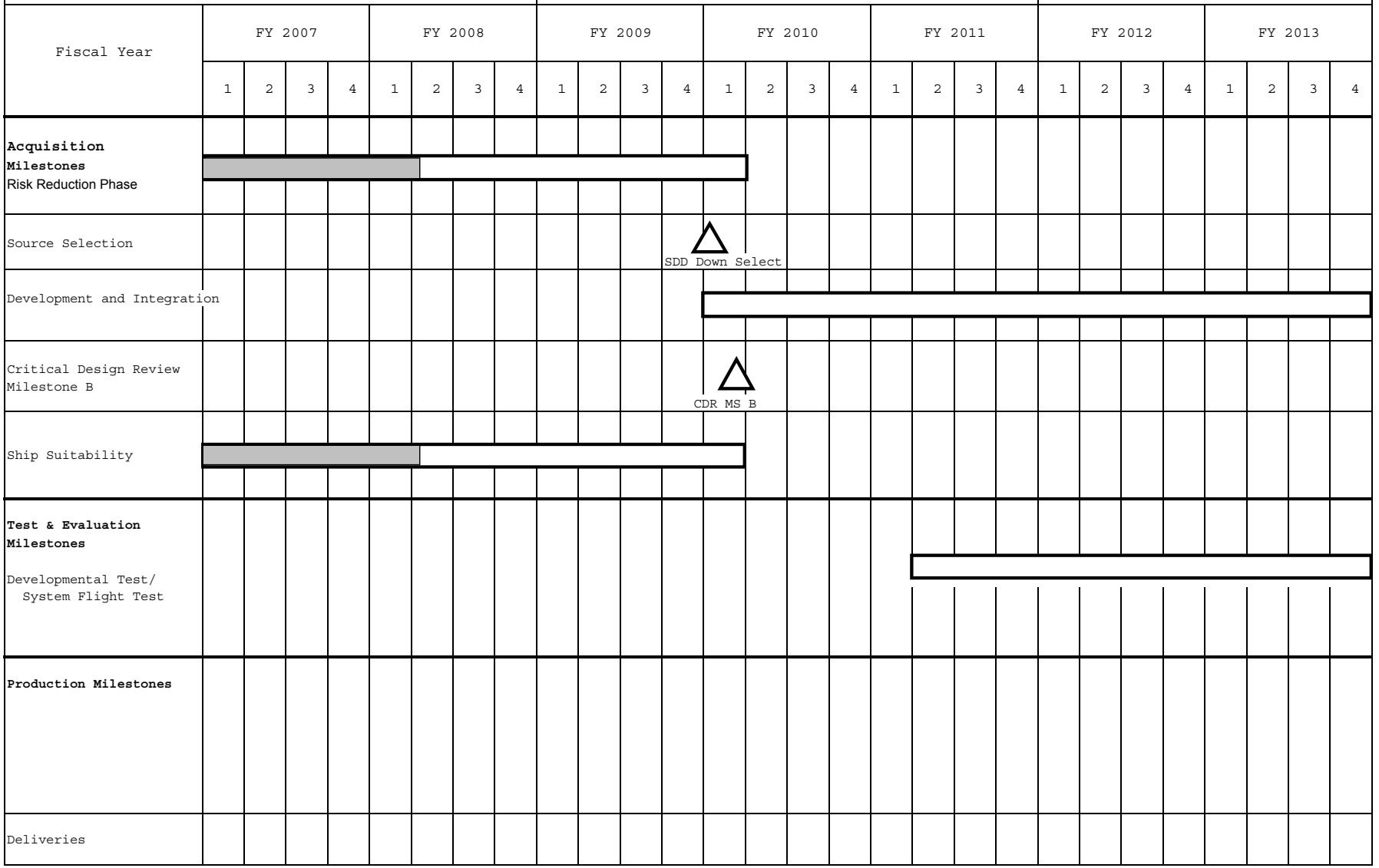
Total Cost			26.010	9.775		9.623		19.574		204.509	269.491	.000

Remarks: May not add due to rounding.

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604329N, SMALL DIAMETER BOMB	3072, SMALL DIAMETER BOMB



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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604329N, SMALL DIAMETER BOMB				PROJECT NUMBER AND NAME 3072, SMALL DIAMETER BOMB		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Risk Reduction Phase	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
SDD Downselect				1Q			
Development and Integration				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
CDR				1Q			
Milestone B				1Q			
Developmental Test/System Flight Test					2Q-4Q	1Q-4Q	1Q-4Q
Ship Suitability	1Q-4Q	1Q-4Q	1Q-4Q	1Q			

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604366N/STANDARD MISSILE IMPROVEMENTS**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	177.128	226.841	234.653	165.590	68.905	33.453	27.073
0439 / Standard Missile Improvement	17.693	24.201	12.096	6.326	0.332	0.351	0.370
3092 / Standard Missile 6 Program	158.461	202.640	222.557	159.264	68.573	33.102	26.703
9999 / Congressional Add	0.974	0.000	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

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 Theater Air Missile Defense (TAMD), Mission Need Statement (MNS), Defense Planning Guidance(DPG), Quadrennial Defense Review (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 Anti-Ship Cruise Missiles (ASCM) threat. Continuous analysis of missile capabilities vs. ever-evolving and proliferating aircraft and ASCM and long-range planning are required to keep pace with the threat. In FY04 a new program started to develop a family of advanced surface missile systems. These new missile systems will leverage the Navy investment in the Aegis Weapon System (AWS), Cooperative Engagement Capability (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:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		R-1 ITEM NOMENCLATURE **0604366N/STANDARD MISSILE IMPROVEMENTS**

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
2008 PRESIDENT'S BUDGET	176.467	231.791	243.885
2009 PRESIDENT'S BUDGET SUBMISSION	177.128	226.841	234.653
TOTAL ADJUSTMENTS	0.661	-4.950	-9.232
SUMMARY OF ADJUSTMENTS			
CANCELLED ACCOUNTS	-0.220		
EXECUTION REALIGNMENT	5.399	-3.477	-10.000
SBIR	-4.518		
NAVY WORKING CAPITAL FUND			3.344
REVISED ECONOMIC ASSUMPTIONS		-1.101	
CONTRACTOR EFFICIENCIES		-0.372	
PURCHASE INFLATION ADJUSTMENT			-1.373
NWCF RATE ADJUSTMENT			-1.203
SUBTOTAL	0.661	-4.950	-9.232

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**				PROJECT NUMBER AND NAME **0439/STANDARD MISSILE IMPROVEMENT**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	17.693	24.201	12.096	6.326	0.332	0.351	0.370
RDT&E Articles Qty	0	0	0	0	0	0	0

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.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**	PROJECT NUMBER AND NAME **0439/STANDARD MISSILE IMPROVEMENT**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	7.793	24.201	12.096
RDT&E Articles Quantity	0	0	0

DD(X) Pre Plan Product Improvement (P3I)Link Integration/Interrupted Continuous Wave Illuminator (ICWI)

FY07: Define DD(X) functionality/interface requirements and engineering changes needed to make SM-2 BLK IIIB compatible with the ship combat system. Design missile hardware modifications and build engineering models. Develop ICWI software and associated software tooling. Integrate missile hardware and software into functional missile section.

FY08: Integrate missile hardware and software into all up-round. Perform qualification testing and modified missile hardware and tactical software.

FY09: Demonstrate capability during waterfront integration testing. Complete and approve product baseline changes for production cut-in.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	9.900	0.000	0.000
RDT&E Articles Quantity	0	0	0

Sea Based Terminal: FY07: Identify and Develop Modification to the Aegis Combat System leading to the integration of a Sea-Based terminal phase ballistic missile defense (BMD) capability.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**	PROJECT NUMBER AND NAME **0439/STANDARD MISSILE IMPROVEMENT**

C. OTHER PROGRAM FUNDING SUMMARY:

Not applicable.

D. ACQUISITION STRATEGY:

Development is expected to conclude by FY10 for the P3I and SM-2 IIIB ICWI. Production representative missiles will be built between FY10 & FY12 for the 21 missiles that the DDG 1000 require for Developmental Test & Operational Test (DT&OT) in FY12 and FY13. SM2 IIIB will have dual use on AEGIS Cruisers/Destroyers & DDG 1000.

E. MAJOR PERFORMERS:

Commencing in FY04, Raytheon Missile Systems, Tucson, AZ is the prime contractor for a live fire demonstration for Advanced Surface Missile System.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**					PROJECT NUMBER AND NAME **0439/STANDARD MISSILE IMPROVEMENT**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Design and Analysis	SS/CPAF	RAYTHEON	129.593	6.793	DEC-06	23.451	NOV-07	12.096	NOV-08	CONT	CONT	0.000
	CPFF	JHU/APL	3.677	0.000		0.000		0.000		0.000	3.677	0.000
	MIPR	MIT	0.050	0.000		0.000		0.000		0.000	0.050	0.000
	WR	NSWC/DAHLGREN	786.932	0.000		0.000		0.000		0.000	786.932	0.000
	WR	NSWC/IH	0.340	0.000		0.000		0.000		0.000	0.340	0.000
	WR	NAWC/CHINALAKE	2.095	0.000		0.000		0.000		0.000	2.095	0.000
	CPFF	LOCKHEED MARTIN	3.275	9.900	APR-07	0.750	NOV-07	0.000		0.000	13.925	0.000
	WR	CNO	0.010	0.000		0.000		0.000		0.000	0.010	0.000
	ALLOT	CMDP	4.795	0.000		0.000		0.000		0.000	4.795	0.000
	WR	NSWC/CRANE	0.257	0.000		0.000		0.000		0.000	0.257	0.000
	WR	DOI&CNAP	0.487	0.000		0.000		0.000		0.000	0.487	0.000
	WR	COMPTEVFOR	0.100	0.000		0.000		0.000		0.000	0.100	0.000
	CPFF	LOCKHEED MARTIN	1.000	1.000	MAY-07	0.000		0.000		0.000	2.000	0.000
	WR	CARDEROCK	0.050	0.000		0.000		0.000		0.000	0.050	0.000
	WR	NWAS/CORONA	0.325	0.000		0.000		0.000		0.000	0.325	0.000
	CPFF	CORVID	0.100	0.000		0.000		0.000		0.000	0.100	0.000
	CPFF	BAE	0.050	0.000		0.000		0.000		0.000	0.050	0.000
	MIPR	MDA	1.257	0.000		0.000		0.000		0.000	1.257	0.000
Subtotal Product Development			**934.393**	**17.693**		**24.201**		**12.096**		**CONT**	**CONT**	**0.000**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
DEVELOPMENTAL TEST & EVALUATION	WR	NSWC/PHD	0.185	0.000		0.000		0.000		0.000	0.185	0.000
	WR	WSMR	1.600	0.000		0.000		0.000		0.000	1.600	0.000
	WR	PT MUGU	0.098	0.000		0.000		0.000		0.000	0.098	0.000
	WR	PMRF	0.338	0.000		0.000		0.000		0.000	0.338	0.000
	WR	NSWC/PHD	0.567	0.000		0.000		0.000		0.000	0.567	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**					PROJECT NUMBER AND NAME **0439/STANDARD MISSILE IMPROVEMENT**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Subtotal Test and Evaluation			**2.788**	**0.000**		**0.000**		**0.000**		**0.000**	**2.788**	**0.000**
Remarks:												
CONTRACTOR ENGINEERING SUPPORT	C/CPAF	VARIOUS	1.993	0.000		0.000		0.000		0.000	1.993	0.000
PROGRAM MANAGEMENT SUPPORT	C/CPAF	VARIOUS	1.824	0.000		0.000		0.000		0.000	1.824	0.000
TRAVEL	ALLOT		0.048	0.000		0.000		0.000		0.000	0.048	0.000
Subtotal Management Services			**3.865**	**0.000**		**0.000**		**0.000**		**0.000**	**3.865**	**0.000**
Remarks:												
Total Cost			**941.046**	**17.693**		**24.201**		**12.096**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**				PROJECT NUMBER AND NAME **3092/Standard Missile 6 Program**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	158.461	202.640	222.557	159.264	68.573	33.102	26.703
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project addresses the Navy's requirement for an extended range area air defense missile. The SM-6 Extended Range Active Missile (ERAM) is the Navy's transformational enabler for the Sea Shield Operational Concept and enables the opportunity for Sea Basing Sea Strike. This effort includes risk reduction, System Development and Demonstration (SD&D) design, insensitive munitions improvement, transition to production and operational test of the latest STANDARD Missile with the kinematic performance to defeat current and projected threats that possess low altitude, high altitude, high velocity and maneuver characteristics at the max kinematic range of the missile.

This program leverages existing missile technology and advanced missile technology. It aligns missile technology roadmaps across the Services (NAVSEA, NAVAIR, USAF, USMC and USA) and missile variants within the Services, taking advantage of the Navy's investment in the Aegis Weapon System (AWS), 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 manned-fixed and rotary-wing aircraft, unmanned aerial vehicles, and land attack and anti-ship cruise missiles in flight, thereby contributing to the continuous protection of forward deployed ground maneuver forces as well as theater rear assets as discussed in the Joint TAMD MNS, DPG, QDR, TAMD Capstone Requirements Document, Forward From the Sea, Joint Vision 2010/2020, the 2002/2003 Naval Transformational Roadmap and the Operational Requirements Document for SM-6 Extended Range Active Missile (ERAM).

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**	PROJECT NUMBER AND NAME **3092/Standard Missile 6 Program**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	9.307	10.618	10.223
RDT&E Articles Quantity	0	0	0

SM-6/AWS & VLS Integration

FY07/FY08/FY09: Aegis Weapon System and MK 41 Vertical Launch System integration of SM-6.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	140.154	161.822	188.434
RDT&E Articles Quantity	0	0	0

Missile development.

FY 07: Ground Integration and Test/Environmental Tests/Flight Test Round Integration and Round Level Test

FY 08: CTV-1 (Capture Test Vehicle) and GTV 1 -3 (Guided Test Vehicle) execution at White Sands Missile Range (WSMR). DT Flight at Sea.

FY 09: Low Rate Initial Production (LRIP) Milestone C.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	9.000	30.200	23.900
RDT&E Articles Quantity	0	0	0

SM-6 Insensitive Munitions (IM).

FY07 - Conduct composite case demonstrations. Wind pathfinder composite cases and test. Conduct IM tests.

FY08: Perform system design and development activities for tactical composite cases and motors.

FY09: Perform system design and development activities and full-up tests of composite motors. Prepare for qualification.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**	PROJECT NUMBER AND NAME **3092/Standard Missile 6 Program**	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
WPN 2234/Standard Missile	0.000	0.000	122.825	198.271	262.990	536.058	613.650	3,271.616	5,005.410
QTY			20	40	60	137	158	785	

D. ACQUISITION STRATEGY:

The Navy awarded a contract for SM-6 development, design, testing, production and support (including spares) to Raytheon using other than full and open competition pursuant to the authority of 10 U.S.C. 2304(c)(1).

The active seeker guidance section for the SM-6 will be built in a joint production facility with the Advance Medium Range Air to Air Missile (AMRAAM).
The remainder of the SM-6 AUR components will be produced in existing production facilities that are currently producing other variants of the STANDARD missile.

No new facilities will be required for SM-6 production, and existing equipment will be used whenever possible.

No source other than Raytheon is capable of producing a shipboard ERAM missile within the Navy's schedule.

SM-6 Acquisition Strategy signed by OSD AT&L 3 March 2004

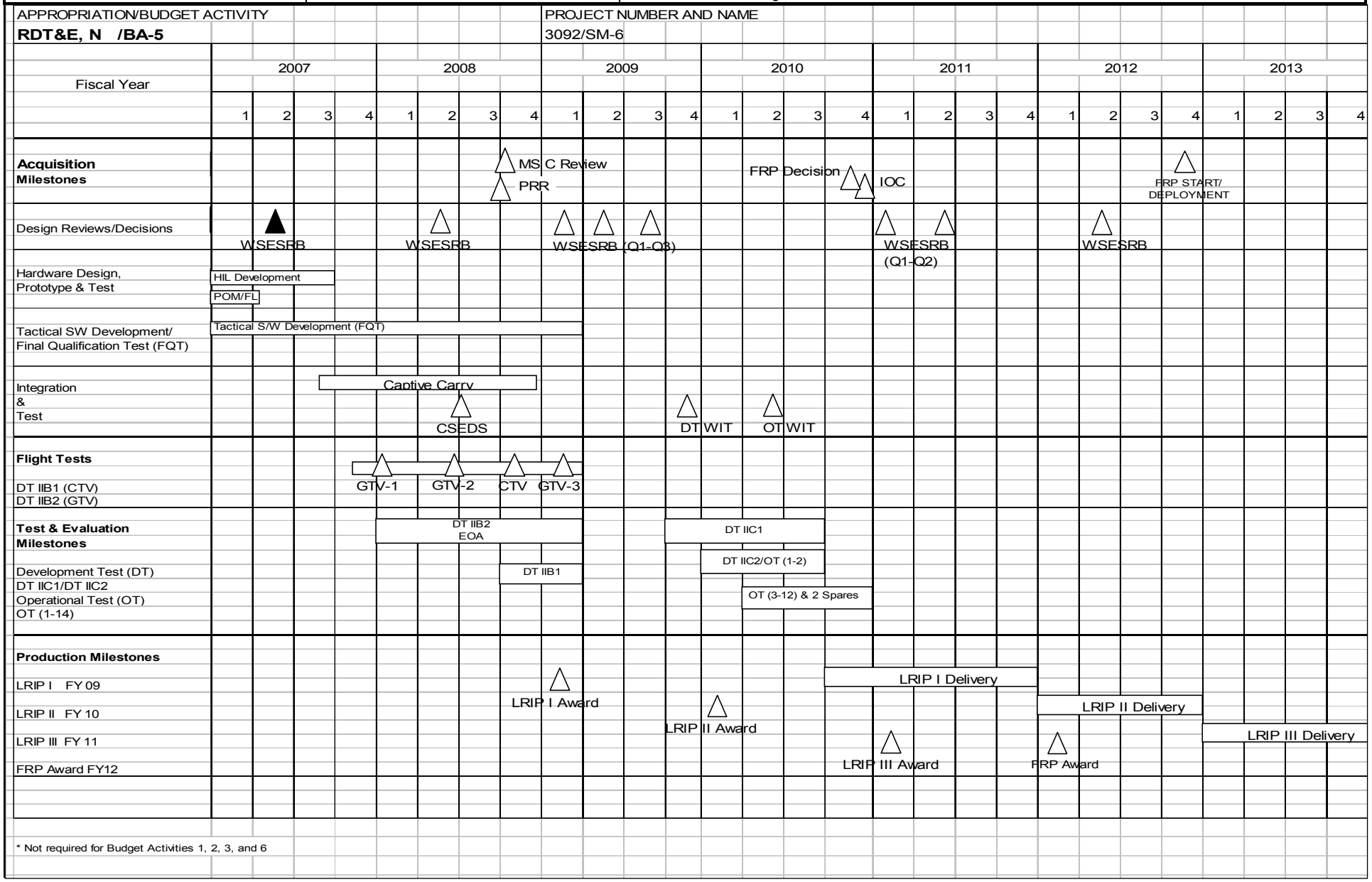
E. MAJOR PERFORMERS:

Raytheon Missile Systems, Tucson, Arizona.: SM-6 SD&D Contract awarded September 2004

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**					PROJECT NUMBER AND NAME **3092/Standard Missile 6 Program**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
DESIGN AND ANALYSIS	CPIF	RAYTHEON	137.928	125.092	NOV-06	168.165	NOV-07	157.663	NOV-08	CONT	CONT	0.000
	CPFF	JHU/APL, LAUREL MD	13.263	5.569	NOV-06	5.008	NOV-07	5.560	NOV-08	CONT	CONT	0.000
	MIPR	MIT LINCOLN LAB, LEXINGTON	0.550	0.000	NOV-06	0.000		0.000		0.000	0.550	0.000
	WR	NAWC WD CHINALAKE, CA	0.722	0.285	NOV-06	0.300	NOV-07	0.300	NOV-08	CONT	CONT	0.000
	WR	NSWC DAHLGEN, VA	2.735	1.694	NOV-06	1.692	NOV-07	2.513	NOV-08	CONT	CONT	0.000
	WR	NSWC INDIAN HEAD, MD	0.843	0.834	NOV-06	0.500	NOV-07	0.527	NOV-08	CONT	CONT	0.000
	WR	NSWC PORT HUENEME, CA	2.434	1.302	NOV-06	1.819	NOV-07	2.079	NOV-08	CONT	CONT	0.000
	WR	NSWC CRANE, IN	0.530	0.151	NOV-06	0.157	NOV-07	0.386	NOV-08	CONT	CONT	0.000
	MIPR	JSPO/EGLIN EDWARDS AFB	2.002	0.200	MAY-07	0.850	NOV-07	0.950	NOV-08	CONT	CONT	0.000
	CPFF	LOCKHEED	3.854	1.190	MAY-07	0.000		0.000		0.000	5.044	0.000
	WR	NSWC CORONA	0.164	1.099	NOV-06	0.355	NOV-07	0.831	NOV-08	CONT	CONT	0.000
	REQN	ONR	0.450	0.300	NOV-06	0.150	NOV-07	0.000		0.000	0.900	0.000
	REQN	NRL	0.090	0.000		0.000		0.000		0.000	0.090	0.000
	WR	COMPTEVFOR	0.400	0.150	NOV-06	0.260	NOV-07	0.260	NOV-08	CONT	CONT	0.000
	WR	CARDEROCK	0.300	0.125	MAR-07	0.100	NOV-07	0.100	NOV-08	CONT	CONT	0.000
	WR	NSWC/PT MUGU	0.188	0.025	NOV-06	0.000	NOV-07	0.025	NOV-08	CONT	CONT	0.000
	CPFF	BAE	0.720	1.260	NOV-06	1.425	NOV-07	1.100	NOV-08	CONT	CONT	0.000
	MIPR	ARMY, REDSTONE ARSENAL	0.050	0.000		0.000		0.000		0.000	0.050	0.000
	WR	NAWCAD, PATUXENT RIVER	0.392	0.000		0.000		0.000		0.000	0.392	0.000
	CPFF	CORVID	0.150	0.400	NOV-06	0.100	NOV-07	0.100	NOV-08	CONT	CONT	0.000
	CPFF	RNB	0.010	0.000		0.000		0.000		0.000	0.010	0.000
	WR	SPAWAR	0.007	0.000		0.000		0.000		0.000	0.007	0.000
	WR	ARMY CECOM	0.066	0.000		0.000		0.000		0.000	0.066	0.000
	WR	GENERAL DYNAMICS	0.000	1.660	MAR-07	0.000		0.000		0.000	1.660	0.000
Ship Integration	CPFF/WR	Various (IWS 1A)	16.588	5.400	NOV-06	5.940	NOV-07	6.380	NOV-08	CONT	CONT	0.000
	CPAF/WR	Various (VLS)	7.779	3.907	NOV-06	4.678	NOV-07	3.843	NOV-08	CONT	CONT	0.000
Subtotal Product Development			**192.215**	**150.643**		**191.499**		**182.617**		**CONT**	**CONT**	**0.000**
Remarks:												

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**					PROJECT NUMBER AND NAME **3092/Standard Missile 6 Program**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Developmental Test & Evaluation	WR	NSWC Port Hueneme, CA	0.200	0.000		0.000		0.000		0.000	0.200	0.000
	WR	White Sands Missile Range, NM	1.550	5.130	NOV-06	4.091	NOV-07	5.690	NOV-08	CONT	CONT	0.000
	WR	PMRF	0.035	0.000		3.300	NOV-07	30.200	NOV-08	CONT	CONT	0.000
	WR	PT. MUGU	0.000	0.369	NOV-06	0.400	NOV-07	0.400	NOV-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**1.785**	**5.499**		**7.791**		**36.290**		**CONT**	**CONT**	**0.000**
Remarks:												
Contractor Engineering Services	CPAF	Various	6.511	2.194	NOV-06	3.200	NOV-07	3.500	NOV-08	CONT	CONT	0.000
Travel			0.303	0.125	NOV-06	0.150	NOV-07	0.150	NOV-08	CONT	CONT	0.000
Subtotal Management Services			**6.814**	**2.319**		**3.350**		**3.650**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**200.814**	**158.461**		**202.640**		**222.557**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**	PROJECT NUMBER AND NAME **3092/Standard Missile 6 Program**



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

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**			PROJECT NUMBER AND NAME **3092/Standard Missile 6 Program**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Strategy							
J&A							
Milestone II (MSII)							
Contract Preparation							
SRR							
SFR							
Preliminary Design Review (PDR)							
Hardware In the Loop (HIL) Development	1Q-3Q						
Software Design/Final Qualification Test (FQT)	1Q-4Q	1Q-4Q	1Q				
Design Verification/Proof of Design (POD)							
Design Readiness Review (DRR)							
Proof of Manufacturing (POM)/Flight (FLT)	1Q-2Q						
Captive Carry	3Q-4Q	1Q-4Q					
CSEDS		3Q					
WIT			4Q	2Q			
Flight Test DT IIBl (CTV) DTB IIB2 (GTV)	4Q	1Q-4Q	1Q				
WSESRB	2Q	2Q	1Q-3Q		1Q-2Q	2Q	
Developmental Testing (DT-IIB1)		4Q	1Q				
Developmental Testing (DT-IIB2) Early Operational Assessment (EOA)		1Q-4Q	1Q				
Preproduction Readiness Review (PRR)	3Q-4Q						
Milestone C (MS C)		4Q					
Low-Rate Initial Production I (LRIP I Award)			1Q				
Developmental Testing (DT-IIC1)			4Q	1Q-3Q			
Low-Rate Initial Production II (LRIP II Award)				1Q			
Low-Rate Initial Production III (LRIP III Award)					1Q		
Developmental Testing (DT-IIC2/OT-[1&2])				1Q-3Q			
Operational Testing (OT-[3-12 & 2 Spares])				2Q-4Q			
Low-Rate Initial Production I Delivery				4Q	1Q-4Q		
Low-Rate Initial Production II Delivery						1Q-4Q	
Low-Rate Initial Production III Delivery							1Q-4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**			PROJECT NUMBER AND NAME **3092/Standard Missile 6 Program**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IOC				4Q			
Full-Rate Production (FRP) Decision				4Q			
Full-Rate Production (FRP) Award						1Q	
Full-Rate Production (FRP) Start						4Q	
First Deployment						4Q	

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604366N/STANDARD MISSILE IMPROVEMENTS**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Alternative Thermal Battery Program 9838N	0.974	0.000	0.000
RDT&E Articles Quantity	0	0	0

Conduct a trade study analysis on an alternative thermal battery production capability.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604373N/AIRBORNE MCM**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	57.126	55.979	39.882	33.264	30.319	34.453	41.368
0529 / ABN MINE HUNT SYSTEM	10.644	5.074	2.495	4.828	7.661	11.212	11.228
2047 / ALMDS	11.279	12.519	6.458	11.274	9.563	10.093	15.489
2427 / OASIS	11.740	7.637	7.060	6.471	3.087	4.719	4.814
2473 / Airborne Mine Neutralization System	18.608	24.098	20.413	7.750	7.114	5.474	6.852
4026 / Strat Into Medal, Tactics & Trng Organic Force	2.230	3.712	2.787	1.970	1.925	1.966	1.999
9179 / Surf Navy Integ Undersea Tactical Tech	0.000	0.554	0.669	0.971	0.969	0.989	0.986
9999 / CONG ADD	0.000	2.385	0.000	0.000	0.000	0.000	0.000
9A39N / Airborne Mine Countermeasures Open Arch Technology	2.625	0.000	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

(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 Littoral Combat Ship (LCS) Mine Warfare Mission Module. 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. Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop an AN/SQQ-32, AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).

FY2008 funding totals do not include $19.5M previously requested for current FY2008 GWOT requirements.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget	58.623	54.761	20.251
Current President's Budget	57.126	55.979	39.882
Total Adjustments	(1.497)	1.218	19.631
Summary of Adjustments:			
Miscellaneous Adjustments	0.000	(0.819)	
Congressional Undistributed Reductions		(0.363)	
Economic Assumptions			(0.169)
Congressional Increases		2.400	
Program Adjustment	0.000	0.000	19.800
SBIR Adjustments	(1.497)	0.000	0.000
Subtotal	(1.497)	1.218	19.631

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**				PROJECT NUMBER AND NAME **0529/ABN MINE HUNT SYSTEM**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	10.644	5.074	2.495	4.828	7.661	11.212	11.228
RDT&E Articles Qty	0	0	0	0	0	0	0

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 density 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 mine hunting sonar component for the Remote Mine hunting System (RMS). The AN/AQS-20A will be developed to meet the requirements of the Littoral Combat Ship (LCS) Mine Warfare Mission Module.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **0529/ABN MINE HUNT SYSTEM**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	6.634	3.659	1.414
RDT&E Articles Quantity	0	0	0

FY07:
- System engineering analysis on Search Sensor upgrades P3I development
- System requirements, performance assessment and PMA software for the CAD/CAC P3I development
- Began Environment Data Extraction Analysis

FY08:
- CAD/CAC software upgrades
- Sensor Fusion software upgrades
- Continue Real Time CADCAC development
- Continue Environmental Data Extraction Analysis

FY09:
- Perform Through the Sensor analysis
- CAD/CAC software upgrade
- Search Sensor upgrade

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.350	0.574	0.375
RDT&E Articles Quantity	0	0	0

FY07:
- Began performance analysis identifying design efforts required to resolve interface problems
- Tactics, Mission Planning, and PMA during MH-60S DT and OT phases
- Continue Interface/integration with MH-60S, C4I Interface and MEDAL
- Development of ILS and supportability products and training materials

FY08:
- Continue performance analysis identifying design efforts required to resolve interface problems

- Tactics, Mission Planning, and PMA during MH-60S OT phase
- Complete Interface/integration with MH-60S, C4I Interface and MEDAL
- Development of ILS and supportability products and training materials

FY09:
- Begin to develop ILS and supportability product and training materials for P3I improvements

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.000	0.550	0.550
RDT&E Articles Quantity	0	0	0

FY07:
- Continue MH-60S DT
- Support integration testing on Towed Body with RMS during TECHEVAL and OPEVAL
- Began Operational Testing

FY08:
- Complete MH-60S OT
- Conduct testing on P3I improvements

FY09:
- Conduct testing on P3I improvements

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.660	0.291	0.156
RDT&E Articles Quantity	0	0	0

FY07:
- Provide planning and management during MH-60S DT and OT phases
- Began documentation development in support of FRPDR
- Planning and management of AN/AQS-20A ILS

FY08:
- Provide planning and management during MH-60S OT phase
- Complete documentation development in support of FRPDR

- Planning and management of AN/AQS-20A ILS

FY09:

- Begin to support the development of ILS and supportability product and training materials for P3I improvements

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN LI 4248 AQS-20A	45.891	45.120	8.000	10.482	3.100	3.300	3.300		
OPN LI 1600 LCS Mission Modules	78.741	0.000	131.241	234.673	242.184	252.298	227.441		

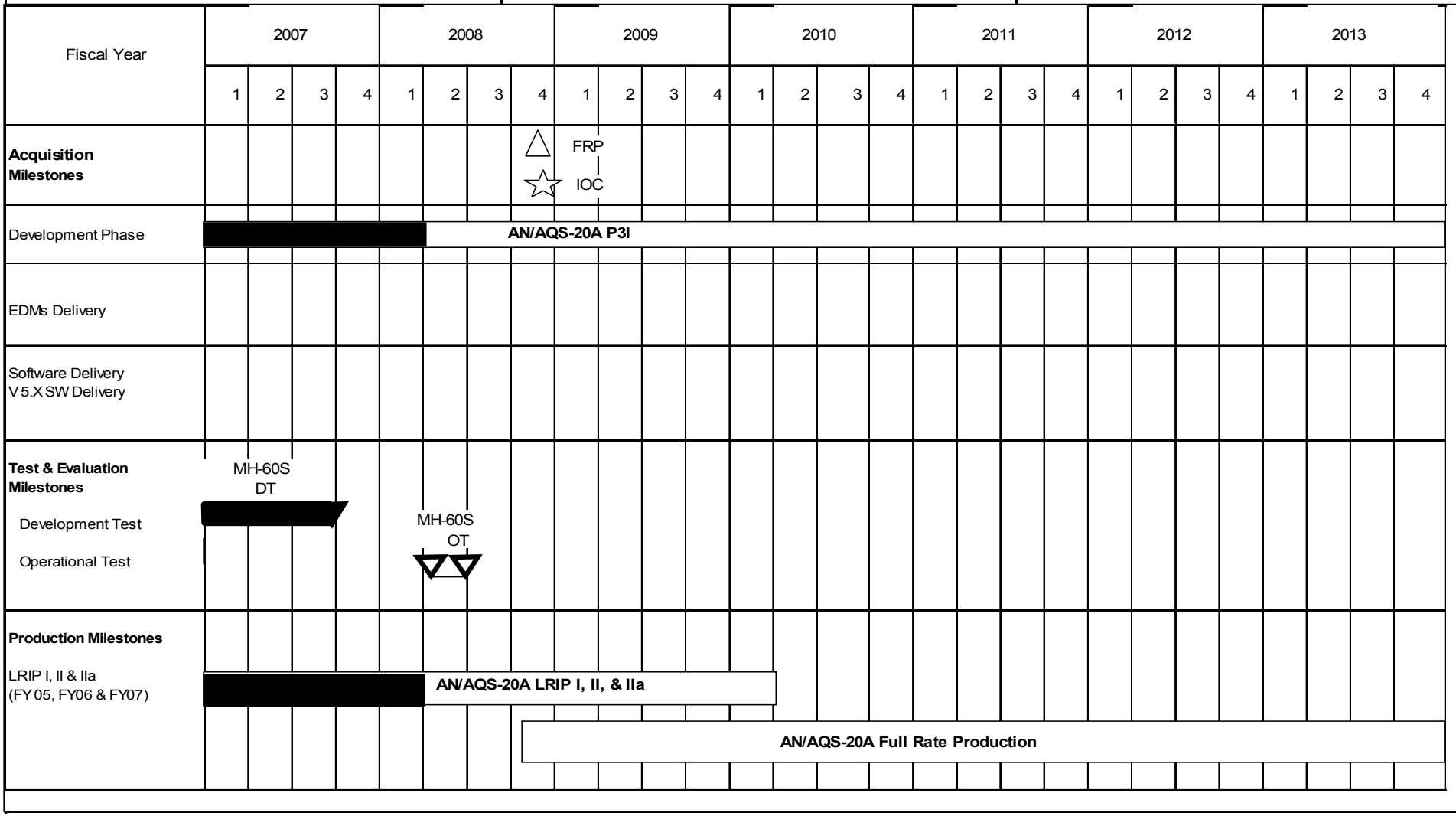
D. ACQUISITION STRATEGY:

AN/AQS-20A achieved Milestone C on 10 May 2005.

Sole Source to Raytheon of MH-60S systems. LRIP procurement began in FY05, FY06 and FY07. Full Rate Production Decision Review (FRPDR)is expected in August 2008 with sole source contract award for FY08 and FY09 procurements.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**					PROJECT NUMBER AND NAME **0529/ABN MINE HUNT SYSTEM**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	SS/CPIF	Raytheon, Portsmouth, RI	26.986	4.134	OCT-06	0.000		0.000		CONT	CONT	0.000
Hardware/Software Development	C/CPFF	Raytheon, Portsmouth, RI	60.150	0.000		0.000		0.000		0.000	60.150	0.000
Hardware/Software Development	WX	NSWC, PC	6.843	2.500	OCT-06	3.659	DEC-07	1.414	OCT-08	CONT	CONT	0.000
Hardware/Software Development	C/FP	Northrop Gurmman	4.572	0.000		0.000		0.000		0.000	4.572	0.000
			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Product Development			**98.551**	**6.634**		**3.659**		**1.414**		**CONT**	**CONT**	**0.000**
Remarks:												
Engineering Services	WX	NSWC, PC	29.218	0.500	OCT-06	0.474	DEC-07	0.325	NOV-08	CONT	CONT	0.000
Engineering Services	C/CPFF	Raytheon, Portsmouth, RI	3.286	0.400	OCT-06	0.000		0.000		CONT	CONT	0.000
Engineering Services	VAR	Various	53.518	0.500	OCT-06	0.000		0.000		0.000	54.018	0.000
Engineering Services	SS/CPIF	Raytheon, Portsmouth, RI	3.464	0.000		0.000		0.000		0.000	3.464	0.000
ILS Function	WX	NSWC, PC	5.982	0.230	OCT-06	0.100	DEC-07	0.050	NOV-08	CONT	CONT	0.000
ILS Function	SS/CPIF	Raytheon, Portsmouth, RI	0.826	0.720	OCT-06	0.000		0.000		CONT	CONT	0.000
ILS Function	VAR	Various	0.981	0.000		0.000		0.000		0.000	0.981	0.000
Subtotal Support Costs			**97.275**	**2.350**		**0.574**		**0.375**		**CONT**	**CONT**	**0.000**
Remarks:												
T&E Functions	WX	NSWC, PC	10.768	0.500	OCT-06	0.000		0.000		CONT	CONT	0.000
T&E Functions	SS/CPIF	Raytheon, Portsmouth, RI	3.634	0.500	OCT-06	0.550	FEB-08	0.550	FEB-09	CONT	CONT	0.000
T&E Functions	VAR	Various	1.583	0.000		0.000		0.000		0.000	1.583	0.000
Subtotal Test and Evaluation			**15.985**	**1.000**		**0.550**		**0.550**		**CONT**	**CONT**	**0.000**
Remarks:												
Management Services			3.497	0.630	OCT-06	0.266	JAN-08	0.131	JAN-09	CONT	CONT	0.000
Travel			0.474	0.030	OCT-06	0.025	OCT-07	0.025	OCT-08	CONT	CONT	0.000
Subtotal Management Services			**3.971**	**0.660**		**0.291**		**0.156**		**CONT**	**CONT**	**0.000**
Total Cost			**215.782**	**10.644**		**5.074**		**2.495**		**CONT**	**CONT**	**0.000**
Remarks:												

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **0529/ABN MINE HUNT SYSTEM**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**			PROJECT NUMBER AND NAME **0529/ABN MINE HUNT SYSTEM**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MH-60S Int DT	1Q-3Q						
MH-60S OT		2Q					
Low Rate Intial Production I, II, and Iia	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
IOC		4Q					
AN/AQS-20A Full Rate Production		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**				PROJECT NUMBER AND NAME **2047/ALMDS**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	11.279	12.519	6.458	11.274	9.563	10.093	15.489
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Airborne Laser Mine Detection System (ALMDS), designation AN/AES-1, is a light detection and ranging (LIDAR) Airborne Mine Countermeasures (AMCM) high area coverage system that detects, classifies, and localizes floating and near-surface , moored sea mines. The system is deployed from the MH-60S helicopter and will provide organic airborne mine defense to the battle force. The system represents a capability that does not exist in the current Mine Countermeasures (MCM) inventory.

ALMDS first spiral development phase, very shallow water capability, begins in FY2013.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2047/ALMDS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	5.683	4.222	2.676
RDT&E Articles Quantity	0	0	0

Hardware and Software technology development and demonstration/Engineering Services

FY07: Continue Engineering and design associated with increment1 baseline performance to include sensor tilt, movement of the umbilical cables, data processor improvements, receiver improvements and removal of PVC.

FY08:Continue engineering associated with Increment 1 Baseline.

FY09: Post test engineering associated with Increment 1 Baseline.

All: TDA Engineering/oversight/support of engineering efforts to meet baseline performance and full performance.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.122	0.092	0.092
RDT&E Articles Quantity	0	0	0

Integrated Logistics Support

FY07: Training for DT IID Phase B, WSITGT /CT / LCS Integration.

FY08: Training for DT IIE, Prepare for OT-IIA.

FY09: Training associated with OT IIA.

ALL: TDA support of ILS Program, to include operator training, NATOPS documentation updates, and tech/maintenance manual updates.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2047/ALMDS**	

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.853	6.428	2.850
RDT&E Articles Quantity	0	0	0

Testing and Evaluation

FY07 DT-IID Phase B, WSIT GT/ WSIT CT /SQT/Captive Carriage, Jettison Test.

FY08 DT-IID Phase C, WSIT CT, DT-IIE/E3 Testing.

FY09 Completion of DT-IIE and OT-IIA OPEVAL.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.621	1.777	0.840
RDT&E Articles Quantity	0	0	0

Project Management

FY07: Contracts support for DT-IID Phase B CLIN Financial/Production Management

FY08: Production / Financial management in support of Testing of Increment 1

FY09:Financial management / Contractor Support

ALL: TDA Program Management

C. OTHER PROGRAM FUNDING SUMMARY:

To Total

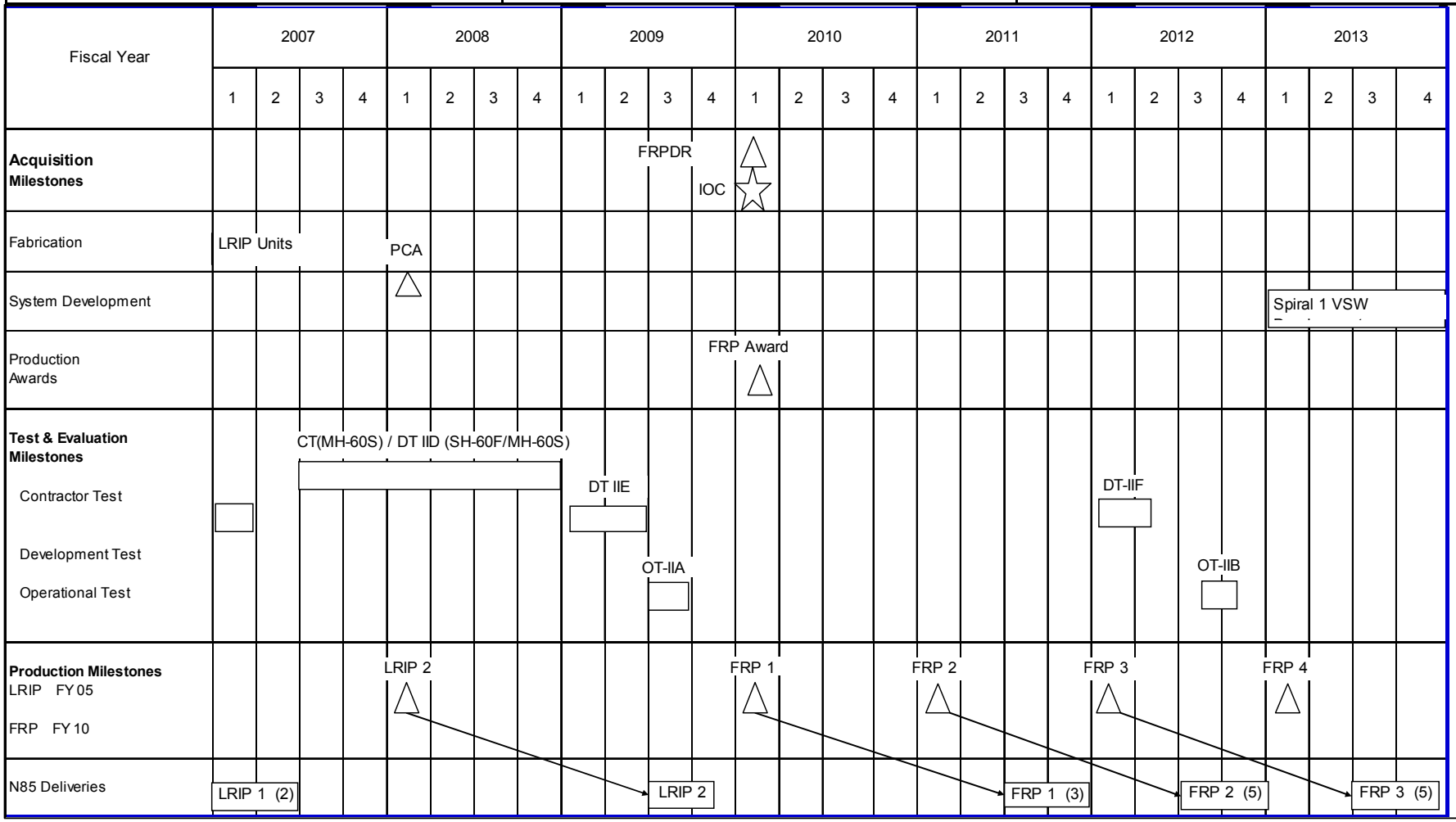
Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN LI 4248 Airborne MCM	11.192	20.800	3.558	20.397	29.794	29.951	6.300		
OPN LI 1600 LCS Mission Modules	78.741	0.000	131.241	234.673	242.184	252.298	227.441		

D. ACQUISITION STRATEGY:

The first LRIP lot of two units was awarded as a new sole-source contract to the SD&D contractor in FY05. This is a Fixed-Price Incentive (FPI) contract with cost and schedule incentives. The March 2006 Program Review decision memorandum approved the ALMDS Program for LRIP 2 procurement of two units for FY07 pending successful demonstration of Engineering Change Proposal (ECP) I performance during DT-IID; DT-IID Phase B was conducted on an SH-60F helicopter and DT-IID phase C will be conducted on an MH-60S helicopter. Full Rate Production (FRP) Lot 1 will also be an FRP option to LRIP I contract. FRP Lot 2 will be a new competitively awarded contract with options for the subsequent three years.

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**					PROJECT NUMBER AND NAME **2047/ALMDS**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WX	NSWC PC	0.661	0.000		0.000		0.000		0.000	0.661	0.000
Hardware/Software Development	RX	NSWC PC (Prime Contractor)	24.261	0.000		1.555	DEC-07	0.000		0.000	25.816	0.000
Hardware/Software Development	RX	Metron	0.625	0.000		0.000		0.000		0.000	0.625	0.000
Hardware/Software Development	RX	SAIC	0.200	0.000		0.000		0.000		0.000	0.200	0.000
Engineering Services	WX	NSWC PC	10.797	0.597	OCT-06	0.867	DEC-07	0.596	NOV-08	CONT	CONT	0.000
Engineering Services	WX	NSWC PC (Prime Contractor)	13.147	2.948	OCT-06	0.000		0.000		0.000	16.095	0.000
Engineering Services	VAR	Various	8.217	1.538	OCT-06	1.800	DEC-07	1.236	NOV-08	CONT	CONT	0.000
Engineering Services	RX	Various	3.322	0.600	OCT-06	0.000		0.000		CONT	CONT	0.000
Engineering Services	RX	Metron/Arete	0.700	0.000		0.000		0.844	NOV-08	0.000	1.544	0.000
Subtotal Product Development			**61.930**	**5.683**		**4.222**		**2.676**		**CONT**	**CONT**	**0.000**
Remarks:												
ILS Functions	WX	NSWC PC	1.818	0.122	OCT-06	0.092	NOV-07	0.092	NOV-08	CONT	CONT	0.000
ILS Functions	WX	NSWC PC (Prime Contractor)	5.725	0.000		0.000		0.000		CONT	CONT	0.000
ILS Functions	VAR	Various/NRL Stennins	1.062	0.000		0.000		0.000		0.000	1.062	0.000
ILS Functions	WX	NSWC PC	0.300	0.000		0.000		0.000		0.000	0.300	0.000
Subtotal Support Costs			**8.905**	**0.122**		**0.092**		**0.092**		**CONT**	**CONT**	**0.000**
Remarks:												
Testing and Evaluation	RX	NSWC PC (Prime Contractor)	9.672	1.440	NOV-06	2.150	NOV-07	0.350	NOV-08	CONT	CONT	0.000
Testing and Evaluation	WX	NSWC PC	11.469	2.413	OCT-06	3.450	OCT-07	2.500	NOV-08	CONT	CONT	0.000
Testing and Evaluation	VAR	Various	0.392	0.000		0.000		0.000		0.000	0.392	0.000
Testing and Evaluation	WX	Metron	0.000	0.000		0.828	OCT-07	0.000		0.000	0.828	0.000
Subtotal Test and Evaluation			**21.533**	**3.853**		**6.428**		**2.850**		**CONT**	**CONT**	**0.000**
Remarks:												
Travel	PD	NAVSEA	0.285	0.000		0.000		0.000		0.000	0.285	0.000
Management Support	VAR	Various	1.943	0.000		0.050	OCT-07	0.050	OCT-08	CONT	CONT	0.000
Management Support	WX	NSWC PC	0.579	0.980	NOV-06	0.927	NOV-07	0.100	NOV-08	CONT	CONT	0.000
Management Support	WX	NSWC PC	1.533	0.641	OCT-06	0.800	NOV-07	0.690	NOV-08	CONT	CONT	0.000
Subtotal Management Services			**4.340**	**1.621**		**1.777**		**0.840**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**96.708**	**11.279**		**12.519**		**6.458**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2047/ALMDS**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**			PROJECT NUMBER AND NAME **2047/ALMDS**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
CT/DT IID	3Q-4Q	1Q-4Q					
LRIP UNITS							
Physical Configuration Audit (PCA)		1Q					
Spiral 1 VSW Development							1Q-4Q
Full Rate Production (FRP) Decision				1Q			
IOC				1Q			
LRIP 1 Units Deliveries (02)	1Q-2Q						
LRIP 2 Units Deliveries (03)			3Q-4Q				
Full Rate Production (FRP) Start (FRP 1)				1Q			
Full Rate Production (FRP) Start (FRP 2)					1Q		
Full Rate Production Delivery Start (FRP 1)					3Q-4Q		
Full Rate Production Delivery Start (FRP 2)						3Q-4Q	
DT-IIE			1Q-2Q				
OT-IIA OPERATIONAL TESTING (OPEVAL)			3Q				
DT-IIF						1Q-2Q	
OT-IIB OPERATIONAL TESTING (OPEVAL)						3Q-4Q	

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**				PROJECT NUMBER AND NAME **2427/OASIS**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	11.740	7.637	7.060	6.471	3.087	4.719	4.814
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The OASIS system is a towed Minesweeping System to be deployed from specially configured MH-60S helicopters. The system provides a rapid response sweeping capability against bottom and moored, buried, 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, tow and sweep cable systems, power inverter, power distribution unit and storage/shipping containers. System interfaces with the MH-60S helicopter via the 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) are being developed for test and evaluation. The program recently added the Organic Cable Reeling Assembly (ORCA), a maintenance tool for cables used by OASIS and other systems. ORCA will provide a system for loading and unloading cables on the Carriage Stream and Recovery System (CSTRS) without the requirement for an MH60 helicopter. Areas of interest include but are not limited to the following: A) Real-time Mission Planning; B) Threat Emulation Jamming; C) Improved Power Inverter; D) Light weight winch drive-train; and E) Improved magnetic performance.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2427/OASIS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.954	1.541	0.000
RDT&E Articles Quantity	0	0	0

Product Development

FY07:
Continue development of ORCA, Award development contract.
Complete development of and retrofit components as needed based upon on-going testing lessons learned.

FY08:
Complete development of ORCA.
Provided development as necessary for MH-53 OA and MH-60 DT

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	5.020	3.246	1.991
RDT&E Articles Quantity	0	0	0

FY07:

Engineering support for development of re-designed Acoustic Brake/Sweep Cable/ Tow Cable/ Fairings/PDU and electrical systems.
Analysis of Tow Cable Twisting impacts and mitigation.
Analysis of 704A issues with OASIS testing.
Engineering and ILS support for ORCA contract.
Office of Naval Research program support.
Engineering and ILS support for Alternative Platform Testing, MH-53 OA, and preparation for MH-60 testing.

FY08:

Engineering and ILS support for ORCA contract.
Office of Naval Research program support.
Engineering and ILS support for MH-60 contractor testing.
Support for development of OASIS Maintenance Test Sets.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2427/OASIS**

FY09:
Support OASIS program enhancements to improve reliability, navigation, performance, and shock resistance.
Support ORCA requirements and validation.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	5.330	2.580	4.522
RDT&E Articles Quantity	0	0	0

FY07: Conduct MH-53 Alternative Platform testing. Prepare for MH-60 testing.
FY08: Conduct MH-60 Contractor Testing.

FY09: Conduct DTRR / DT. Conduct MH-60 Contractor Testing

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.436	0.270	0.547
RDT&E Articles Quantity	0	0	0

Monitor contractor progress with regard to schedule, cost, and technical status.
Monitor contractor CDRL and other deliverables.

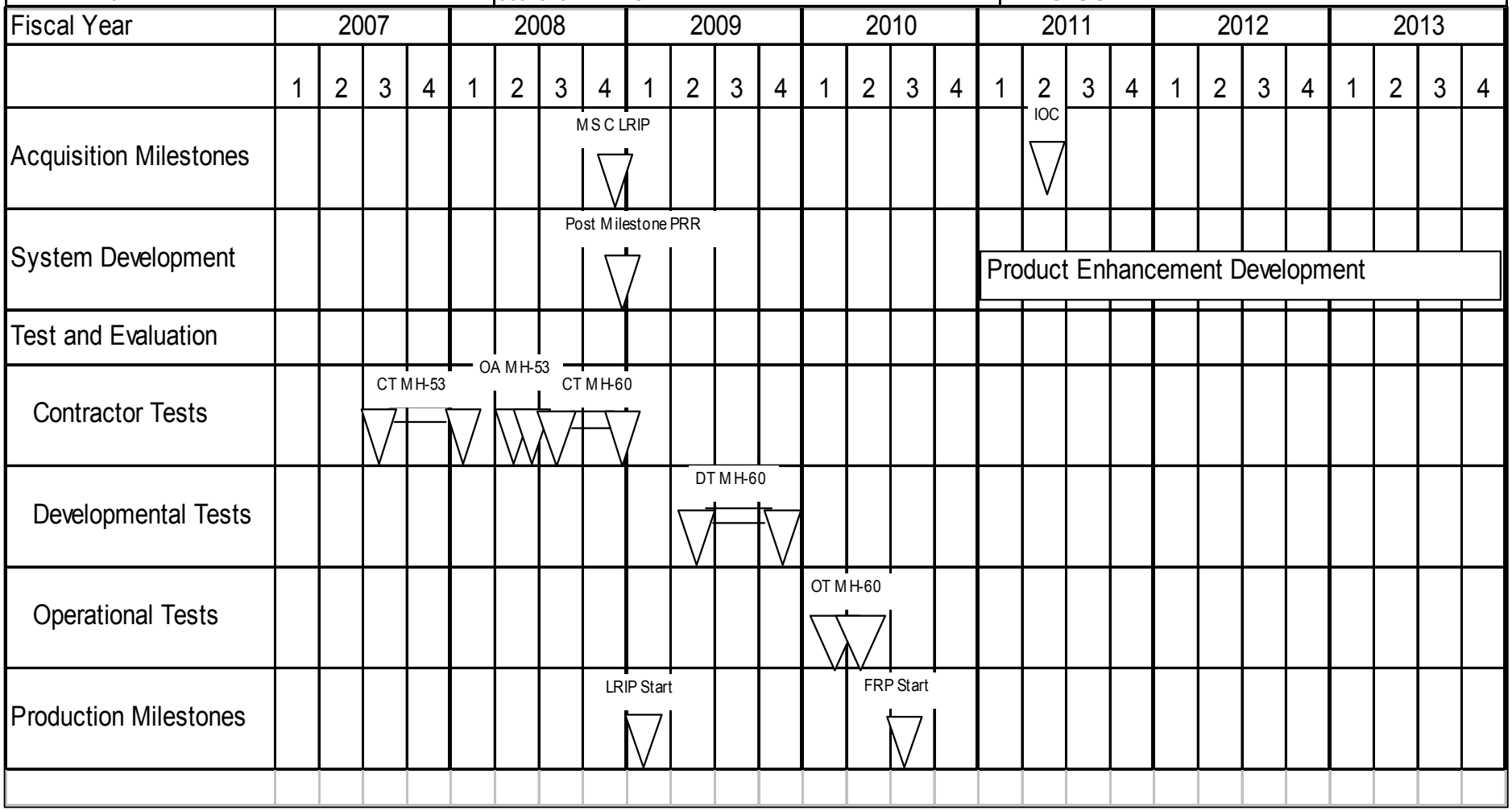
C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	To	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
424800 OPN (OASIS)	0.000	0.000	4.809	8.882	15.742					
424800 OPN (ORCA)	0.000	2.102	2.800	1.200	0.000					
160000 OPN LCS Mission Modules	78.741	0.000	131.241	234.673	242.184	252.298	227.441			

D. ACQUISITION STRATEGY:
After Milestone B review in FY02, a SD&D contract was awarded. In FY07, the program successfully completed MH-53 CT and Tower Testing. Plans for FY08 include MH-60 CT and MH-53 OA. LRIP procurement is scheduled for FY09 and Full Production in FY10.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**					PROJECT NUMBER AND NAME **2427/OASIS**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	C/CPFF	EDO Corp.	1.722	0.000		0.000		0.000		0.000	1.722	0.000
Hardware/Software Development	C/CPIF	EDO Corp.	11.367	0.954	NOV-06	0.300	NOV-07	0.000		CONT	CONT	0.000
Hardware/Software Development	SS/CPFF	Aeptec Microsystems Inc.	5.898	0.000		0.000		0.000		CONT	CONT	0.000
Hardware/Software Development	WX	NSWC PC	0.000	0.000		1.241	OCT-07	0.000		0.000	1.241	0.000
Subtotal Product Development			**18.987**	**0.954**		**1.541**		**0.000**		**CONT**	**CONT**	**0.000**
Remarks:												
Engineering Services	WX	NUWC Keyport	0.659	0.000		0.000		0.000		0.000	0.659	0.000
Engineering Services	C/CPIF	EDO Corp.	12.693	1.120	NOV-06	0.900	NOV-07	0.000		CONT	CONT	0.000
Engineering Services	WX	NSWC PC	11.415	1.655	NOV-06	1.606	NOV-07	0.948	NOV-08	CONT	CONT	0.000
Engineering Services	WX	NSWC Carderock MD	0.300	0.000		0.000		0.000		0.000	0.300	0.000
Engineer Services/ILS	VAR	Various	0.548	0.000		0.000		0.000		0.000	0.548	0.000
Engineering Services	PD	ONR	6.455	1.441	OCT-06	0.358	NOV-07	0.383	NOV-08	CONT	CONT	0.000
ILS Functions	C/CPIF	EDO Corp.	3.925	0.400	DEC-06	0.000		0.000		CONT	CONT	0.000
ILS Functions	WX	NSWC, PC	1.932	0.404	NOV-06	0.382	NOV-07	0.660	NOV-08	CONT	CONT	0.000
Subtotal Support Costs			**37.927**	**5.020**		**3.246**		**1.991**		**CONT**	**CONT**	**0.000**
Remarks:												
T&E Functions	C/CPIF	EDO Corp	6.526	1.142	JAN-07	0.310	NOV-07	0.115	NOV-08	CONT	CONT	0.000
T&E Functions	WX	NSWC PC	8.102	4.188	JAN-07	2.270	NOV-07	4.407	NOV-08	CONT	CONT	0.000
T&E Functions	VAR	Various	0.554	0.000		0.000		0.000		0.000	0.554	0.000
Subtotal Test and Evaluation			**15.182**	**5.330**		**2.580**		**4.522**		**CONT**	**CONT**	**0.000**
Remarks:												
Management Services	VAR	Various	4.844	0.406	OCT-06	0.235	NOV-07	0.522	OCT-08	CONT	CONT	0.000
Travel	PD	NAVSEA	0.255	0.030	OCT-06	0.035	NOV-07	0.025	OCT-08	CONT	CONT	0.000
Subtotal Management Services			**5.099**	**0.436**		**0.270**		**0.547**		**CONT**	**CONT**	**0.000**
Total Cost			**77.195**	**11.740**		**7.637**		**7.060**		**CONT**	**CONT**	**0.000**
Remarks:												

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2427/OASIS**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**			PROJECT NUMBER AND NAME **2427/OASIS**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
CT/DT MH53E Testing	1Q-4Q	1Q					
MH-53 OA		2Q					
CT MH-60s Testing		3Q-4Q					
DT Testing			2Q-4Q				
OPEVAL				1Q-2Q			
Milestone C (LRIP)		4Q					
Post Milestone PRR		4Q					
LRIP Contract Award			1Q				
FRP Contract Award				3Q			
Initial Operational Capability					2Q		
Product Enhancement Development					1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**				PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	18.608	24.098	20.413	7.750	7.114	5.474	6.852
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AMNS will provide the MH-60S helicopter with the capability to neutralize bottom and moored mines using an expendable mine neutralization device. The AMNS is being tested on the MH-53E helicopter to prove out the neutralization effectiveness. The system will be deployed from the MH-60S helicopter as part of the Littoral Combat Ship (LCS) Mine Warfare Mission Module. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). Development of an Untethered Launch and Handling System (LHS) for AMNS will occur in FY11-FY13.

The AN/AWS-2 Rapid Airborne Mine Clearance System (RAMICS) MIW program began Concept & Technology 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 mine hunting 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:

(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.

The system will be deployed from the MH-60S helicopter and will provide organic airborne mine defense as part of Littoral Combat Ship (LCS) Mine Warfare Mission Module. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA).

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.174	2.643	2.307
RDT&E Articles Quantity	0	0	0

AMNS

Develop logistics products, including training materials and interactive technical manual. Provide engineering support, including review for product development and integration.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	8.006	6.376	3.029
RDT&E Articles Quantity	0	0	0

AMNS

FY07: Conducted MH-60S contractor test.

FY08: Initiate MH-60S TECHEVAL.

FY09: Complete MH-60S TECHEVAL. Conduct MH-60S OPEVAL.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.411	0.333	0.164
RDT&E Articles Quantity	0	0	0

AMNS

Provide program management support and travel for AMNS.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.649	2.100	3.753
RDT&E Articles Quantity	0	0	0

RAMICS

FY07: Continue RAMICS design, develop, and fabrication of Engineering Development Models (EDMs). Conduct contractor testing (CT).

FY08: Conduct Contractor Testing (CT), WSIT Ground Testing, EDM Delivery, captive carriage and jettison testing on the MH-60S helicopter,

FY09: Conduct Alternate Platform Testing (DT-IIA), WSIT CT, and MS C.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	4.055	4.738	4.305
RDT&E Articles Quantity	0	0	0

RAMICS

Project management, system engineering, ILS and Software Development.

FY07: To support Project management, system engineering, system integration assemble/checkout, ILS, and Software Development. Gun System performance analysis, safety and system integration.

FY08: To support Project management, system engineering, ILS and Software Development.

FY09: To support Project management, system engineering, ILS and Software Development.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**	

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.983	5.481	5.575
RDT&E Articles Quantity	0	0	0

RAMICS

Support Contractor Testing (CT) WSIT ground Test, EDM Delivery.

FY07: Support Contractor Testing (CT).

FY08: Support Contractor Testing (CT), WSIT ground Test, EDM delivery, captive carriage and jettison testing on the MH-60S helicopter.

FY09: Support Alt. Platform Testing (DTIIA), and WSIT CT.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.330	2.427	1.280
RDT&E Articles Quantity	0	0	0

RAMICS

FY07: Support all Program Management and T&E efforts.

FY08: Support all Program Management and T&E efforts.

FY09: Support all Program Management and T&E efforts.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
AMNS									
4248 OPN	4.481	7.946	11.277	17.000	4.000	1.000	5.300		
AMNS									
4225 WPN	3.138	6.522	5.588	4.503	4.308	4.428	4.557		
1600 LCS Mission Modules	78.741	0.000	131.241	234.673	242.184	252.298	227.441		
RAMICS									
4225 WPN	0.000	0.000	0.000	33.182	20.755	31.173	31.536		
RAMICS									
0196 PANMC	0.000	0.000	0.967	2.044	1.476	3.013	3.040		
4221 LCS Mission Modules			2.786	24.522	47.353	45.261	10.701		

D. ACQUISITION STRATEGY:

AMNS: In FY08 following a successful alternate platform test, contractor test on an MH-60S, and MS-C, the Navy will exercise two (2) LRIP options in the current AMNS SD&D contract with Raytheon. Following a successful DT and OT on an MH-60S, FRP is planned for FY10. The Navy will award a sole source contract to BAE for Common Neutralizer procurements, to begin in FY08.

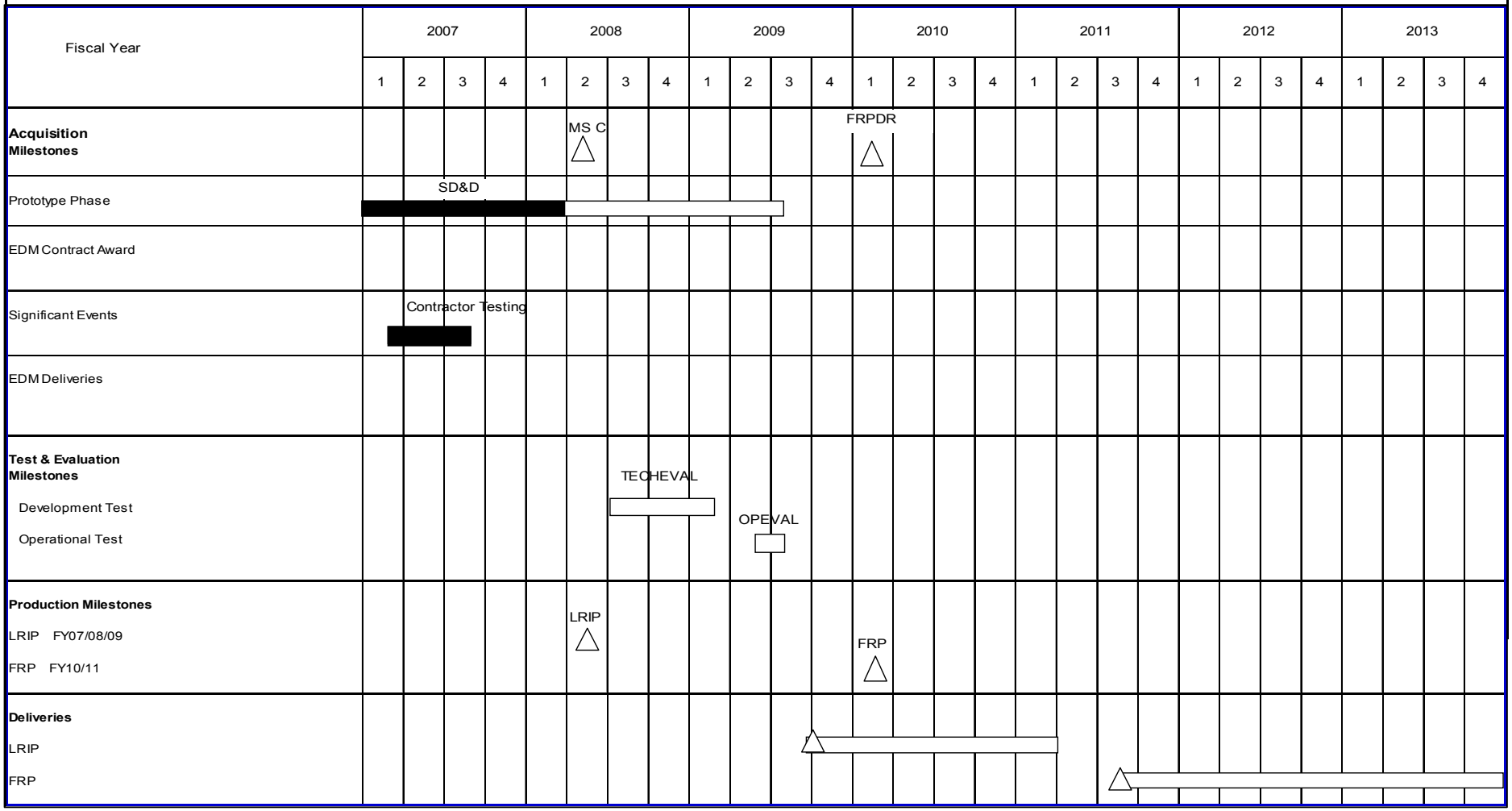
RAMICS: Achieved MS B in July 2002 and awarded SD&D contract in August 2002 based on a full and open competition. Following MS C , an FY10 LRIP award is planned for two (2) systems for fleet use. Full Rate Production (FRP) is scheduled to start in FY11.

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**					PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	C/845	Lockheed Syracuse, NY	3.331	0.000		0.000		0.000		0.000	3.331	0.000
Hardware/Software Development	VAR	Various	3.359	0.000		0.000		0.000		0.000	3.359	0.000
Hardware/Software Development	WX	NSWC PC	2.275	0.000		0.000		0.000		0.000	2.275	0.000
Hardware/Software Development	C/CPIF	Raytheon, Portsmouth RI	16.354	0.000		0.000		0.000		0.000	16.354	0.000
Untethered Hardware Development	C/CPIF	TBD	0.000	0.000		0.000		0.000		4.480	4.480	0.000
Untethered Hardware Development	WX	NSWC PC	0.000	0.000		0.000		0.000		0.600	0.600	0.000
Subtotal Product Development			**25.319**	**0.000**		**0.000**		**0.000**		**5.080**	**30.399**	**0.000**
Remarks: AMNS ONLY												
Engineering Services	VAR	Various	3.300	0.000		0.000		0.000		0.000	3.300	0.000
Engineering Services	WX	NSWC	17.099	1.497	OCT-06	0.871	OCT-07	1.083	NOV-08	0.000	20.550	0.000
Engineering Services	C/CPIF	Raytheon, Portsmouth RI	6.279	1.677	OCT-06	0.939	OCT-07	0.807	NOV-08	0.000	9.702	0.000
Untethered Engineering Services	C/CPIF	TBD	0.000	0.000		0.000		0.000		0.657	0.657	0.000
Untethered Engineering Services	WX	NSWC PC	0.000	0.000		0.000		0.000		1.162	1.162	0.000
ILS Functions	WX	NSWC	3.924	0.000		0.582	OCT-07	0.291	NOV-08	0.000	4.797	0.000
ILS Functions	SS/BOA	Lockheed Syracuse NY	0.227	0.000		0.000		0.000		0.000	0.227	0.000
ILS Functions	C/CPIF	Raytheon, Portsmouth RI	1.735	0.000		0.251	OCT-07	0.126	NOV-08	0.000	2.112	0.000
Untethered ILS Functions	C/CPIF	TBD	0.000	0.000		0.000		0.000		0.200	0.200	0.000
Untethered ILS Functions	WX	NSWC PC	0.000	0.000		0.000	OCT-07	0.000		0.602	0.602	0.000
Subtotal Support Costs			**32.564**	**3.174**		**2.643**		**2.307**		**2.621**	**43.309**	**0.000**
Remarks: AMNS ONLY												
Development Test & Evaluation	VAR	Various	0.300	0.000		0.000		0.000		0.000	0.300	0.000
Development Test & Evaluation	WX	NSWC	11.843	3.904	OCT-06	5.228	DEC-07	0.820	NOV-08	0.000	21.795	0.000
Development Test & Evaluation	SS/BOA	Lockheed Syracuse NY	1.254	0.000		0.000		0.000		0.000	1.254	0.000
Development Test & Evaluation	C/CPIF	Raytheon Portsmouth RI	4.722	1.037	OCT-06	1.148	DEC-07	0.000		0.000	6.907	0.000
Operational Test & Evaluation	WX	COTF Norfolk VA	1.388	0.000		0.000		2.209	NOV-08	0.000	3.597	0.000

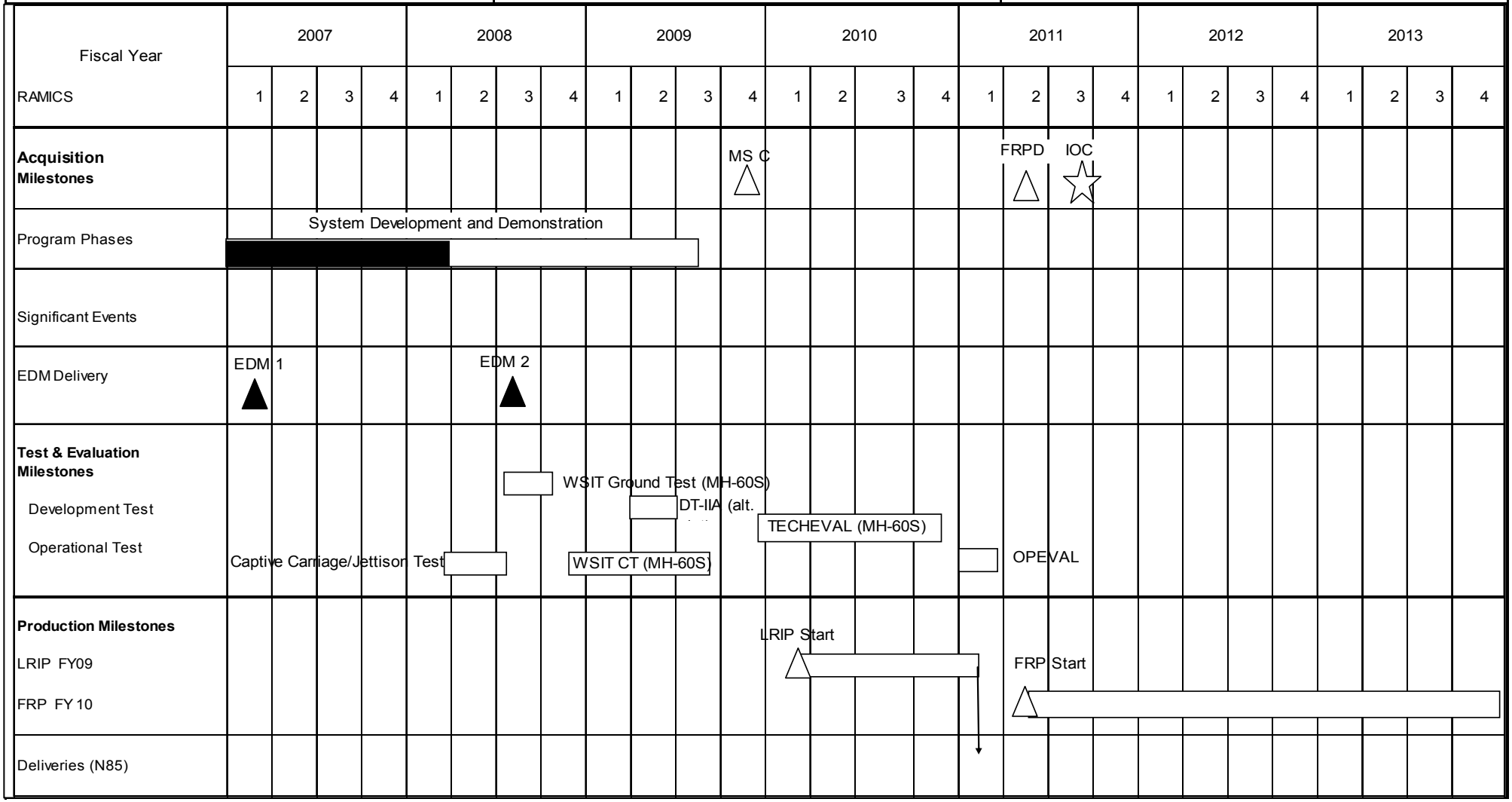
CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**					PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Operational Test & Evaluation	SS/BOA	Lockheed Syracuse NY	0.767	0.000		0.000		0.000		0.000	0.767	0.000
Test Assets	C/CPIF	Raytheon Portsmouth RI	0.000	3.065	OCT-06	0.000		0.000		0.000	3.065	0.000
Untethered Test and Evaluation	C/CPIF	TBD	0.000	0.000		0.000		0.000		0.400	0.400	0.000
Untethered Test and Evaluation	WX	NSWC PC	0.000	0.000		0.000		0.000		1.800	1.800	0.000
Subtotal Test and Evaluation			**20.274**	**8.006**		**6.376**		**3.029**		**2.200**	**39.885**	**0.000**
Remarks: AMNS ONLY												
Program Management Support	VAR	Various	2.114	0.371	OCT-06	0.293	OCT-07	0.124	NOV-08	0.000	2.902	0.000
Travel	PD	NAVSEA	0.254	0.040	OCT-06	0.040	OCT-07	0.040	NOV-08	0.000	0.374	0.000
Subtotal Management Services			**2.368**	**0.411**		**0.333**		**0.164**		**0.000**	**3.276**	**0.000**
Remarks: AMNS ONLY												
Hardware/Software Development	C/CPIF	Northrop Grumman, FL	29.980	0.649	OCT-06	1.500	OCT-07	2.500	OCT-08	2.000	36.629	0.000
Hardware/Software Development	WX	NSWC PC	1.634	0.000		0.100	OCT-07	1.200	OCT-08	2.164	5.098	0.000
Hardware/Software Development	RCP	Crane - Crane IN	2.095	0.000		0.500	OCT-07	0.053	OCT-08	0.050	2.698	0.000
Subtotal PRODUCT DEVELOPMENT RAMICS			**33.709**	**0.649**		**2.100**		**3.753**		**4.214**	**44.425**	**0.000**
Remarks: RAMICS ONLY												
Engineering Services	C/CPIF	Northrop Grumman FL	9.264	3.005	OCT-06	1.288	NOV-07	2.000	OCT-08	2.000	17.557	0.000
Engineering Services	WX	NSWC PC	7.734	0.700	OCT-06	1.550	NOV-07	1.435	OCT-08	2.000	13.419	0.000
Engineering Services	Various	Crane - Crane IN	2.432	0.300	OCT-06	0.375	NOV-07	0.080	OCT-08	0.100	3.287	0.000
Engineering Services	WX	Various	2.407	0.050	OCT-06	0.050	NOV-07	0.100	OCT-08	0.100	2.707	0.000
ILS Functions	C/CPIF	Northrop Grumman FL	6.020	0.000		0.475	NOV-07	0.340	OCT-08	0.755	7.590	0.000
ILS Functions	WX	NSWC PC	1.335	0.000		0.200	OCT-07	0.300	OCT-08	1.500	3.335	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**					PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ILS Functions	Various	Various	1.780	0.000		0.800	NOV-07	0.050	OCT-08	0.100	2.730	0.000
Subtotal SUPPORT COSTS RAMICS			**30.972**	**4.055**		**4.738**		**4.305**		**6.555**	**50.625**	**0.000**
Remarks: RAMICS ONLY												
Test & Evaluation	C/CPIF	Northrop Grumman, FL	6.774	0.416	OCT-06	0.725	OCT-07	2.000	OCT-08	1.000	10.915	0.000
Test & Evaluation	WX	NSWC PC	4.314	0.400	OCT-06	0.200	NOV-07	0.975	OCT-08	1.250	7.139	0.000
Test & Evaluation	WX	Crane - Crane IN	0.857	0.167	OCT-06	0.875	NOV-07	0.100	OCT-08	1.150	3.149	0.000
Test & Evaluation	Various	Various	6.157	1.000	OCT-06	0.681	NOV-07	2.500	OCT-08	1.000	11.338	0.000
Test & Evaluation	FFP	QinetiQ, UK	0.000	0.000		3.000	OCT-07	0.000			3.000	0.000
Subtotal TEST AND EVALUATION RAMICS			**18.102**	**1.983**		**5.481**		**5.575**		**4.400**	**35.541**	**0.000**
Remarks:												
Management Support	Various	Various	2.746	0.300	OCT-06	2.387	OCT-07	1.250	OCT-08	2.000	8.683	0.000
Management Support	PD	Travel	0.210	0.030	OCT-06	0.040	OCT-07	0.030	OCT-08	0.120	0.430	0.000
Subtotal MANAGEMENT SERVICES RAMICS			**2.956**	**0.330**		**2.427**		**1.280**		**2.120**	**9.113**	**0.000**
Remarks: RAMICS ONLY												
Total Cost			**166.264**	**18.608**		**24.098**		**20.413**		**27.190**	**256.573**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**



CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **2473A/RAMICS**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**			PROJECT NUMBER AND NAME **2473/Airborne Mine Neutralization System**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AMNS							
SD&D Phase (MH-60S)	1Q-4Q	1Q-4Q	1Q-3Q				
EDM Deliveries (MH-60S)							
Alternate Platform Testing							
Contractor Testing (MH-60S)	1Q-3Q						
Milestone C (MS C)		2Q					
LRIP (MH-60S) Start		2Q					
TECHEVAL (MS-60s)		3Q-4Q	1Q				
OPEVAL (MH-60s) Start			2Q-3Q				
FRPDR (MH-60s)				1Q			
FRP (MH-60s) Start				1Q			
RAMICS							
System Development and Demonstration (SD&D) Phase	1Q-4Q	1Q-4Q	1Q-3Q				
Engineering Development Model (EDM) (2 units)	1Q	3Q					
Technical Evaluation (TECHEVAL) MH-60			4Q	1Q-4Q			
Milestone (MS) C			4Q				
Start Low Rate Initial Production (LRIP)				1Q			
Captive Carriage / Jettison Testing		1Q-3Q					
Operational Evaluation (OPEVAL)					1Q		
Full Rate Production Decision (FRPD)					2Q		
LRIP Procurement				1Q-4Q	1Q		
Initial Operational Capability (IOC)					3Q		
Full Rate Production Start					2Q		
WSIT Ground Test (MH-60s)		3Q-4Q					
DT-IIA (Alternate Platform)			2Q				
WSIT CT (MH-60s)		4Q	1Q-3Q				

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**				PROJECT NUMBER AND NAME **4026/Strat Into Medal, Tactics & Trng Organic Force**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.230	3.712	2.787	1.970	1.925	1.966	1.999
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The 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.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **4026/Strat Into Medal, Tactics & Trng Organic Force**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.546	1.175	0.762
RDT&E Articles Quantity	0	0	0

Hardware/Software Development:
OPTPLAN for Q-20 and ALMDS
Code core OPMA module
Code system-specific OPMA Modules

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.493	2.374	1.862
RDT&E Articles Quantity	0	0	0

Engineering Services/ILS:
MIW Commander's Handbook
OAMCM Tactics Continuum materials
Reachback Support for tactical employment of OAMCM systems
Incorporate tactics lessons learned into TACMEMOs
ILS planning for OPMA

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.040	0.000	0.000
RDT&E Articles Quantity	0	0	0

T&E Support for MEDAL/PMA integration during WSIT CT and DT

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.151	0.163	0.163
RDT&E Articles Quantity	0	0	0

Field Activity program management and travel
MEDAL contractor management support to CTMP

C. OTHER PROGRAM FUNDING SUMMARY:

To Total

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
24800, S0090, OPMA	0.000	0.256	0.256	0.256					

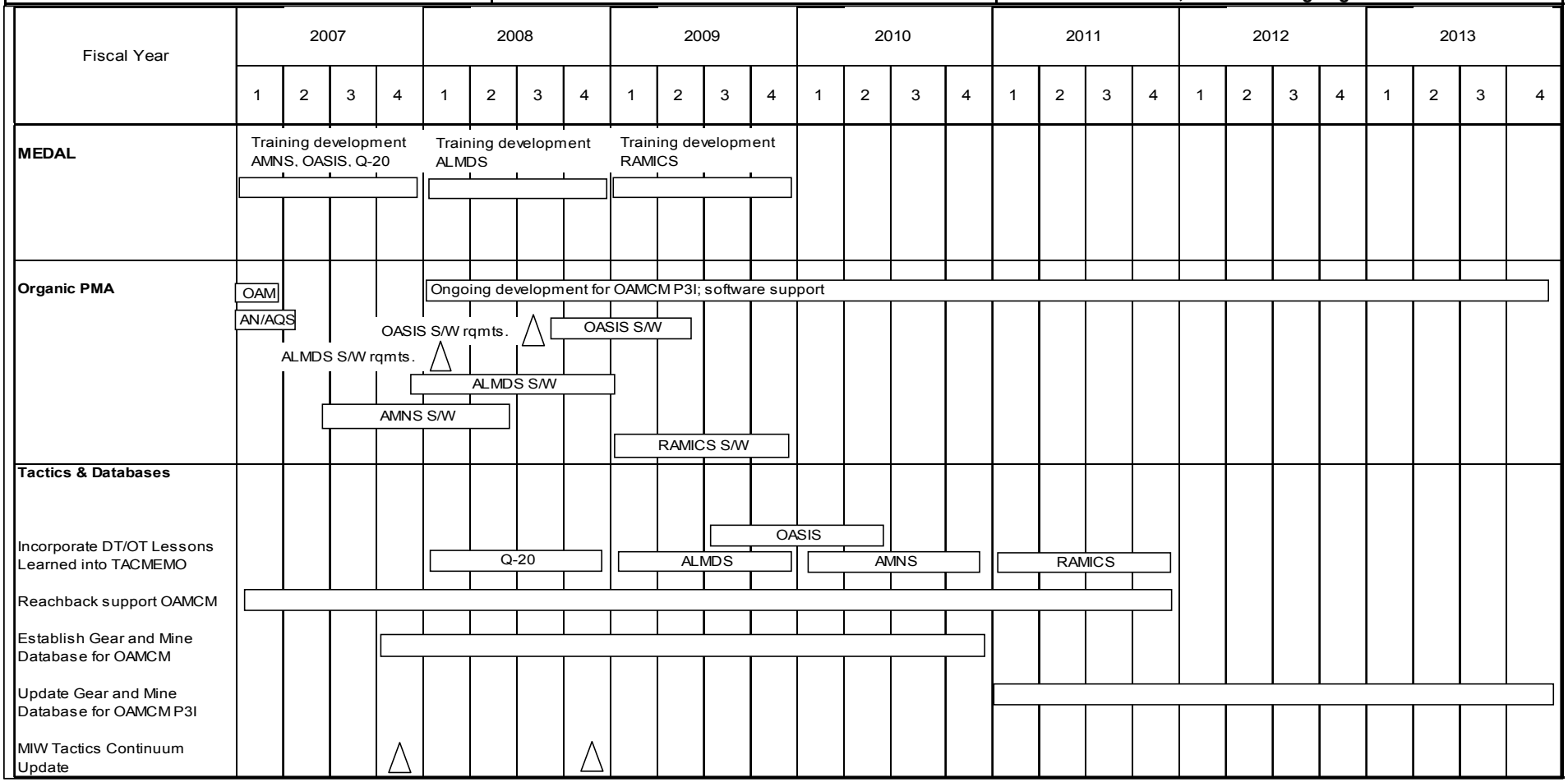
CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **4026/Strat Into Medal, Tactics & Trng Organic Force**

D. ACQUISITION STRATEGY:

The Organic Post-Mission Analysis (OPMA) capability for the OAMCM systems will be developed by NSWC PC, Panama City, FL. The OPMA project will leverage existing system-specific developmental PMA software, maximize commonality, and host the software on a common shipboard computer. OPN funding will be used to procure ruggedized portable OPMA computers for ship of opportunity deployments, land basing, and training. Development of OAMCM-system-specific MEDAL modules will be performed by SAIC, McLean, VA. This effort will include post-test updates for the system-specific MEDAL modules to allow transition to a Fleet release. NSWC-PC will contract for this work on a time and materials basis. The tactics development, tactics training, and tactics algorithms/database efforts are performed by NSWC-PC. These efforts will provide reach back support as the OAMCM systems begin to be fielded; will develop modifications to environmental databases necessary to support OAMCM mission planning; will update the MIW Tactics Continuum to address OAMCM; and will update the gear and mine database for threats addressed by the OAMCM systems.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**					PROJECT NUMBER AND NAME **4026/Strat Into Medal, Tactics & Trng Organic Force**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	RX	SAIC	0.487	0.055	OCT-06	0.714	NOV-07	0.250	NOV-08	CONT	CONT	0.000
Hardware/Software Development	WX	NSWC PC	1.042	0.491	OCT-06	0.461	OCT-07	0.512	OCT-08	CONT	CONT	0.000
Subtotal Product Development			**1.529**	**0.546**		**1.175**		**0.762**		**CONT**	**CONT**	**0.000**
Remarks:												
Engineering Services	WX	NAVO	0.000	0.015	OCT-06	0.015	OCT-07	0.015	OCT-08	CONT	CONT	0.000
Engineering Services	VAR	Various	0.004	0.399	OCT-06	0.137	OCT-07	0.172	OCT-08	CONT	CONT	0.000
Engineering Services	WX	NSWC PC	0.817	0.437	OCT-06	1.004	OCT-07	0.834	OCT-08	CONT	CONT	0.000
Engineering Services	RX	TBD	0.000	0.240	NOV-06	0.339	NOV-07	0.369	NOV-08	CONT	CONT	0.000
Engineering Services	RX	SAIC	0.000	0.181	NOV-06	0.409	NOV-07	0.150	NOV-08	CONT	CONT	0.000
ILS			0.201	0.221	OCT-06	0.470	OCT-07	0.322	OCT-08	CONT	CONT	0.000
Subtotal Support Costs			**1.022**	**1.493**		**2.374**		**1.862**		**CONT**	**CONT**	**0.000**
Remarks:												
Test and Evaluation	WX	NSWC PC	0.000	0.040	OCT-06	0.000		0.000		CONT	CONT	0.000
Subtotal Test and Evaluation			**0.000**	**0.040**		**0.000**		**0.000**		**CONT**	**CONT**	**0.000**
Remarks:												
Management Support	WX	NSWC PC	0.416	0.131	OCT-06	0.140	OCT-07	0.140	OCT-08	CONT	CONT	0.000
Management Support	RX	SAIC	0.040	0.020	NOV-06	0.023	NOV-07	0.023	NOV-08	CONT	CONT	0.000
Subtotal Management Services			**0.456**	**0.151**		**0.163**		**0.163**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**3.007**	**2.230**		**3.712**		**2.787**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **4026/Strat Into Medal, Tactics & Trng Organic Force**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**			PROJECT NUMBER AND NAME **4026/Strat Into Medal, Tactics & Trng Organic Force**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPMA; OAMCM software development (core)	1Q						
OPMA; AN/AQS-20A software	1Q-2Q						
OPMA; OASIS Software Requirements		3Q					
OPMA; ALMDS Software Requirements		1Q					
Reachback Support	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
OPMA; AMNS Software	2Q-4Q	1Q-2Q					
OPMA; RAMICS Software			1Q-4Q				
MEDAL; training development AMNS, OASIS, Q-20	1Q-4Q						
MEDAL training development, ALMDS		1Q-4Q					
MEDAL training development, RAMICS			1Q-4Q				
MIW Tactics Continumum update	4Q	4Q					
Incorporate DT/OT lessons learned into TACMEMO; Q-20		1Q-4Q					
Incorporate DT/OT lessons learned into TACMEMO; ALMDS			1Q-4Q				
Incorporate DT/OT lessons learned into TACMEMO; AMNS				1Q-4Q			
Incorporate DT/OT lessons learned into TACMEMO; RAMICS					1Q-4Q		
Incorporate DT/OT lessons learned into TACMEMO; OASIS			3Q-4Q	1Q-2Q			
Establish gear and Mine database for OAMCM	4Q	1Q-4Q	1Q-4Q	1Q-4Q			
Update gear and Mine database for OAMCM P3I					1Q-4Q	1Q-4Q	1Q-4Q
Organic PMS; ongoing development for P3I; software support		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
OPMA ALMDS Software Module	4Q	1Q-4Q	1Q				
OPMA OASIS Software Module		3Q-4Q	1Q-2Q				

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**				PROJECT NUMBER AND NAME **9179/Surf Navy Integ Undersea Tactical Tech**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	0.554	0.669	0.971	0.969	0.989	0.986
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop an AN/SQQ-32, AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **9179/Surf Navy Integ Undersea Tactical Tech**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.464	0.555
RDT&E Articles Quantity	0	0	0

Development of an AN/SQQ-32, AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT). Also development of a Scenario Generator software system for REMUS for mine like contact recognition training.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.090	0.114
RDT&E Articles Quantity	0	0	0

SNIUTT In-Service Engineering Agent (ISEA) and development support is provided by Naval Surface Warfare Center, Panama City (NSWC PC).

C. OTHER PROGRAM FUNDING SUMMARY:

To Total

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
4248, S0090, SNUITT	0.000	0.120	0.120	0.120	0.120	0.300	0.300		

D. ACQUISITION STRATEGY:

Surface Navy Integrated Undersea Tactical Technology (SNIUTT) has been used to develop an AN/SQQ-32, AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training modules. Funds will continue to support training for these four sonar systems, as well as training for the REMUS sonar systems in the same format as previous training. The SNIUTT sensor training modules will be developed by NSWC PC, Panama City, FL, in association with Advanced Acoustic Concepts (AAC), Ronkonkoma, NY. NSWC PC will contract with AAC for this work under a Cost Plus Fixed-Fee (CPFF) scenario. Funds are being provided for development and delivery of refresher scenario based contact recognition training, and the update and modification of contact recognition training (interactive web based training and proficiency focused stand-alone training) in support of the SNIUTT program.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**				PROJECT NUMBER AND NAME **9999/CONG ADD**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.625	2.385	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Plus-up - AMCM Open Architecture Technology - In support of Airborne Mine Countermeasure (AMCM) systems, this initiative will provide open systems migration of unique military standard sensors, electronics, and software system components to lower cost/higher performance commercial equivalent capabilities. This effort will develop and accelerate an Open Architecture Multi-static Technology Insertion solution for the Navy's Airborne Mine Countermeasures Program. The anticipated result is lower cost/higher performance equivalent capabilities based on open architecture software and hardware components.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604373N/AIRBORNE MCM**	PROJECT NUMBER AND NAME **9999/CONG ADD**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.625	2.385	0.000
RDT&E Articles Quantity	0	0	0

Congressional Plus-up - AMCM Open Architecture Technology - In support of Airborne Mine Countermeasure (AMCM) systems, this initiative will provide open systems migration of unique military standard sensors, electronics, and software system components to lower cost/higher performance commercial equivalent capabilities. This effort will develop and accelerate an Open Architecture Multi-static Technology Insertion solution for the Navy's Airborne Mine Countermeasures Program. The anticipated result is lower cost/higher performance equivalent capabilities based on open architecture software and hardware components.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604378N/NAVAL INTEGRATED FIRE CONTROL**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	14.359	14.829	10.533	12.075	15.136	6.311	5.331
3159 / Naval Integrated Fire Control-Counter Air SE&I	14.359	11.252	10.533	12.075	15.136	6.311	5.331
9999 / CONGRESSIONAL ADD	0.000	3.577	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

3159 Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) will extend the Naval Theater Air and Missile Defense battlespace out to the maximum effective range of the weapon. It extends the battlespace to distances that are well beyond the existing, stand-alone capability of surface ship controlled air defense weapons. NIFC-CA is a capabilities based program that takes current and emerging technology from Core Pillar Programs (Cooperative Engagement Capability (CEC), Aegis, Standard Missile (SM-6) and E-2D Advanced Hawkeye (AHE)) and other related programs and integrates them together to form the successful implementation of a System of Systems (SoS) Capability. The NIFC-CA focus is on Integrated Fire Control for over-the-horizon (beyond visual range) and engage-on-remote capability. NIFC-CA is a key component of Navy Transformation "SEA SHIELD".

NIFC-CA is a SoS Systems Engineering capability designed to define the functional allocation for the pillar elements within NIFC-CA (SM-6, E-2D, CEC and Aegis). This PE will support SoS SE efforts including system definition, architecture, performance assessment, test design and strategy, modeling and simulation, risk reduction and capability demonstration for successful convergence of the pillar programs. The funding identified will provide for NIFC-CA SEI&T risk reduction for engage-on-remote capability and SoS integration.

Systems Engineering Integration and Test (SEI&T) for SoS is required for identification, tracking and management of SoS risks, and the integration and test of component programs. Project NIFC-CA SEI&T develops and recommends performance trade-offs and allocates functionality to systems in order to achieve a cost-effective, life-cycle balanced engage-on-remote, over the horizon SoS mission capability leading to a joint integrated fire control. NIFC-CA requires up-front SoS SE for Pillar contributions to From the Sea (FTS) Kill Chain. The FTS Kill Chain is one of 3 kill chains. The other two are the From the Air (FTA) Kill Chain and From the Land (FTL) Kill Chain. All 3 Kill Chains comprise the Naval contribution to Joint IFC. Proof of concept demonstration planned 2007/08 consisting of Air Directed Surface to Air Missile (ADSAM) demo with multiple kill chains. Potential FTS and FTL DT 2010/11. NIFC-CA IOC is 2014.

9999 The SPS-49 Radar received a Congressional Add in 2008 for supportability efforts required to bridge the gap between present supportability philosophy and the Common Digital Sensor Architecture (CDSA).

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604378N/NAVAL INTEGRATED FIRE CONTROL**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY08 Pres Controls)	14.736	11.497	10.747
Current FY09 Presidents Budget Controls	14.359	14.829	10.533
Total Adjustments	-0.377	3.332	-0.214
Summary of Adjustments			
PR09 PDM II ADJUSTMENT	0.000	0.000	-0.145
Misc Adjustments	-0.377	-0.073	-0.069
Execution Realignments	0.000	-0.172	0.000
Congressional Add	0.000	3.577	0.000

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**				PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	14.359	11.252	10.533	12.075	15.136	6.311	5.331
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) will extend the Naval Theater Air and Missile Defense battlespace out to the maximum effective range of the weapon. It extends the battlespace to distances that are well beyond the existing, stand-alone capability of surface ship controlled air defense weapons. NIFC-CA is a capabilities based program that takes current and emerging technology from Core Pillar Programs (Cooperative Engagement Capability (CEC), Aegis, Standard Missile (SM-6) and E-2D Advanced Hawkeye (AHE)) and other related programs and integrates them together to form the successful implementation of a System of Systems (SoS) Capability. The NIFC-CA focus is on Integrated Fire Control for over-the-horizon (beyond visual range) and engage-on-remote capability. NIFC-CA is a key component of Navy Transformation "SEA SHIELD".

NIFC-CA is a SoS Systems Engineering capability designed to define the functional allocation for the pillar elements within NIFC-CA (SM-6, E-2D, CEC and Aegis). This PE will support SoS SE efforts including system definition, architecture, performance assessment, test design and strategy, modeling and simulation, risk reduction and capability demonstration for successful convergence of the pillar programs. The funding identified will provide for NIFC-CA SEI&T risk reduction for engage-on-remote capability and SoS integration.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**	PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.754	2.197	2.064
RDT&E Articles Quantity	0	0	0

Efforts: The Integration and Test IPT is responsible for the development and execution of the test plan to validate the From the Sea (FTS) operational capability. The NIFC-CA I&T IPT will Verify, Validate, and Accredit (VV&A) the end-to-end high-fidelity federated simulation. The VV&A process will utilize existing test events and will also include land based and at sea testing.

The tasks assigned to the I&T IPT are:

- Perform risk mitigation on risks assigned to the IPT
- Develop the Test and Integration Management Plan (TIMP)
- Develop the Integrated Test and Evaluation Plan (ITEP)
- Collect and Review Program of Records test plans
- Interface with the System Definition IPT
- Interface with the Performance Assessment IPT
- Support Advanced Area Defense Interceptor (AADI) test planning
- Develop a FTS Master Test Schedule, to include Contract Data Requirements List (CDRL) (i.e., TIMP, ITEP) delivery dates.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	4.555	3.339	3.096
RDT&E Articles Quantity	0	0	0

Efforts: The SEI&T Integrated Engineering Master Schedule (IEMS) will be used as the primary tool for project planning and monitoring the efforts being performed by the NIFC-CA SEI&T government/industry team. The Integrated Engineering Master Plan (IEMP) is a higher level plan/schedule that shows the initial Naval FTS Programs of Record and how they relate to deploying a FTS capability and the critical path to an IOC in 2014. The SEI&T IEMS defines the tasking required to execute the objectives of the NIFC-CA Project, with additional focus on the current scope for which the industry team is under contract. It is a subset of the IEMP and aids in establishing the proper relationships between the SOW and contract deliveries. The SEI&T IEMS will contain all IPT schedules as well as each of the IPTs plans, tasks, product deliveries, and NIFC-CA FTS quarterly meetings. Funding will also be applied to the security requirements of the NIFC-CA project.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	9.050	5.392	5.049
RDT&E Articles Quantity	0	0	0

Efforts: Engineering management and System Definition including the development of the Systems Performance Document (SPD), SoS functional allocations, requirements traceability, System Trade studies, SoS interface documents, sensor net capability analysis, performance analysis, risk mitigation, and scenario development. Architecture development with supporting documentation is also an on going effort. Modeling and simulation activities will be an area of effort. Performance analysis in terms of SoS

performance documents, distributed weapons control and engagement time lines are completed within the systems capabilities arena. System Integrator (industry) efforts supporting systems capabilities with a collaborative role alongside of government rounds out the system capability efforts. Project NIFC-CA will support implementation of the Integrated Architecture Behavior Model (IABM), as directed by OPNAV, as the Navy's way ahead for Integrated Air and Missile Defense. The Navy has provided capability requirements for the IABM. The Navy requirements incorporate Track Management, Combat ID, Distributed Resource Management, Common Services, Communications, Automated Battle Management Aides, Integrated Fire Control and Interface Requirements for the IABM. These requirements are directed by ref (a). Project NIFC-CA will also support Aegis Weapon integration with CEC, SM-6 and E-2D Advanced Hawkeye in support of Engineering Development and support of the NIFC-CA System of Systems capability to utilize CEC and the full capabilities of the SM-6 missile for support of Sea Shield. This capability will allow AEGIS Ships to extend their air defense capability beyond their current stand-alone limits utilizing Integrated Fire Control. This will allow for earlier engagements and destruction of new and evolving air threats at a further range. Additionally, in support of the sensor net project, NIFC-CA will incorporate the Single Integrated Air Picture (SIAP) encompassed in the IABM as described in the Single Integrated Air Picture Acquisition Decision Memorandum, ref (b).

Reference (a): Memorandum for Assistant Secretary of the Navy, Research Development and Acquisition, dated 14 March 2006, Subj: Single Integrated Air Picture Implementation Guidance.

Reference (b): Memorandum for Secretaries of the Military Departments Chairman, Joint Chiefs of Staff Commander, Joint Forces Command, dated 03 May, 2006, Subj: Single Integrated Air Picture Acquisition Decision Memorandum

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.324	0.324
RDT&E Articles Quantity	0	0	0

Efforts: Modeling and Simulation development and support, Predictive Analysis across the Joint kill chain, White Sands Missile Range (WSMR) Test Planning, Execution and Analysis, WSMR Range Support (Instrumentation, Telemetry, Safety, Data Collection). Support for Joint Working Groups.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Other RDT&E Related:									
0603658N (CEC)	4.700	1.100	2.850	2.080	2.080	4.490	3.730		
0604366N (Standard Missile SM-6)	158.461	202.640	222.557	159.264	68.573	33.102	26.703		
0604307N (AEGIS)	12.685	7.920	19.421	24.989	21.497	11.996	8.828		
0604234N (E-2D Advanced Hawkeye)	484.031	808.993	487.456	216.732	124.398	48.459	15.681		

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**	PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**

D. ACQUISITION STRATEGY: Not Applicable.

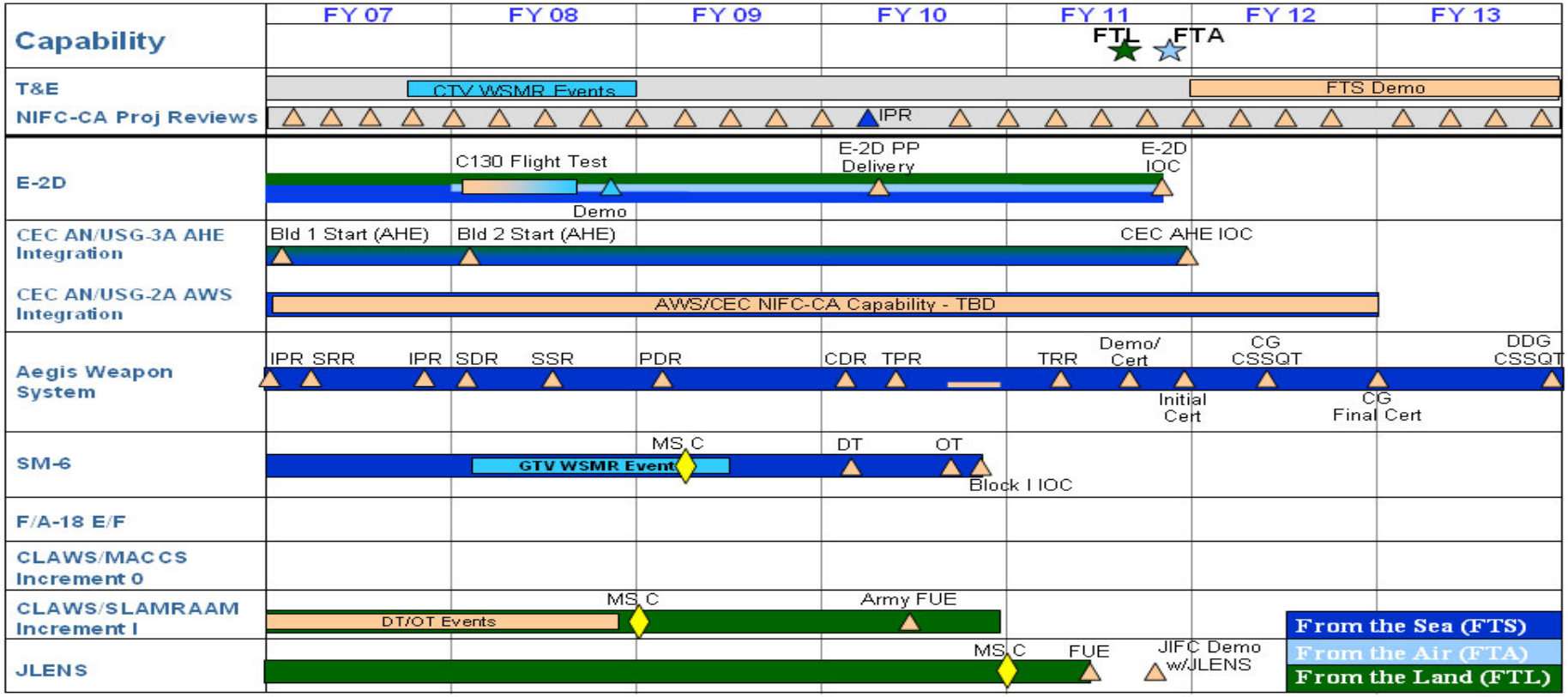
E. MAJOR PERFORMERS:

NSWC Dahlgren Division (NSWC DD)- Dahlgren, VA
Lockheed Martin (LM) Maritime Systems and Sensors (MS2) - Moorestown, NJ
Raytheon Co. , Tucson, AZ
Northrop Grumman Corp. (NGC) Integrated Systems (IS), Bethpage, NY
Boeing Integrated Defense Systems (IDS), St. Louis, MO
Northrop Grumman Corp. (NGC) Mission Systems (MS), Reston, VA
Johns Hopkins University (JHU) Applied Physics Laboratory (APL), Laurel , MD

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**					PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Systems Engineering	WR	NSWC/DD - DAHLGREN VA	0.000	1.285	NOV-06	0.838	OCT-07	0.549	OCT-08	0.000	2.672	0.000
Systems Engineering	See Remark	Various	0.000	2.353	NOV-06	1.226	OCT-07	1.334	OCT-08	0.000	4.913	0.000
Systems Engineering	CPAF	JHU/APL - LAUREL MD	0.000	0.100	NOV-06	0.200	OCT-07	0.200	OCT-08	0.000	0.500	0.000
Systems Engineering	CPAF	NGMS - RESTON VA	0.000	0.252	NOV-06	0.200	OCT-07	0.200	OCT-08	0.000	0.652	0.000
Systems Engineering	CPAF	NGIS - Bethpage NY	0.000	0.980	NOV-06	0.800	OCT-07	0.800	OCT-08	0.000	2.580	0.000
Systems Engineering	CPAF	LM MS2 - Moorestown NJ	0.000	0.855	NOV-06	0.800	OCT-07	0.800	OCT-08	0.000	2.455	0.000
Systems Engineering	CPAF	RAYTHEON CO - TUCSON AZ	0.000	2.403	NOV-06	1.000	OCT-07	1.001	OCT-08	0.000	4.404	0.000
Systems Engineering	CPAF	Boeing IDS - ST LOUIS, MO	0.000	0.498	NOV-06	0.200	OCT-07	0.200	OCT-08	0.000	0.898	0.000
Systems Engineering	CPAF	CSCI - Springfield VA	0.000	0.300	NOV-06	0.200	OCT-07	0.200	OCT-08	0.000	0.700	0.000
Systems Engineering	WR	SWDG - Norfolk, VA	0.000	0.125	NOV-06	0.111	OCT-07	0.103	OCT-08	0.000	0.339	0.000
Systems Engineering	WR	COTF - Norfolk, VA	0.000	0.045	NOV-06	0.111	OCT-07	0.103	OCT-08		0.259	0.000
Subtotal Systems Engineering			**0.000**	**9.196**		**5.686**		**5.490**		**0.000**	**20.372**	**0.000**
Remarks: There are various types of contract and field activity costs for this category (Various).												
Integration and Test	WR	NSWC/DD - Dahlgren, VA	0.000	0.250	NOV-06	0.251	OCT-07	0.300	OCT-08	0.000	0.801	0.000
Integration and Test	CPAF	Raytheon Co., Tucson, AZ	0.000	0.075	NOV-06	0.225	OCT-07	0.400	OCT-08	0.000	0.700	0.000
Integration and Test	CPAF	LM MS2 - Moorestown, NJ	0.000	0.050	NOV-06	0.050	OCT-07	0.200	OCT-08	0.000	0.300	0.000
Integration and Test	CPAF	NGIS - Bethpage, NY	0.000	0.050	NOV-06	0.050	OCT-07	0.200	OCT-08	0.000	0.300	0.000
Integration and Test	See Remark	Various	0.000	1.635	NOV-06	1.852	OCT-07	0.964	OCT-08	0.000	4.451	0.000
Subtotal Integration and Test			**0.000**	**2.060**		**2.428**		**2.064**		**0.000**	**6.552**	**0.000**
Remarks: These are various types of contract and field activity costs for this category (Various).												
Project Planning and Management	CPAF	Boeing IDS - St. Louis, MO	0.000	0.150	NOV-06	0.150	OCT-07	0.150	OCT-08	0.000	0.450	0.000
Project Planning and Management	CPAF	Raytheon Co. - Tucson, AZ	0.000	0.312	NOV-06	0.312	OCT-07	0.312	OCT-08	0.000	0.936	0.000
Project Planning and Management	CPAF	LM MS2 - Moorestown, NJ	0.000	0.297	NOV-06	0.297	OCT-07	0.297	OCT-08	0.000	0.891	0.000
Project Planning and Management	CPAF	NGIS - Bethpage, NY	0.000	0.297	NOV-06	0.297	OCT-07	0.297	OCT-08	0.000	0.891	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**					PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Project Planning and Management	WR	NSWC/DD - Dahlgren, VA	0.000	0.225	NOV-06	0.225	OCT-07	0.225	OCT-08	0.000	0.675	0.000
Project Planning and Management	CPFF	MEI - Arlington, VA	0.000	0.527	NOV-06	0.529	OCT-07	0.531	OCT-08	0.000	1.587	0.000
Project Planning and Management	See Remark	Various	0.000	1.295	NOV-06	1.328	OCT-07	1.167	OCT-08	0.000	3.790	0.000
Subtotal Project Planning and Management			**0.000**	**3.103**		**3.138**		**2.979**		**0.000**	**9.220**	**0.000**
Remarks: These are various types of contract and field activity costs for this category (Various).												
Total Cost			**0.000**	**14.359**		**11.252**		**10.533**		**0.000**	**36.144**	**0.000**

NIFC-CA Planning Schedule



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**			PROJECT NUMBER AND NAME **3159/Naval Integrated Fire Control-Counter Air SE&I**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Demos ADSAM-L (FTL)					3Q		
Demos ADAAM (FTA)					4Q		
IPR				1Q			
FTS DEMO						1Q-4Q	1Q-4Q
C130 Flight Test		3Q					
Demo		3Q					
E-2D PP Delivery				2Q			
E-2D RMP IOC					4Q		
Bid 1 Start (C130) Integration	1Q						
Bid 2 Start (AHE)		1Q					
CEC IOC					4Q		
CEC NA/USG-2A AWS Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
CTV WSMR Events	4Q	1Q-4Q					
GTV WSMR Events		1Q-4Q	1Q-3Q				
MS C			1Q				
SM6 DT				1Q			
SM6 OT				4Q			
Block 1 IOC				4Q			
CRITICAL DESIGN REVIEW				1Q			
INTIAL CERTIFICATION					4Q		
FINAL CERTIFICATION							1Q
CSSQT - CG						2Q	
CSSQT - DDG							4Q
DT/OT Events	1Q-4Q	1Q-4Q					
MS C			1Q				
INCO,ARMY G/ATOR FUE				3Q			
MS C				4Q			
First Unit Equipped					2Q		
JIFC Demo w/ JLENS					3Q		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604378N/NAVAL INTEGRATED FIRE CONTROL**				PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADD**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	3.577	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional add in 2008 will be used to provide supportability efforts for the SPS-49 radar system to bridge the gap between present supportability philosophy and the Common Digital Architecture (CDSA).

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604501N/ADVANCED ABOVE WATER SENSORS**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	0.000	118.900	153.558	158.296	188.794	187.390	191.784
3186 / Air and Missile Defense Radar	0.000	106.798	140.369	149.278	179.140	182.178	185.630
3187 / Periscope Detection	0.000	6.595	7.550	3.246	3.756	0.000	0.000
3188 / Dual-Band Radar	0.000	5.507	5.639	5.772	5.898	5.212	6.154

A. MISSION DESCRIPTION:

Air and Missile Defense Radar (AMDR): The AMDR is being developed to support Theater Air and Missile Defense requirements as part of a next generation cruiser, CG(X), radar suite. The AMDR will provide multi-mission capabilities, supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area 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 Area Air 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 active phased array radar with the required capabilities to pace the evolving threat. Modularity of hardware and software, a designed in growth path for technology insertion, and Open Architecture (OA) Compliance are required for performance and technology enhancements throughout service life.

Periscope Detection: The CVN Periscope Detection Radar program develops and delivers a radar that provides automatic detection and discrimination of submarine periscopes using advanced algorithms enabling discrimination of periscopes from surface contacts, buoys, small boats, floating mines, etc. This effort is based on an advanced development model, developed in the PE 0603553N Antisubmarine Warfare.

Dual-Band Radar (DBR) Upgrades: The DBR Upgrades will fund future upgrades/technology insertion efforts for the Multi-Function Radar (MFR)/Volume Search Radar (VSR)/Dual Band Radar (DBR) suite. Upgrades and technology inserts are required to maintain the level of force protection needed for ship defense against all threats envisioned in the littoral environment. The upgrades will include all aspects of the radar system/subsystems, including hardware and software. Specific subsystem areas include the Array, T/R module, Receiver/Exciter, Signal Data Processor and power/cooling systems.

B. PROGRAM CHANGE SUMMARY:

This PE was established for the FY2008 President's Budget. Previous Budget Submissions were PE 0604307N AEGIS Combat System Engineering - project 3044/Solid State Spy Radar and PE 0603513N/Shipboard System Component Development - project 4019/Radar Upgrades.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		R-1 ITEM NOMENCLATURE **0604501N/ADVANCED ABOVE WATER SENSORS**

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget: (FY08 PB Controls)	0.000	121.494	154.573
Current President's Budget: (FY09 PB Controls)	0.000	118.900	153.558
Total Adjustments	0.000	-2.594	-1.015
Summary of Adjustments			
Exec Realign SB Issue	0.000	-1.822	
Undistributed General Reductions	0.000	-0.772	
Revised Rates and Inflation Indices	0.000		-1.015

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**				PROJECT NUMBER AND NAME **3186/Air and Missile Defense Radar**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	106.798	140.369	149.278	179.140	182.178	185.630
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The AMDR is being developed to support Theater Air and Missile Defense requirements as part of a next generation cruiser, CG(X), radar suite. The AMDR will provide multi-mission capabilities, supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area 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 Area Air 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 active phased array radar with the required capabilities to pace the evolving threat. Modularity of hardware and software, a designed in growth path for technology insertion, and Open Architecture (OA) Compliance are required for performance and technology enhancements throughout service life.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**	PROJECT NUMBER AND NAME **3186/Air and Missile Defense Radar**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	38.100	5.308
RDT&E Articles Quantity	0	0	0

R&D / RISK REDUCTION

Planned:
- High Voltage (HV) GaAs Field Effect Transistor (FET) technology producibility
- Technology Risk reduction of Digital Array Radar (DAR) / digital beamforming, array architectures, T/R modules, thermal management, and RF semiconductors.
- Critical component and subsystem demonstrations, integration and testing
- Conduct related international cooperative research projects, including ARTIST (U.K.), AUSPAR (Australia), and JUSRR (Japan).

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	65.517	132.007
RDT&E Articles Quantity	0	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.
- Conduct CG(X) Radar competition
- Award CG(X) Radar SD&D Contract
- Conduct SFR for SD&D Contract

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	3.181	3.054
RDT&E Articles Quantity	0	0	0

PROGRAM MANAGEMENT SUPPORT

Planned:
- Program planning, assessment of technical alternatives, risk identification and mitigation.
- Cost and schedule development and execution.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**	PROJECT NUMBER AND NAME **3186/Air and Missile Defense Radar**	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
RDTEN 0604300N - 3107 CG(X) Development	15.004	84.899	172.078	222.013	240.480	245.139	249.912		
RDTEN 0604307N - 3044 Solid State Spy Radar	30.439								

D. ACQUISITION STRATEGY:

AMDR : Plans for the Air and Missile Defense Radar are to leverage research and development investments, integrate sufficiently matured fundamental advanced technologies from technology risk reduction efforts and allies, and incorporate Open Architecture approaches to develop a scalable radar design with major improvements in power, sensitivity, resistance to natural and man-made environments over current radar systems for multi-mission TAMD (BMD and Area AAW). System design will be accomplished using proven advanced technologies and commercial standards to lower schedule risk and develop a product with the lowest life-cycle cost. Program scope includes systems engineering design and development; development and testing of a pilot array; completion of a full Engineering Development Model (EDM) forland-based testing; and transition to production.

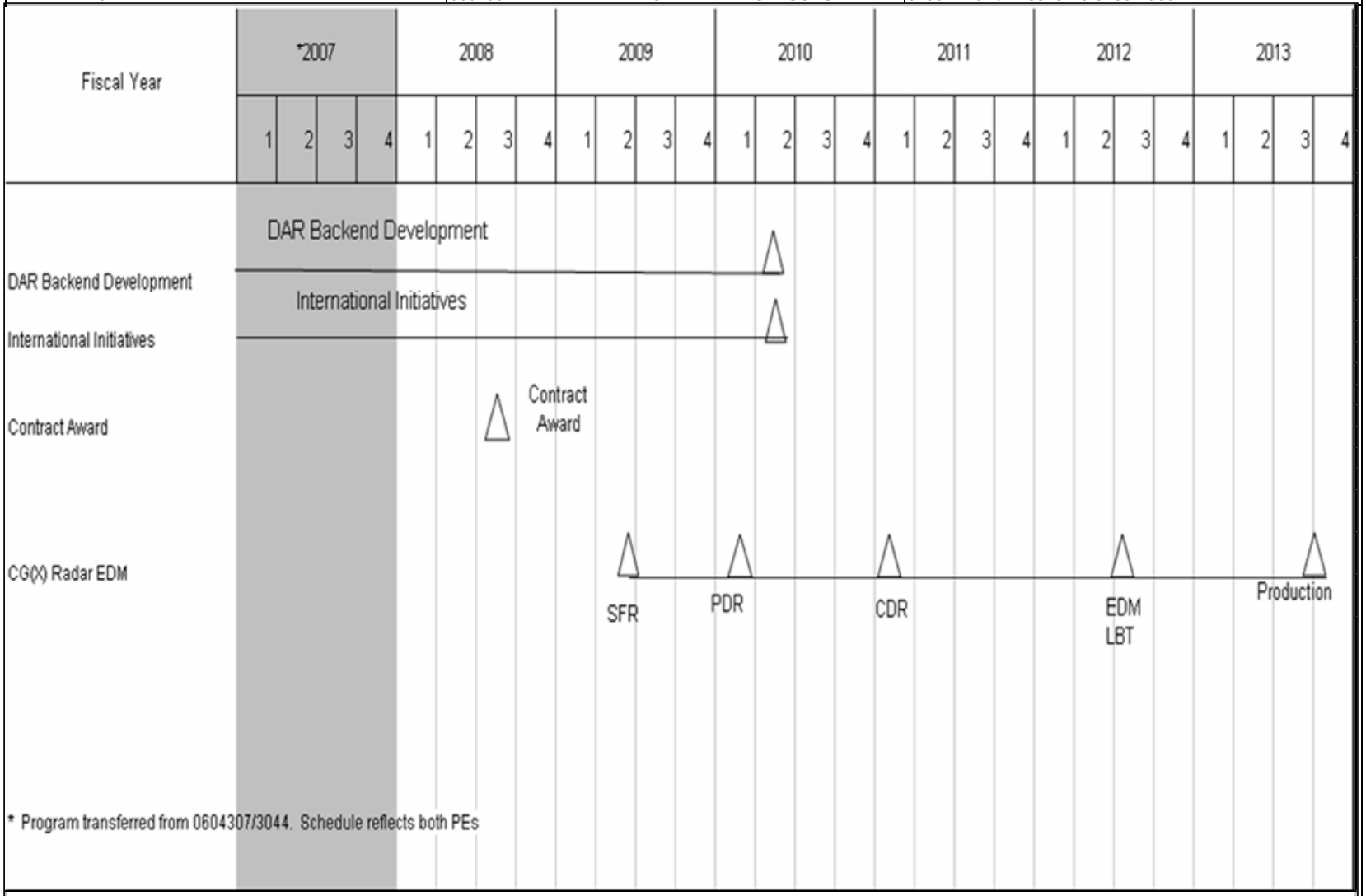
E. MAJOR PERFORMERS:

R&D/Risk Reduction: Raytheon, Northrop Grumman, Lockheed Martin

AMDR: TBD (Competitive Procurement)

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**					PROJECT NUMBER AND NAME **3186/Air and Missile Defense Radar**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
R&D/ Risk Reduction	Various	Various	0.000	0.000		4.088	DEC-07	1.108	DEC-08	CONT	CONT	0.000
	WR	SCSC, Wallops	0.000	0.000		3.612	DEC-07	1.000	DEC-08	CONT	CONT	0.000
	MIPR	DMEA	0.000	0.000		30.400	DEC-07	3.200	DEC-08	CONT	CONT	0.000
System Engineering	Various	Various	0.000	0.000		20.414	DEC-07	8.198	DEC-08	CONT	CONT	0.000
	TBD	TBD	0.000	0.000		30.600	JUN-08	109.409	JUN-08	CONT	CONT	0.000
	CPFF	JHU/APL	0.000	0.000		3.300	DEC-07	3.100	DEC-08	CONT	CONT	0.000
	MIPR	MIT	0.000	0.000		1.300	DEC-07	1.200	DEC-08	CONT	CONT	0.000
	WR	NRL	0.000	0.000		3.000	DEC-07	3.000	DEC-08	CONT	CONT	0.000
	WR	NSWC DD	0.000	0.000		6.900	DEC-07	7.100	DEC-08	CONT	CONT	0.000
Subtotal Product Development			**0.000**	**0.000**		**103.614**		**137.315**		**CONT**	**CONT**	**0.000**
Remarks:												
Support/ Management Services	CPAF	BAE Systems	0.000	0.000		2.200	FEB-08	2.130	DEC-08	CONT	CONT	0.000
	Various	Various	0.000	0.000		0.909	DEC-07	0.849	DEC-08	CONT	CONT	0.000
			0.000	0.000		0.000		0.000		CONT	CONT	0.000
Travel			0.000	0.000		0.075	VAR	0.075	VAR	CONT	CONT	0.000
Subtotal Management Services			**0.000**	**0.000**		**3.184**		**3.054**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**0.000**	**0.000**		**106.798**		**140.369**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**	PROJECT NUMBER AND NAME **3186/Air and Missile Defense Radar**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**			PROJECT NUMBER AND NAME **3186/Air and Missile Defense Radar**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
A&MDR EDM							
Contract Awards		3Q					
System Functional Review (SFR)			2Q				
Preliminary Design Review (PDR)				1Q			
Critical Design Review (CDR)					1Q		
Engineering Development Model						2Q	
Land Based Testing						2Q	
Production							3Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**				PROJECT NUMBER AND NAME **3187/Periscope Detection**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	6.595	7.550	3.246	3.756	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The CVN Periscope Detection Radar program develops and delivers a radar that provides semi-automatic detection and discrimination of submarine periscopes using advanced algorithms enabling discrimination of periscopes from surface contacts, buoys, small boats, floating mines, etc. This effort is based on an advanced development model, developed in the PE 0603553N, Surface Antisubmarine Warfare.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**	PROJECT NUMBER AND NAME **3187/Periscope Detection**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	6.595	7.550
RDT&E Articles Quantity	0	0	0

Planned:

- Design an EDM using established capabilities from previous radars (Algorithms utilized by ARPDD, technology based in part on the AN/SPQ-9B ASCM Radar) with modern computing advances in processing capability being inserted into the system using an Open Architecture approach.
- Install EDM on platform(s)
- Perform test and evaluation

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
0603553N Undersea Warfare	33.181	25.560	29.574	36.399	29.774	51.663	51.824	Cont.	Cont.
02042228N/2040 Radar Support (OPN)			10.503	10.160	16.564	10.300	0.000	Cont.	Cont.

D. ACQUISITION STRATEGY:

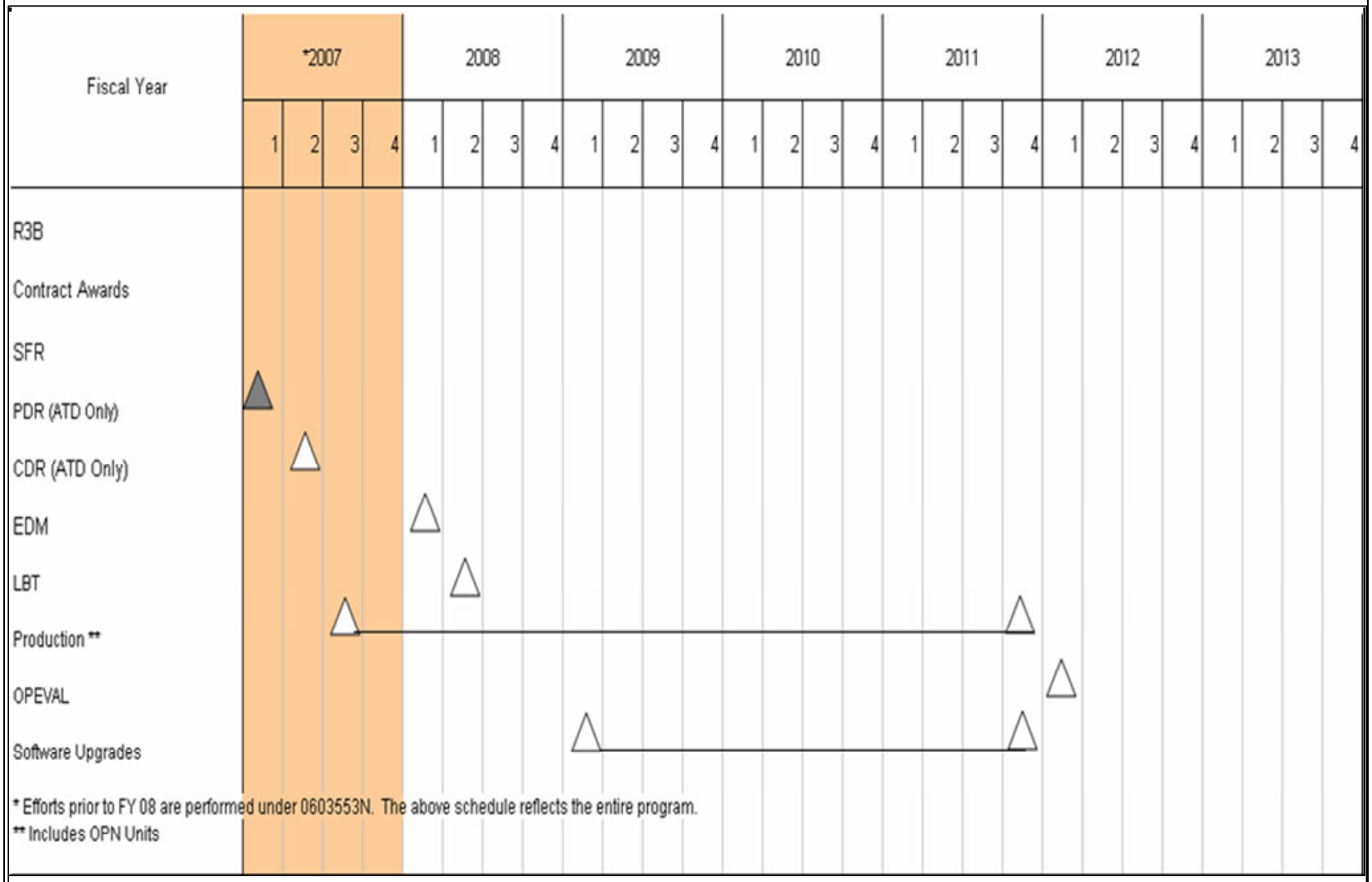
Periscope Detection : Current Program scope is for11 total units - 10 for installation onboard CVNs and 1 at a to be determined shore site. Of these 11 units, one will be an ADM and10 will be Rapid Deployment Capability (RDC) units. Funding for 4 of the units will come from R&D (ADM, plus three prototype RDC's) in FY 06, FY 07 and FY08 procurements, ands even will be funded using OPN. The current proposed plan is for all units to be awarded sole source to Northrop Grumman Corporation (NGC) and 3 Phoenix Corporation. NGC will be responsible for the antenna, transmitter, and receiver. 3 Phoenix will be responsible for the processor and for all 11 RDC units.

E. MAJOR PERFORMERS:

NGC will be manufacturing the radar antenna, transmitter, and receiver. 3 Phoenix will be designing the initial radar signal processor under an existing SBIR contract. Both companies are jointly responsible for the integration of the components into the ADM configuration with NGC having the overall responsibility as the lead integrator. Once the ADM has been completed, NSWC Crane will assume full integration responsibility for the three prototype RDCs and the seven production RDC units.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**					PROJECT NUMBER AND NAME **3187/Periscope Detection**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
System Engineering	CPFF	NGC	0.000	0.000		3.500	DEC-07	4.000	DEC-08	CONT	CONT	0.000
System Installation	TBD	TBD	0.000	0.000		2.695	DEC-07	3.150	DEC-08	CONT	CONT	0.000
Subtotal Product Development			**0.000**	**0.000**		**6.195**		**7.150**		**CONT**	**CONT**	**0.000**
Remarks:												
NSWC PHD	WR		0.000	0.000		0.200	DEC-07	0.150	DEC-08	CONT	CONT	0.000
OPTEVFOR	WR		0.000	0.000		0.000		0.050	DEC-08	0.000	0.050	0.000
Travel			0.000	0.000		0.200	VAR	0.200	VAR	CONT	CONT	0.000
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.400**		**0.400**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**0.000**	**0.000**		**6.595**		**7.550**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**	PROJECT NUMBER AND NAME **3187/Periscope Detection**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**			PROJECT NUMBER AND NAME **3187/Periscope Detection**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Resource and Requirements Review Board Decision							
Contract Awards							
System Functional Review (SFR)							
Preliminary Design Review (PDR)	Q1						
Critical Design Review (CDR)	Q2						
Engineering Development Model (EDM)		Q1					
Land Based Testing		Q2					
Production (0603553N starts FY 07)	Q3-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4		
OPEVAL						TBD	
Software Support			Q1-Q4	Q1-Q4	Q1-Q4		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**				PROJECT NUMBER AND NAME **3188/Dual-Band Radar**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	5.507	5.639	5.772	5.898	5.212	6.154
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Dual-Band Radar (DBR) Upgrades will fund future upgrades/technology insertion efforts for the Multi-Function Radar (MFR)/Volume Search Radar (VSR)/Dual Band Radar (DBR) suite. Upgrades and technology inserts are required to maintain the level of force protection needed for ship defense against all threats envisioned in the littoral environment. The upgrades will include all aspects of the radar system/subsystems, including hardware and software. Specific subsystem areas include the Array, T/R module, Receiver/Exciter, Signal Data Processor and power/cooling systems.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**	PROJECT NUMBER AND NAME **3188/Dual-Band Radar**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	2.439	2.499
RDT&E Articles Quantity	0	0	0

Radar Upgrades and Technology Insertion for the MFR/VSR/DBR hardware and software.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	2.868	2.915
RDT&E Articles Quantity	0	0	0

Government Engineering Services and Program Management support for radar upgrades and technology insertion of the MFR/VSR/DBR radars. Perform oversight and assessment of efforts associated with this phase of the program.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.200	0.225
RDT&E Articles Quantity	0	0	0

Provide Program Management in support of radar upgrades and technology insertion.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
PE 0604300N/ DDG 1000 Total Ship Sys Engineering	705.344	429.173	328.072	383.921	435.539	245.071	150.602	Cont.	Cont.

D. ACQUISITION STRATEGY:

Upgrades will be developed to address lessons learned and technology refresh for DBR systems on multiple ship classes.

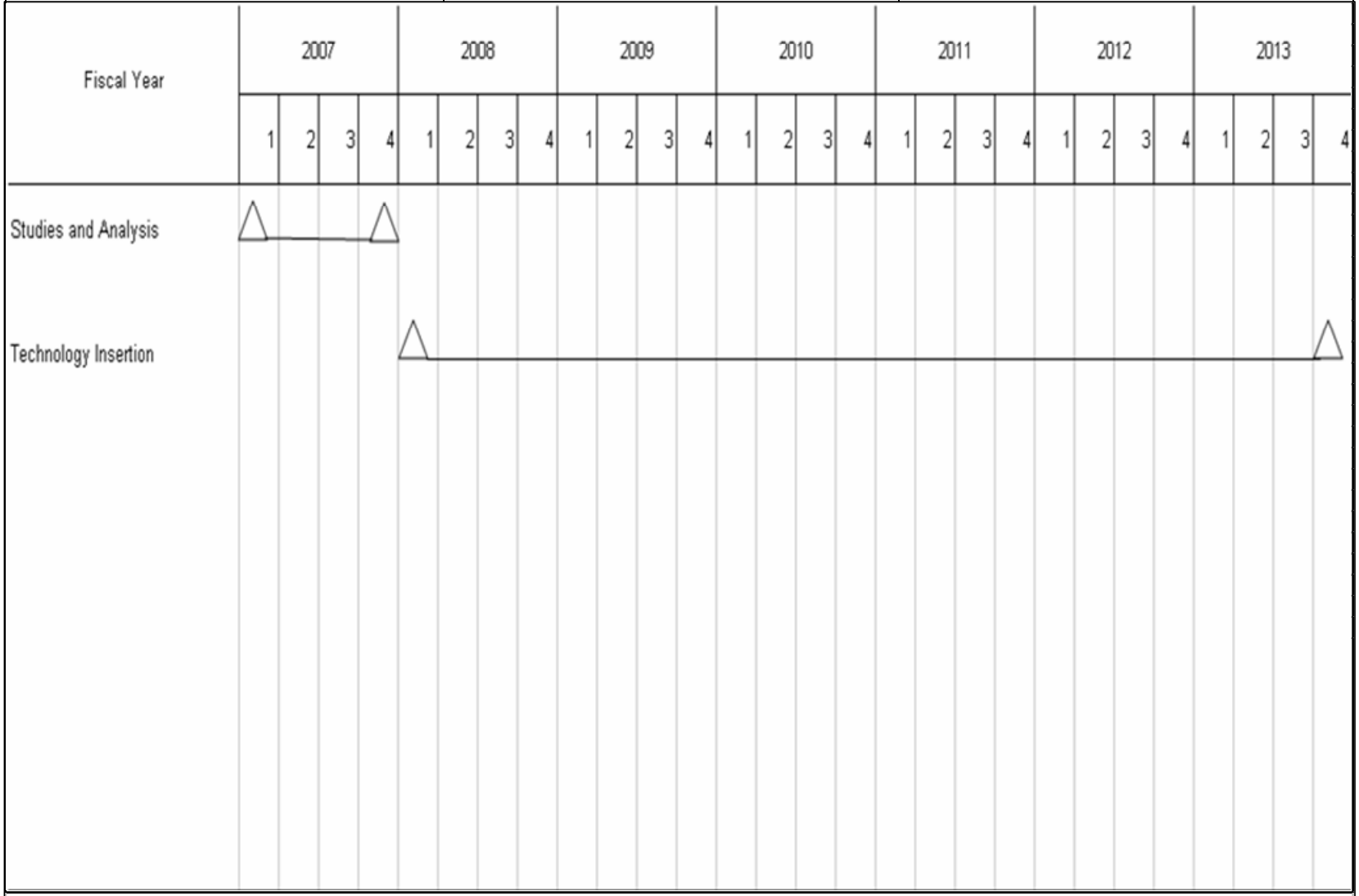
E. MAJOR PERFORMERS:

Northrop Grumman Ship Systems, Raytheon and Lockheed Martin.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**					PROJECT NUMBER AND NAME **3188/Dual-Band Radar**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Primary Hardware Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Ancillary Hardware Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Systems Engineering	C/CPAF	DD (X) Design Agent	0.000	0.000		2.319	OCT-08	2.415	OCT-09	CONT	CONT	0.000
License			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Tooling			0.000	0.000		0.000		0.000		0.000	0.000	0.000
GFE			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Award Fees			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Product Development			**0.000**	**0.000**		**2.319**		**2.415**		**CONT**	**CONT**	**0.000**
Remarks:												
Development Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Software Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Training Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Integrated Logistics Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Configuration Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
GFE			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Award Fees			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Developmental Test& Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Operational Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Test Assets			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Tooling			0.000	0.000		0.000		0.000		0.000	0.000	0.000
GFE			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Award Fees			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**					PROJECT NUMBER AND NAME **3188/Dual-Band Radar**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Government Engineering Support	WR	Other Government Activities	0.000	0.000		2.988	SEP-08	2.999	SEP-09	0.000	5.987	0.000
Program Management Support	C/CPFF	Various	0.000	0.000		0.200	SEP-08	0.225	SEP-09	0.000	0.425	0.000
			0.000	0.000		0.000		0.000		0.000	0.000	0.000
			0.000	0.000		0.000		0.000		0.000	0.000	0.000
			0.000	0.000		0.000		0.000		0.000	0.000	0.000
			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Management Services			**0.000**	**0.000**		**3.188**		**3.224**		**0.000**	**6.412**	**0.000**
Remarks:												
Total Cost			**0.000**	**0.000**		**5.507**		**5.639**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**	PROJECT NUMBER AND NAME **3188/Dual-Band Radar**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604501N/ADVANCED ABOVE WATER SENSORS**			PROJECT NUMBER AND NAME **3188/Dual-Band Radar**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Radar Upgrade Studies and Analysis	1Q-4Q						
Radar Upgrade Technology Insertion		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604503N/SSN-688 AND TRIDENT MODERNIZATION**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	105.706	118.713	143.453	148.028	135.836	124.383	111.309
0219 / Sub Sonar Improvement (ENG)	56.139	60.771	67.894	71.098	78.085	76.854	78.351
0742 / SUB INTEGRATED ANT SYS	17.490	34.009	58.143	53.843	37.152	26.837	22.072
0775 / Submarine Supt Equip Prog	1.693	1.379	1.417	1.454	1.487	1.517	1.545
1411 / SUBM TACT COMM SYS	15.982	16.194	15.999	21.633	19.112	19.175	9.341
9999 / CONGRESSIONAL ADDS	14.402	6.360	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

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.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget	109.204	114.789	103.482
FY2009 President's Budget	105.706	118.713	143.453
Total Adjustments	-3.498	3.924	39.971
Summary of Adjustments			
Congressional program reductions	-0.342	-0.040	
Congressional increases		6.400	
Program reductions	-3.156	-2.436	
Program increases		3.924	39.971
Reprogrammings			
SubTotal	-3.498	3.924	39.971

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**				PROJECT NUMBER AND NAME **0219/Sub Sonar Improvement (ENG)**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	56.139	60.771	67.894	71.098	78.085	76.854	78.351
RDT&E Articles Qty	0	0	0	0	0	0	0

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, VIRGINIA, 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, and AN/BSY-1 High Frequency Upgrade introduce high frequency array processing improvements for SSN 688I, SSGN, VIRGINIA and Seawolf Class. As part of CNO N872's plan to maintain acoustic superiority for In-Service Submarines a joint cooperative effort with PEO IWS-5 to deliver annual Advanced Processing Builds (APBs) to prevent obsolescence and deliver capability improvements is ongoing. The capabilities in the APBs will be integrated as part of A-RCI certified systems. This effort, known as the N872 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 and Active Intercept and Ranging capabilities to be introduced into the Fleet.

Towed system's development efforts provide increased operational capabilities and reliability 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, (TB-33) for increased reliability, the Next Generation Fatline Towed Array (TB-34) which provide improved Littoral Operational capability and the Low Cost Conformal Array, an HF array that provides enhanced situational awareness.

AN/BSY-2 efforts are focused on ARCI-(V)5 development which implements ARCI Phases II-IV in the Seawolf Class submarines.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0219/Sub Sonar Improvement (ENG)**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	14.150	14.106	14.562
RDT&E Articles Quantity	0	0	0

APB Productionization

FY07 through FY09 - Continue Advanced Processing Build (APB) Sea Testing, Integration and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration and test, and formal certification.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	34.263	28.765	32.298
RDT&E Articles Quantity	0	0	0

Integration and Testing.

Awarded new contracts to Lockheed Martin and General Dynamics in FY04 for continued A-RCI and MPP development, integration and test.

FY07 through FY09 - Continued Integration and testing to support the introduction of Advanced Processing Builds to be installed on SSN 688I, SSN 688, SSBN 730, SSN 21, and SSGN 726 and VA Class.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity	0	0	0

BQS-15A EC20

Merges the BQS-15 EC-18 array with A-RCI processing displays.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.000	2.000	2.200
RDT&E Articles Quantity	0	0	0

HF Precision Imaging Active Sonar

Begin development efforts for HF Precision Imaging Active Sonar in FY07. The HF Precision Imaging Active Sonar provides improvements for under-ice capability and mine detection. This will assist the submarine in maneuvering near the bottom in medium and littoral waters, as well as the marginal ice zone and ice pack regions.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	10.500	3.000
RDT&E Articles Quantity	0	0	0

Low Cost Conformal Array LCCA is a low cost HF array that provides enhanced situational awareness, providing the capability to extend passive detection range in littoral

environments against quiet threats and multi-path ranging beyond first bottom bounce capability. The program is being developed by PEO-IWS-5 and is currently scheduled to transition in FY08. EDM procurements, fabrication and assembly will begin in FY08. EDM Deliveries will be accepted in FY09. ARCI Integration, TECHEVAL and OPEVAL testing is planned for FY09.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity	0	0	0

The development of the Next Generation Fatline Towed Array provides improvement in littoral water operations and increased frequency coverage.
Began development efforts for the Next Generation Fatline Towed Array in FY04, completed Design Readiness Review in FY05 and completed development in FY06.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	5.726	5.400	2.066
RDT&E Articles Quantity	0	0	0

Affordable Towed Array Technology (ATAT) development provides more affordable and reliable thinline arrays using fiber optic technology and eliminating "wet end" electronics.
Program began development in FY04, completed Critical Design Review in FY06 and has transitioned to Production Representative Unit (PRU) Fabrication.

FY07 - Begin reliability design testing, in support of LRIP decision.
FY08 - Continue development of ATAT and begin operational testing in support of MS C decision.
FY09 - Complete development and transition to MS C full rate produciton.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.000	13.768
RDT&E Articles Quantity	0	0	0

Twin Line Thin Line Development - Providing twinline array capability improves long range passive deteciton and wide area search capability.

FY09- Transition advanced development from PEO-IWS-5 to PMS401 and begin final development. Projected IOC in FY15.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN BLI 214700 SSN Acoustics	218.074	235.979	212.037	214.671	220.979	218.117	230.999	CONT	
OPN BLI 214705 SSN Acoustics Installation	53.621	74.609	72.116	64.347	42.883	50.245	51.521	CONT	
Total	271.695	310.588	284.153	279.018	263.862	268.362	282.520	CONT	

D. ACQUISITION STRATEGY:

Acoustic Systems:

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 General Dynamics, Advanced Information Systems in December 2003. Program Review with Milestone Decision Authority was conducted in October 2003 granting approval for the FY04 production option. MS III authority for A-RCI was received in February 2004.

Thinline Arrays:

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 savings in array production will be gained by using automated production techniques and significantly reducing or eliminating the "hand touch" labor common to today 's towed array production methods because of the number of different electronics that must be wired together to achieve the acoustics capabilities necessary to meet today's and tomorrow threats. This development is being accomplished under a Phase III SBIR. CDR was completed in FY06 and the program has transitioned to fabrication of Production Representative Units. Contract award for follow-on development awarded in 1st quarter FY07.

Fatline Arrays:

In FY04 Towed Systems awarded multiple competitive contracts for the development of a Fatline Towed Array which will provide better littoral operations and ranging. Development is complete and this program has now transitioned to initial production. Results of operational testing are expected in FY08.

Hull Mounted Arrays:

The Low Cost Conformal Array (LCCA) will transition from ASTO in FY08 with a competitive contract being awarded for the EDM development. EDM procurements, fabrication and assembly will begin in FY08. EDM Deliveries will be accepted in FY09. ARCI Integration, TECHEVAL and OPEVAL testing is planned for FY09.

E. 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.

General Dynamics, Advanced Information Systems; Fairfax, Virginia - Provides primary software development for SSN688, 688I, 21 and Virginia Class submarine sonar systems. Contract awards projected for October each fiscal year.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0219/Sub Sonar Improvement (ENG)**

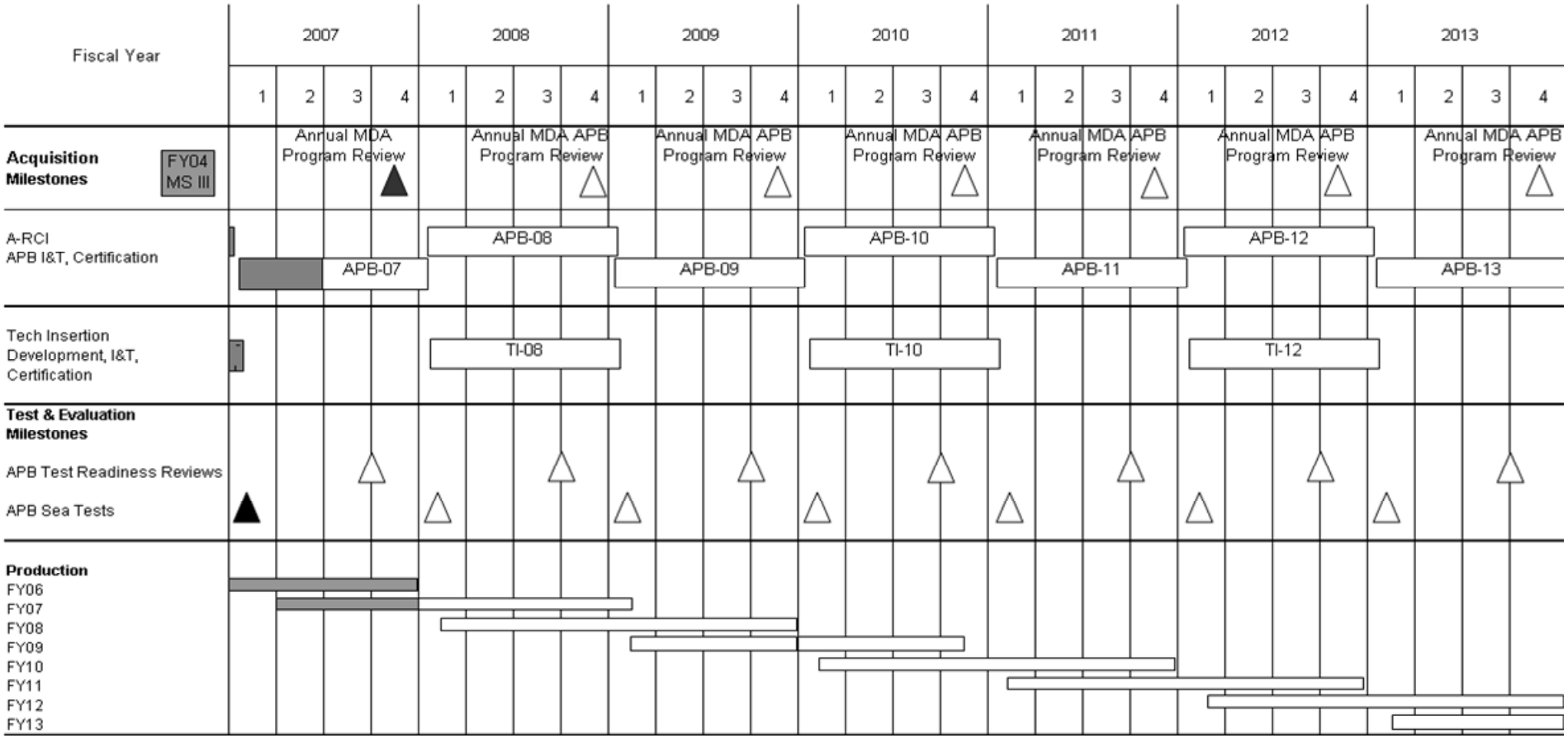
Naval Undersea Warfare Center, Newport, Rhode Island - Provides systems engineering support for SSN688, 688I, 21 and Virginia Class submarine sonar systems. Work Requests to be issued October each fiscal year.

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.

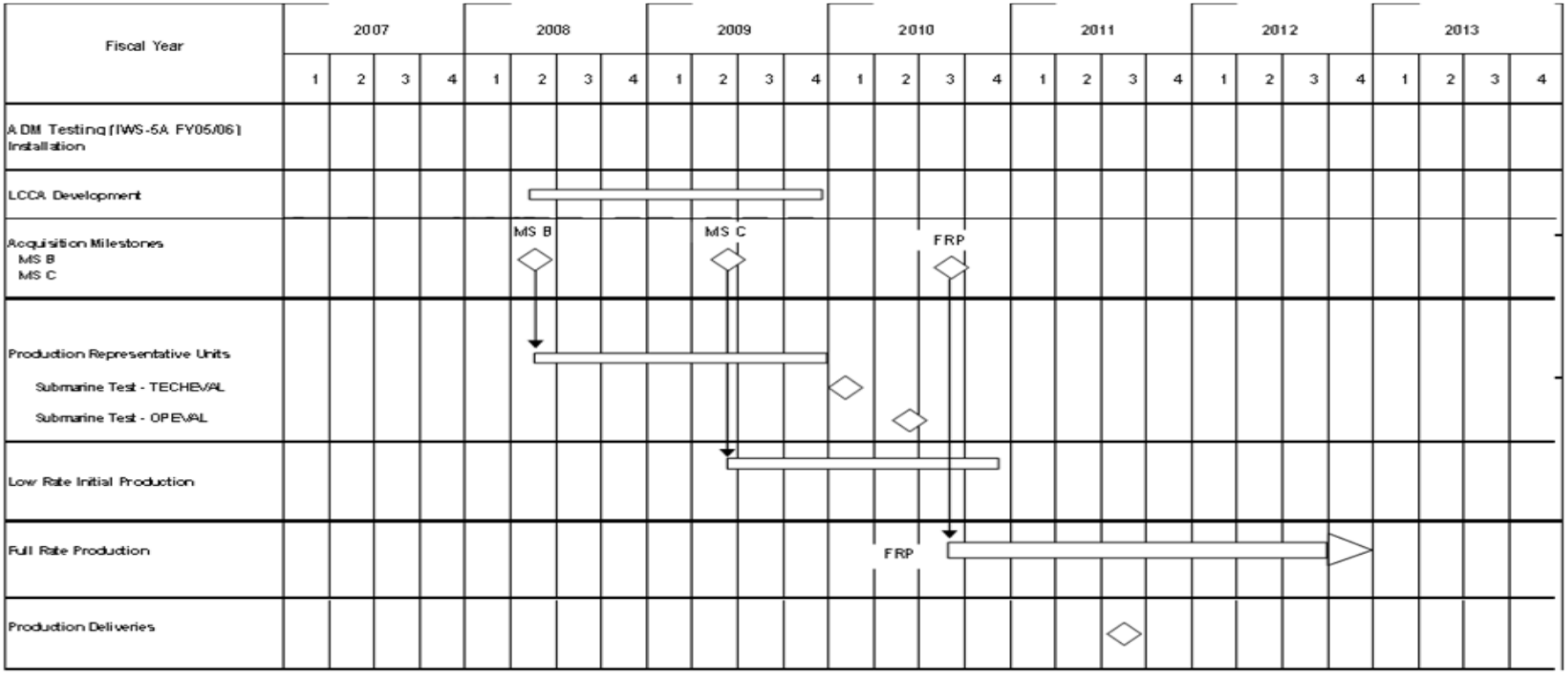
CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**					PROJECT NUMBER AND NAME **0219/Sub Sonar Improvement (ENG)**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Primary Hardware Development	SS/CPIF	LMC, Manassas, VA	156.902	18.450	DEC-06	14.573	DEC-07	16.500	DEC-08	CONT	CONT	0.000
Primary Hardware Development	Various	Chesapeake Sciences, MD	23.082	4.844	DEC-06	3.700	DEC-07	1.724	DEC-08	CONT	CONT	0.000
Ancillary Hardware Development	SS/CP	ARL University of Texas, TX	7.458	2.800	MAY-07	3.800	FEB-08	4.000	FEB-09	CONT	CONT	0.000
Systems Engineering	SS/CP	John Hopkins APL, MD	9.931	3.026	DEC-06	3.785	DEC-07	3.800	DEC-08	CONT	CONT	0.000
Systems Engineering	SS/CPAF	Lockheed Eagan, MN	7.985	1.547	MAY-07	2.500	JAN-08	2.500	JAN-09	CONT	CONT	0.000
Primary Hardware Development	SS/CPAF	Progeny Systems, VA	11.581	6.400	FEB-07	2.200	JAN-08	2.200	JAN-09	CONT	CONT	0.000
Primary Hardware Development	TBD	TBD	0.000	0.000		10.500	FEB-08	3.000	DEC-08	CONT	CONT	0.000
Systems Engineering	WR	NUWC, Newport, RI	109.022	6.600	DEC-06	5.300	DEC-07	7.400	DEC-08	CONT	CONT	0.000
Systems Engineering	WR	NSWC, Carderock, MD	5.691	2.154	DEC-06	1.145	DEC-07	1.500	DEC-08	CONT	CONT	0.000
Systems Engineering	WR	NSWC, Crane IN	0.234	0.269	DEC-06	0.000		0.000		0.000	0.503	0.000
Systems Engineering	WR	Naval Research Lab, DC	0.822	0.240	DEC-06	0.280	DEC-07	0.300	DEC-08	0.000	1.642	0.000
Primary hardware Development	TBD	TBD	0.000	0.000		0.000		11.768	JAN-09	CONT	CONT	0.000
Hardware/Software Development	Various	SBIR (Various)	1.478	0.125	JUN-07	0.125	JUN-08	0.013	JUN-09	CONT	CONT	0.000
Subtotal Product Development			**334.186**	**46.455**		**47.908**		**54.705**		**CONT**	**CONT**	**0.000**
Remarks: Program Review 09 program increase of $14.2M in FY09 to support transition of Twin Line thin Line Towed Array development from PEO-IWS-5 to PMS401.												
Primary Software Development	SS/CPAF	General Dynamics, AIS	124.726	4.000	DEC-06	4.800	DEC-07	5.200	DEC-08	CONT	CONT	0.000
Primary Software Development	SS/CPFF	Sedna Digital, VA	0.000	3.440	JAN-07	5.753	DEC-07	5.629	DEC-08	CONT	CONT	0.000
Subtotal Support Costs			**124.726**	**7.440**		**10.553**		**10.829**		**CONT**	**CONT**	**0.000**
Remarks:												
Operational Test and Evaluation	WR	OPTEVFOR	2.519	1.244	DEC-06	1.350	DEC-07	1.400	DEC-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**2.519**	**1.244**		**1.350**		**1.400**		**CONT**	**CONT**	**0.000**
Remarks:												
Management Support Services	C/CP	EG&G Technical Services	4.986	0.800	FEB-07	0.810	FEB-08	0.810	FEB-09	CONT	CONT	0.000
Travel	WR	NAVSEA	0.650	0.200	NOV-06	0.150	NOV-07	0.150	NOV-08	CONT	CONT	0.000

CLASSIFICATION:	UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**				PROJECT NUMBER AND NAME **0219/Sub Sonar Improvement (ENG)**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Subtotal Management Services			**5.636**	**1.000**		**0.960**		**0.960**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**467.067**	**56.139**		**60.771**		**67.894**		**CONT**	**CONT**	**0.000**

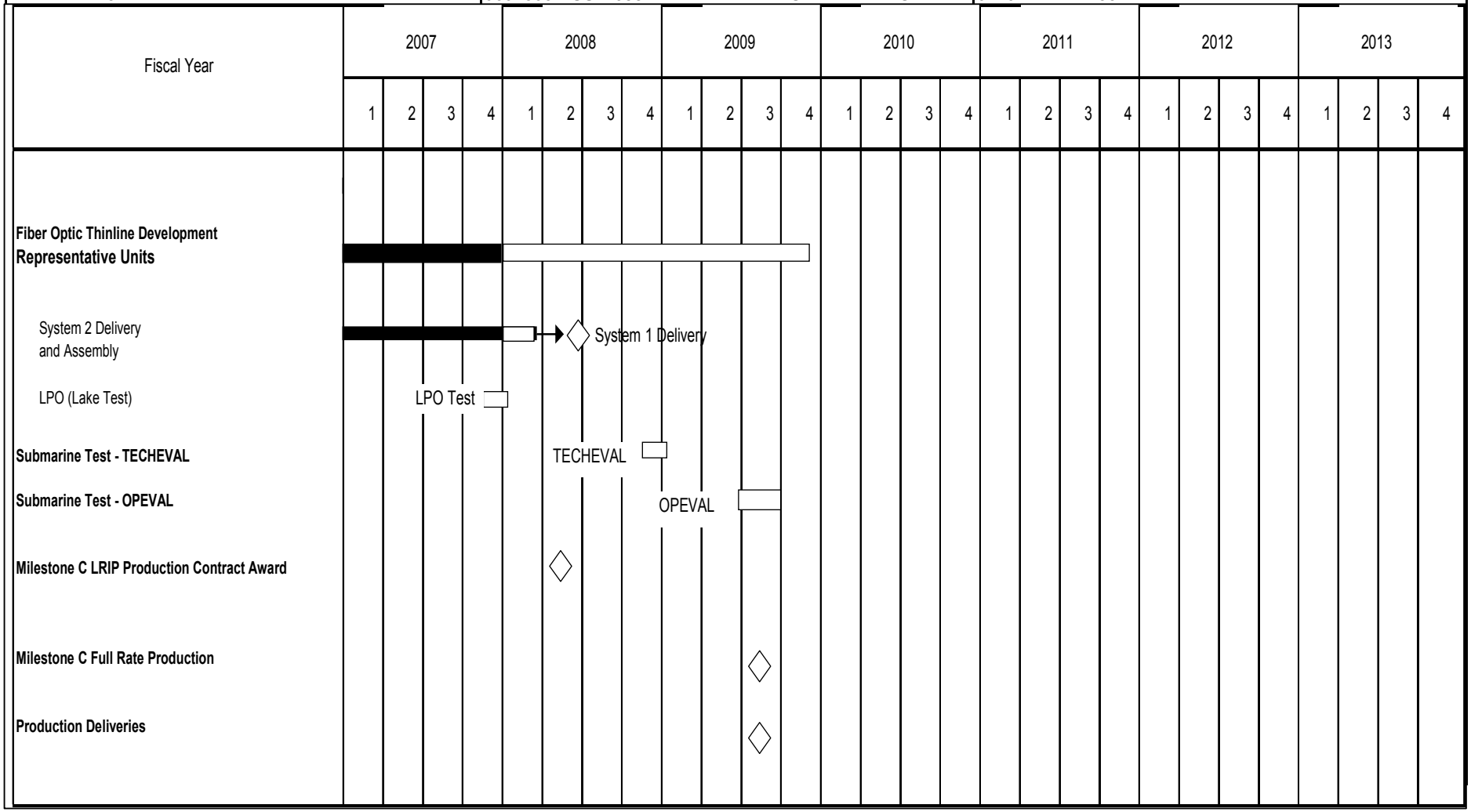
CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0219/Sub Sonar Improvement (ENG)**



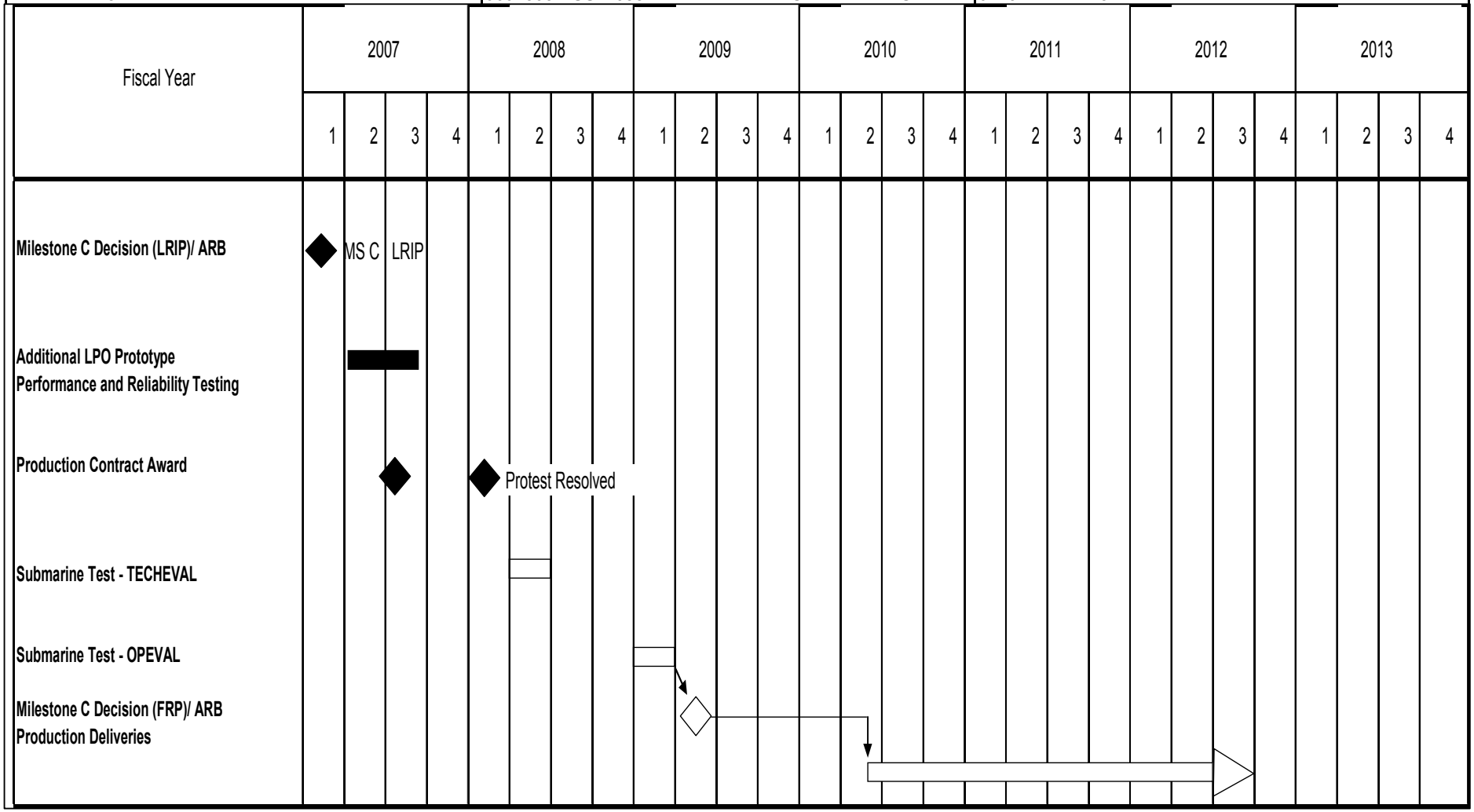
CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0219B/R-4 LCCA**



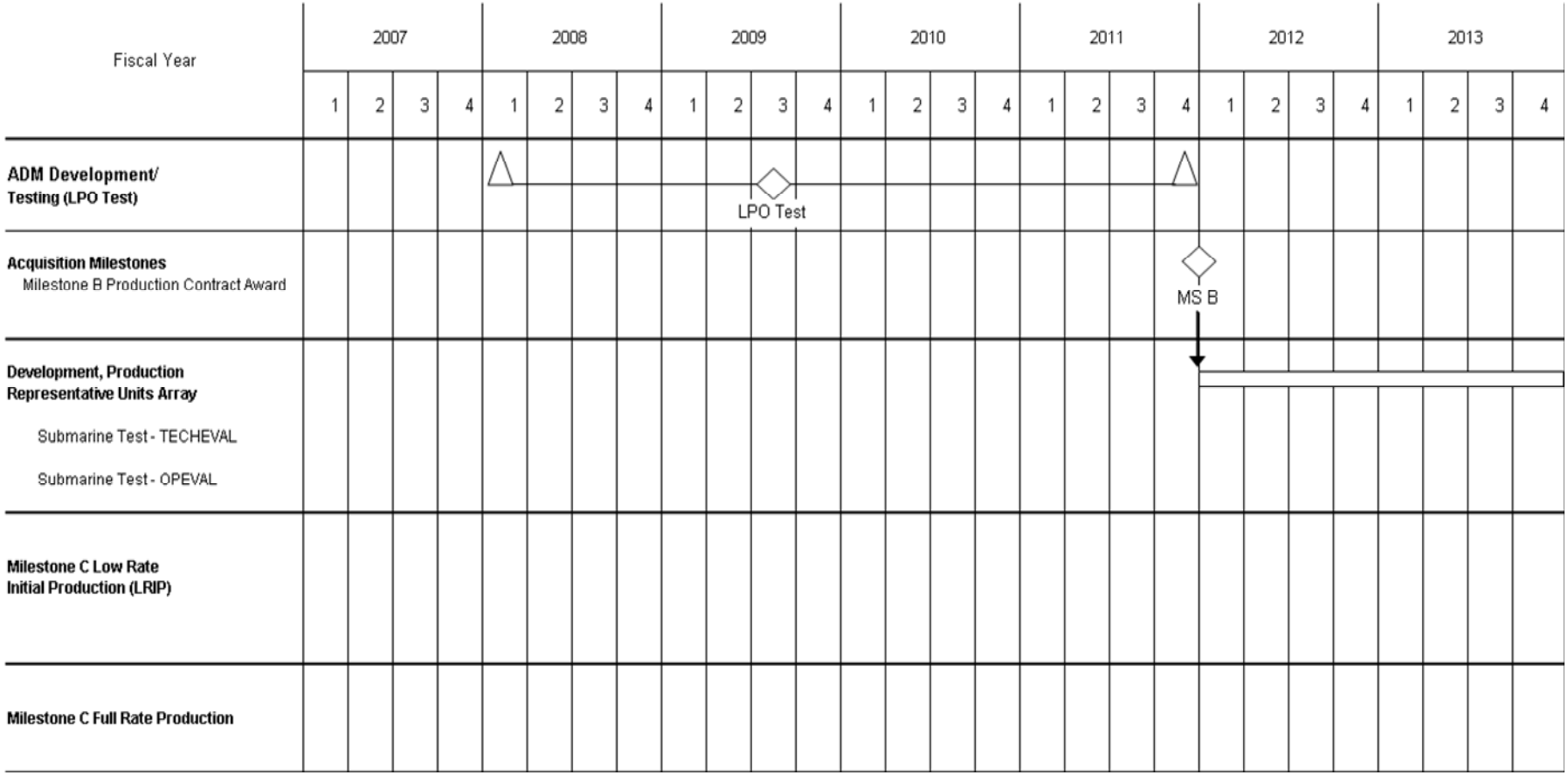
CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0219C/R-4 TB-33**



CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0219D/R-4 TB-34**



CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0219E/R-4 TLTL**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0219A/R-4 Acoustics**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone II (MS II) FY95							
A-RCI APB Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Annual Program Review	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Milestone C (MS C) FY04							
Production Awards	2Q	2Q	2Q	2Q	2Q	2Q	2Q
APB Test Readiness Review (TRR)	1Q,3Q,4Q	1Q,3Q,4Q	1Q,3Q,4Q	1Q,3Q,4Q	1Q,3Q,4Q	1Q,3Q,4Q	1Q,3Q,4Q
APB Sea Tests	3Q	3Q	3Q	3Q	3Q	3Q	3Q
APB Deliveries	1Q	1Q	1Q	1Q	1Q	1Q	1Q
Tech Insertions		1Q-4Q		1Q-4Q		1Q-4Q	
Production	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0219B/R-4 LCCA**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
ADM Testing (IWS5A) FY05/06 Installation							
LCCA Development FY08-FY09		2Q	4Q				
Acquisition Milestone B (MS B) Start		2Q					
Acquisition Milestone C			2Q				
Acquisition Milestone B (MS B) Complete			4Q				
Production Representative Units Delivery		2Q	4Q				
Submarine Test - TECHEVAL				1Q			
Submarine Test - OPEVAL				2Q			
Low Rate Initial Production			2Q-	4Q-			
Full Rate Production				3Q			
Production Deliveries					3Q		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0219C/R-4 TB-33**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Fiber Optic Thinline Development FY02-FY09							
Detailed Design CDR FY06							
System 1 Delivery		2Q					
LPO Test (Lake Test)	4Q						
Submarine Test - TECHEVAL		4Q					
Submarine Test - OPEVAL			3Q				
MS C LRIP Production Contract Award		2Q					
MS C Full Rate Production			3Q				
Production Deliveries			3Q				

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0219D/R-4 TB-34**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Next Generation Fatline Array Development FY04-FY06							
Multiple Development Contracts Awarded FY05							
Prototype Delivery FY06							
Additional LPO Prototype Performance and Reliability Testing	2Q/3Q						
Production Contract Award	2Q/3Q						
Protests Resolved		1Q					
Submarine Test - TECHEVAL		2Q					
Submarine Test - OPEVAL			1Q				
Milestone C Decision (FRP) / ARB Production Deliveries				2Q			

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EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0219E/R-4 TLTL**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
ADM Development		1Q-			4Q		
LPO Test			3Q				
Milestone B Production Contract Award					4Q		
TECHEVAL 2Q FY14							
OPEVAL 3Q FY14							
Milestone C Low Rate Production (LRIP) FY14							
Milestone C Full Rate Production FY14							

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EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0219D/R-4 TB-34**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Next Generation Flatline Array Development FY04-FY06							
Multiple Development Contracts Awarded FY05							
Prototype Delivery FY06							
Performance and Reliability Testing (Lake Test) FY07	2Q/3Q						
Production Award Contract	1Q						
Protest - 2 Contracts on Hold	2Q/3Q						
Submarine Test - TECHEVAL		2Q					
Submarine Test - OPEVAL			1Q				
Production Deliveries				2Q			

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**				PROJECT NUMBER AND NAME **0742/SUB INTEGRATED ANT SYS**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	17.490	34.009	58.143	53.843	37.152	26.837	22.072
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Submarine Integrated Antenna System (SIAS) project (0742) 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) Pre-Planned Product Improvement (P3I) efforts to existing antennas including Outboard Electronics-538/BRC (OE-538/BRC) Multi-Function Antenna, (2) OE-562 Submarine, High Data Rate (SubHDR) system development of X-Band capabilities, (3) Development of new antenna systems including Advanced High Data Rate Antenna (AdvHDR) and (4) Communication at Speed and Depth (CSD) design efforts. These efforts will provide Ship Submersible Nuclear (SSN), Ship Submersible Ballistic Nuclear (SSBN) and Ship Submersible Guided Nuclear (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.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0742/SUB INTEGRATED ANT SYS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Antenna Transition Engineering	4.534	4.301	4.823
RDT&E Articles Quantity	0	0	0

FY07: Provided analysis for emerging requirements and satellite communications database/link for other development programs (i.e. Mobil User Objector System (MUOS), Wideband Gapfiller Satellite (WGS), Wideband Network Waveform (WNW), Radio Frequency Distribution Antenna Control System (RFDACS), OE-538 and OE-513 ($1.126). Continued Planned Product Improvement (P3I) investigations and development efforts for legacy antenna systems ($1.682). Continued concept engineering, new technology evaluations and assessments in support of current and future submarine antenna applications ($1.726).

FY08: Continue to provide emerging requirements and satellite communications database/line analysis for other development programs (i.e. MUOS, Intra-Battle Group Wideband Network (IBGWN), WGS, Advanced Extremely High Frequency (EHF), and WNW ($1.081). Continue P3I investigation and development efforts for the legacy antenna systems ($0.580). Continue concept engineering, new technology evaluations and assessments in support of current and future submarine antenna applications ($1.424). Investigate multiple usage antennas, i.e. antennas that can be used for communications and other purposes such as ESM ($1.216).

FY09: Continue to provide emerging requirements and satellite communications database/link analysis for other development programs i.e. MUOS, IBGWN, WGS, Advanced EHF, and WNW ($1.255). Continue P3I investigation and development efforts for the legacy antenna systems ($0.850). Continue to investigate multiple usage antennas including antennas that can be used for communication and other purposes such as Electronic Surveillance Measures (ESM) ($0.977). Continue concept engineering, new technology evaluations and assessments in support of current and future submarine antenna applications; specifically to assess the impact to the sail and hull penetrators on different classes of submarines ($2.058).

	FY 2007	FY 2008	FY 2009
OE-538	0.000	4.426	6.884
RDT&E Articles Quantity	0	0	0

FY08: Prepare required acquisition documents and initiate system design for Increment 2 hardware and software to support MUOS, WNW and Iridium incorporation into the OE-538 antenna ($3.377). Commence system engineering to support integration of MUOS/WNW/Iridium into the OE-538 antenna ($1.447).

FY09: Continue system design for Increment 2 hardware/software ($1.000). Commence integration and system testing of Increment 2 system ($3.818). Continue system engineering including development of documentation and Integrated Logistics Support (ILS) products for Increment 2 ($2.066).

	FY 2007	FY 2008	FY 2009
SubHDR P3I	3.100	2.093	8.329
RDT&E Articles Quantity	0	0	0

FY07: Completed SHF Follow-On Terminal (FOT) development/test ($1.258). Completed development of Global Broadcast System (GBS) enhancements and combined Engineering Change

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0742/SUB INTEGRATED ANT SYS**

Proposal (ECP) for GBS and Transmit/Receive (Tx/Rx) development efforts ($0.868). Completed development of SHF Tx/Rx enhancements and contract start up for combined ECP for the GBS and Tx/Rx development efforts and initial Engineering Development Model (EDM) kits ($0.785). Completed development of Traveling Wave Tube (TWT) enhancement kits for SubHDR ($0.189).

FY08: Commence concept development and System Engineering for SubHDR antenna enhancement efforts required for compatibility with grade-A shock requirements ($1.474). Commence program planning, ECP/Integrated Logistic System (ILS) documentation and test support development of Grade-A shock requirements ($0.619).

FY09: Continue system engineering for the development efforts to meet grade-A shock requirement ($5.525). Commence development of grade-A shock improvement kits ($1.930). Continue program planning, ECP/ILS documentation development, system integration and Design Verification Test (DVT) procedures ($0.874).

	FY 2007	FY 2008	FY 2009
Advanced HDR	4.872	4.618	14.007
RDT&E Articles Quantity	0	0	0

FY07: Commenced development of systems engineering and detailed specification documentation ($1.130). Generated and released industry Requests For Information (RFI) on technology available to meet the desired performance requirements for AdvHDR. Performed analysis of industry responses ($0.974). Conducted an Analysis of Alternatives (AoA) to determine appropriate technical approach for the development of AdvHDR ($2.768).

FY08: Commence system definition/risk reduction and system development efforts ($2.861). Initiate technology demonstration to prove maturity of system concept ($1.170). Develop system development test documents and procedures ($0.425). Commence Milestone B documentation preparation and development of contract documents for AdvHDR ($0.537).

FY09: Complete design and documentation development for Milestone B and initiate contract start up ($0.975). Complete technology demonstration efforts ($0.950). Continue system development engineering efforts ($1.432). Commence dual vendor system EDM development ($19.750).

	FY 2007	FY 2008	FY 2009
Communications (Comms) at Speed and Depth	4.984	18.571	24.100
RDT&E Articles Quantity	0	0	0

FY07: Continued cost share technology development with Office of Naval Research (ONR) for SeaDeep and Ultra High Frequency (UHF) projects ($0.500). Continued development of acquisition documentation, program management, contract management and systems engineering including the Capability Development Document (CDD) in support of a Milestone B decision ($3.884). Initiated installation documentation for the Recoverable Tethered Optical Fiber (RTOF) system aboard OHIO Class submarine and provide technical oversight and management ($0.600).

FY08: Continue cost share technology development with ONR for SeaDeep project ($2.500). Continue to develop acquisition documentation, program management, contract management and systems engineering oversight in support of a Milestone B decision ($3.600). Award initial development contract for Increment 1 Engineering Development Models (EDMs) ($10.671). Install the RTOF system aboard OHIO Class submarine and provide technical oversight to sea test ($1.800).

FY09: Continue to develop Increment 1 EDMs and test assets for certification ($8.250). Plan for developmental testing and operational assessment (DT/OA) of the EDMs to include updating the Test and Evaluation Master Plan (TEMP) ($0.250). Prepare Ship Alterations (SHIPALTs) in support of the EDM installations ($1.250). Development of

Increment 1 Capabilities Production Document (CPD), update acquisition documentation, program management, contract management and systems engineering documentation in support of Milestone C - Low Rate Initial Production (LRIP) decision ($2.000). Remove RTOF system and restore original capability to the submarine upon completion of sea test ($0.500). Participate in the Sea Eagle Advanced Technology Development (ACTD)($2,000).

C. OTHER PROGRAM FUNDING SUMMARY:

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.

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
3130 Submarine Communications	86.370	83.980	76.761	61.420	92.435	136.989	144.049	144.867	Continue

D. ACQUISITION STRATEGY:

Program Milestones: FY08 2nd QTR CSD Milestone B (MS-B) for Increment 1; FY08 2nd QTR OE-538 INC 2 MS B; FY10 2Q Adv HDR MS-B.

The acquisition strategy of the CSD program is an Evolutionary Acquisition effort that will produce various capabilities to be fielded in Increments. The Program of Record will enter the Joint Capability Integration and Development System (JCIDS) process, in accordance with DoD 5000.2. The CSD Program focuses on providing Internet Protocol (IP), medium data rate, two-way communication with a submerged submarine throughout the full range of tactically relevant speeds and depths. A family of solutions is required to meet the multitude of communications and operational requirements on general Information Technology (IT) capabilities used by ship and shore operators.

T&E Milestones:

Contract Milestones:

OE-538: 4th QTR FY08 Development Contract Award

SubHDR: 2nd QTR FY08 FOT/SHF Procurement Contract

SubHDR: 2nd QTR FY08 GBS/SHF Procurement Contract

AdvHDR: 3rd QTR FY10

CSD: 3rd QTR FY08 Development Contract Award

E. MAJOR PERFORMERS:

Raytheon, Marlboro, MA - SHF/FOT Development, SubHDR Development

Naval Undersea Warfare Center, Division Newport, RI - System Engineering, Technical Design Agent

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**					PROJECT NUMBER AND NAME **0742/SUB INTEGRATED ANT SYS**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Digital Interface Dev (SubHDR)	CPAF	Raytheon, Marlboro, MA	3.545	0.000		0.000		0.000		0.000	3.545	3.545
Digital Dev (SubHDR)	CPAF	Raytheon, Marlboro, MA	7.629	0.553	MAR-07	0.479	FEB-08	1.782	FEB-09	CONT	CONT	0.000
Hardware Dev (SubHDR)	WR	NUWC, Newport, RI	1.456	0.677		0.590		0.477		CONT	CONT	0.000
Hardware Dev (HDR SHF/FOT)	CPAF	Raytheon, Marlboro, MA	14.632	0.000		0.000		0.000		CONT	CONT	0.000
Hardware Dev (AdvHDR)	WR	NUWC, Newport, RI	0.000	0.000		0.000		0.000		CONT	CONT	0.000
Hardware EDM Dev (AdvHDR)	TBD	TBD	0.000	0.000		0.000		10.150	APR-09	CONT	CONT	0.000
Hardware Dev (Trans Eng)	CPAF	Sippican Marion, MA	1.410	0.500	MAR-07	0.000		0.000		CONT	CONT	0.000
Hardware Dev (CSD)	CPAF	Apogen, CA	0.000	0.000		2.800	DEC-07	0.000		CONT	CONT	0.000
Systems/Hardware Dev (CSD)	CPAF	Various	5.374	1.217	MAR-07	8.750	APR-08	17.781	NOV-08	CONT	CONT	0.000
Hardware Dev (OE-538)	CPAF	TBD	0.000	0.000		1.800		3.213		CONT	CONT	0.000
Systems Engineering (OE-538)	CPAF	TBD	0.000	0.000		1.105		1.497		CONT	CONT	0.000
Systems Engineering (OE-538)	WR	NUWC, Newport, RI	0.000	0.000		1.177		1.600		CONT	CONT	0.000
Systems Engineering (SubHDR)	CPFF	Raytheon, Marlboro, MA	5.395	0.921	MAR-07	0.401	FEB-08	3.350	FEB-09	CONT	CONT	0.000
System Engineering (SubHDR)	WR	NUWC, Newport, RI	11.626	0.670		0.275		1.850		CONT	CONT	0.000
Systems Engineering (AdvHDR)	WR	NUWC, Newport, RI	0.000	3.865		3.575		2.457		CONT	CONT	0.000
System Engineering (Trans Eng)	WR	NUWC, Newport, RI	10.737	2.693		2.930		3.583		CONT	CONT	0.000
System Engineering (Trans Eng)	Various	Various	3.500	0.895		1.020		0.950		CONT	CONT	0.000
System Engineering (CSD)	Various	Various	0.000	1.326		2.000		2.000		CONT	CONT	0.000
System Engineering (CSD)	WR	SSC-SD, San Diego, CA	0.000	0.657		1.500		1.035		CONT	CONT	0.000
Systems Engineering (CSD)	WR	NUWC, Newport, RI	5.204	1.500		2.629		1.850		CONT	CONT	0.000
Subtotal Product Development			**70.508**	**15.474**		**31.031**		**53.575**		**0.000**	**3.545**	**3.545**
Remarks:												
Software Development	WR	NUWC, Newport, RI	0.739	0.000		0.000		0.000		0.000	0.739	0.000
Integrated Logistics Support	Various	Various	1.728	0.791		1.151		1.324		0.000	4.994	0.000
Subtotal Support Costs			**2.467**	**0.791**		**1.151**		**1.324**		**0.000**	**5.733**	**0.000**
Remarks:												
Test & Evaluation (CSD)	WR	COTF	0.000	0.110		0.120		0.120		CONT	CONT	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**					PROJECT NUMBER AND NAME **0742/SUB INTEGRATED ANT SYS**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Test & Evaluation (OE-538)	WR	COTF	0.000	0.000		0.070		0.070		CONT	CONT	0.000
Test & Evaluation (SubHDR)	WR	NUWC, Newport, RI	0.000	0.000		0.272		0.750		CONT	CONT	0.000
Developmental/Operational T&E	Various	Various	1.267	0.000		0.000		0.000		CONT	CONT	0.000
Test & Evaluation (CSD)	WX	SSC-SD, CA	0.000	0.028		0.240		0.850			1.118	0.000
Subtotal Test and Evaluation			**1.267**	**0.138**		**0.702**		**1.790**		**0.000**	**CONT**	**0.000**
Remarks:												
Program Management Support	Various	Various	4.390	1.087		1.125		1.454		CONT	CONT	0.000
Subtotal Management Services			**4.390**	**1.087**		**1.125**		**1.454**		**0.000**	**0.000**	**0.000**
Remarks:												
Total Cost			78.632	17.490		34.009		58.143		**0.000**	**CONT**	**3.545**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0742/SUB INTEGRATED ANT SYS**

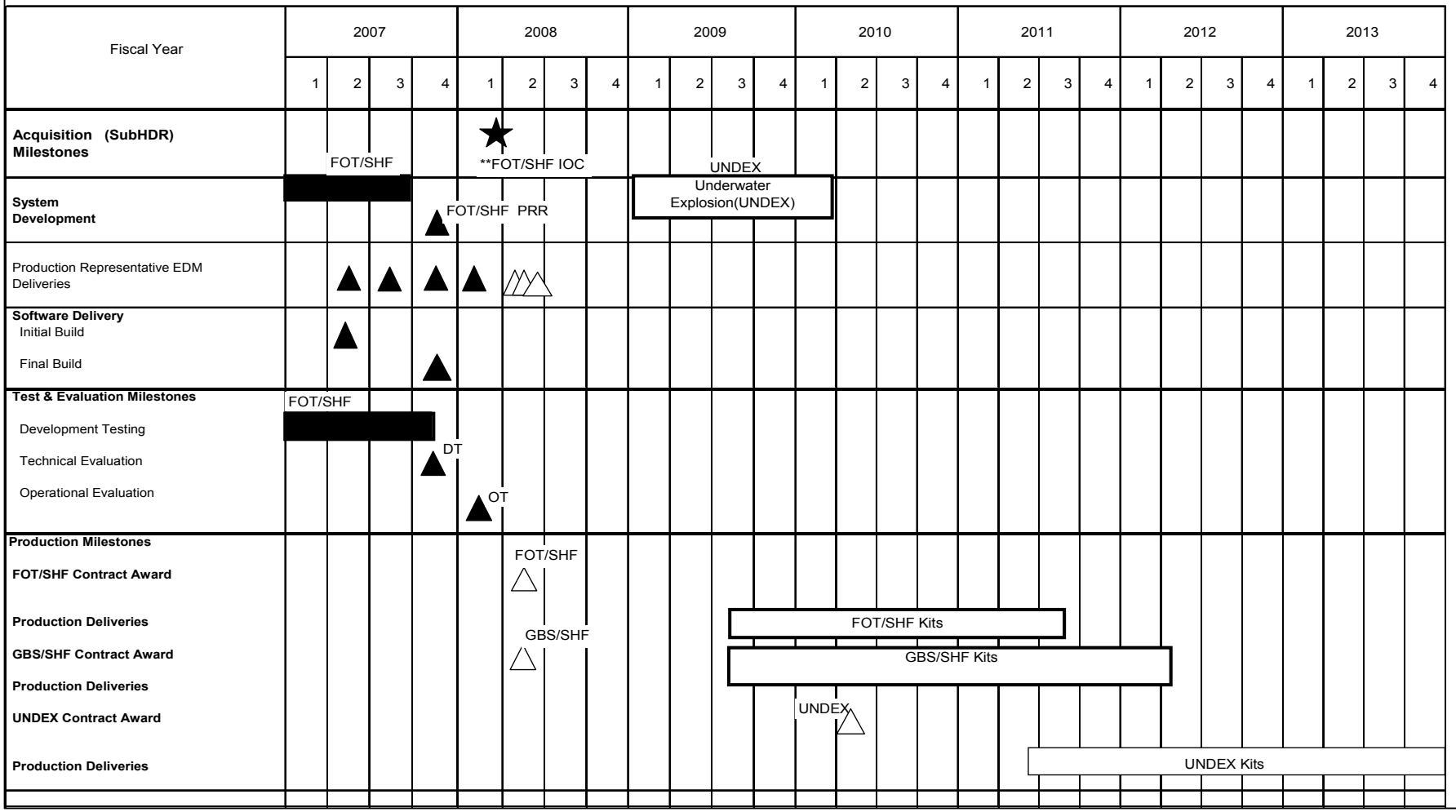

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EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0742B/Adv HDR**

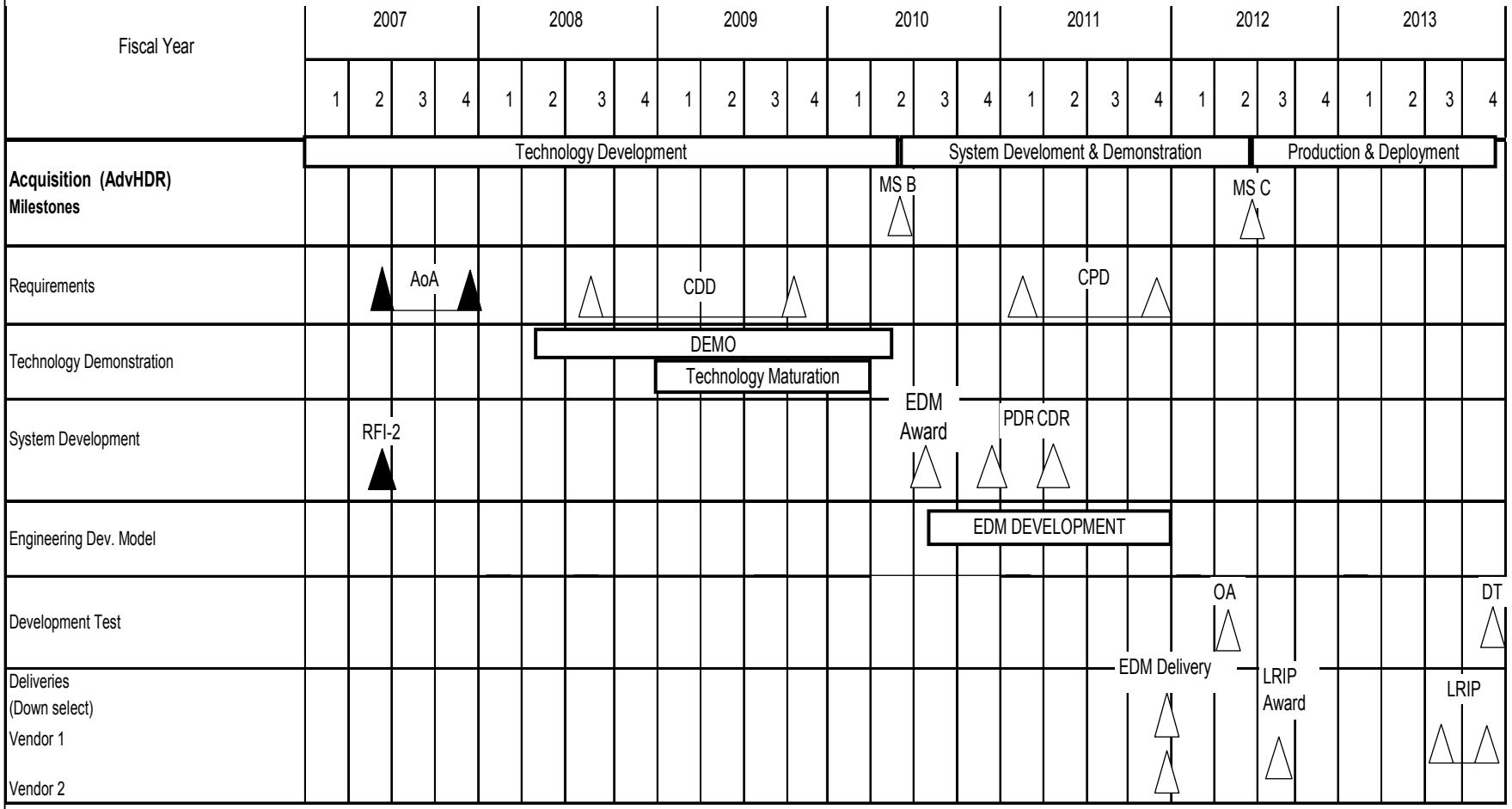

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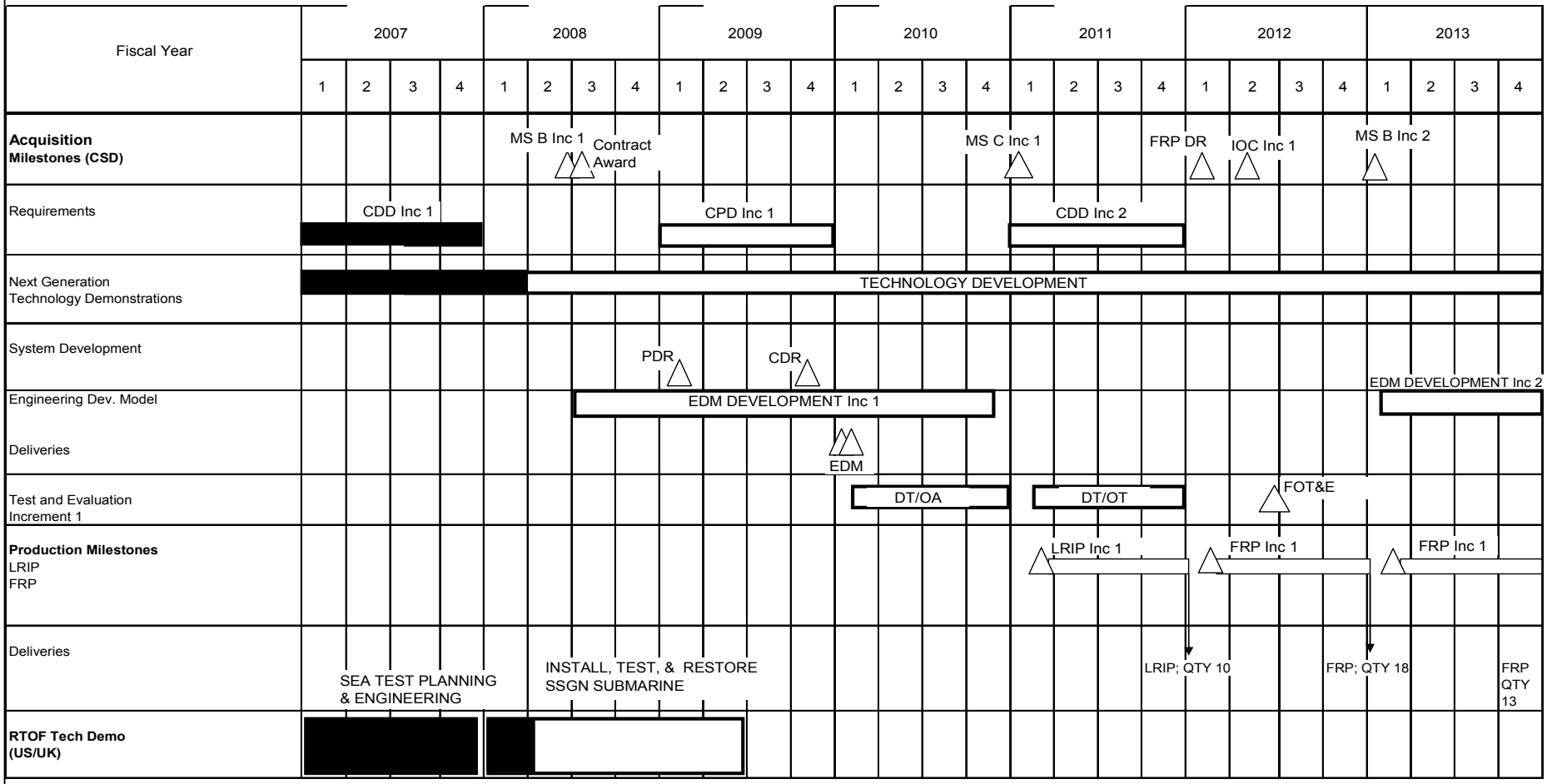
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0742C/CSD**



* Technology Demonstrations include Confidence Tests, Trident Warrior, RIMPAC, Valiant Shield 07, and Sea Trials

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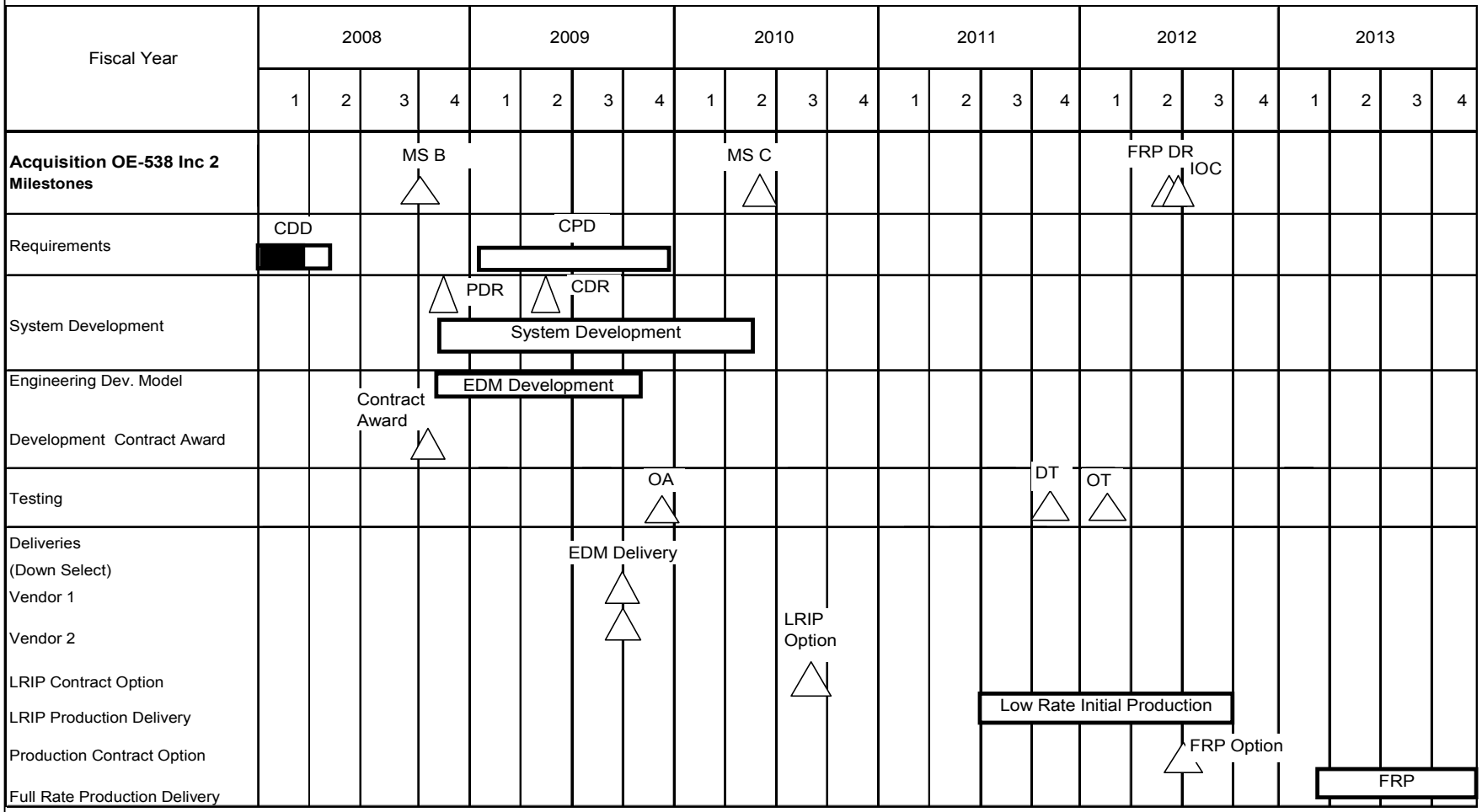
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0742D/OE-538**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0742/SUB INTEGRATED ANT SYS**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FOT/SHF Production Representative EDM	JAN-07	OCT-07					
FOT/SHF Developmental Testing (DT)	JUL-07						
FOT/SHF Technical Evaluation (TECHEVAL)	JUL-07						
FOT/SHF Operational Evaluation (OPEVAL)		OCT-07					
FOT/SHF Preproduction Readiness Review (PRR)	JUL-07						
FOT/SHF Software Delivery (Initial Build)	JAN-07						
FOT/SHF Software Delivery (Final Build)	JUL-07						
FOT/SHF IOC		JAN-08					
FOT/SHF Contract Award		JAN-08					
FOT/SHF Full Rate Production (FRP) First Delivery			APR-09				
GBS/SHF Contract Award		JAN-08					
GBS/SHF Full Rate Production (FRP) First Delivery			APR-09				
UNDEX Developmental			OCT-08	OCT-09			
UNDEX Contract Award				JAN-10			
UNDEX Full Rate Production (FRP) First Delivery					JAN-11		

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EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0742B/Adv HDR**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Development RFI-1							
Milestone B Decision (MS B)			2Q				
Milestone C Decision (MS C)						2Q	
EDM Award			3Q				
EDM Delivery					3Q		
Analysis of Alternatives (AoA)	2Q	4Q					
Capabilities Development Document (CDD)		3Q	1Q				
Capabilities Production Document (CPD)					1Q-4Q		
Preliminary Design Review (PDR)			4Q				
Critical Design Review (CDR)				4Q			
Operational Assessment (OA)						2Q	
LRIP Award						3Q	
LRIP Delivery							3Q-4Q
Development Test (DT)							4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0742C/CSD**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Technology Demonstrations	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
RTOF Install, Test, and Restore		1Q-4Q	1Q-2Q				
Increment 1							
Capabilities Development Document	1Q-4Q						
Milestone B Decision		2Q					
Contract Award		3Q					
EDM Development		3Q-4Q	1Q-4Q	1Q-4Q			
Preliminary Design Review			1Q				
Critical Design Review			4Q				
EDM Deliveries				1Q			
Capabilities Production Document			1Q-4Q				
Test and Evaluation				1Q-4Q	1Q-4Q		
Milestone C Decision					1Q		
Initial Operational Capability						1Q	
Follow-on Test & Evaluation						2Q	
Increment 2							
Capabilities Development Document					1Q-4Q		
Milestone B Decision							1Q
EDM Development							1Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0742D/OE-538**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Capability Development Document (CDD)		1Q-2Q					
Milestone B Decision (MS B)		3Q					
Development Contract Award		4Q					
System Development		4Q		2Q			
Engineering Development Model Development		4Q	4Q				
Preliminary Design Review (PDR)		4Q					
Critical Design Review (CDR)			2Q				
Eng Dev Model (EDM) - Delivery			3Q				
Developmental Test (DT)					4Q		
Operational Assessment			4Q				
Operational Test (OT)						1Q	
Capability Production Document (CPD)			1Q-4Q				
Milestone C (MS C) Decision				2Q			
LRIP Contract Award				3Q			
Low Rate Initial Production					3Q-	2Q	
Production Contract Award						2Q	
Full Rate Production							2Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**				PROJECT NUMBER AND NAME **0775/Submarine Supt Equip Prog**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	1.693	1.379	1.417	1.454	1.487	1.517	1.545
RDT&E Articles Qty	0	0	0	0	0	0	0

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 (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; Information Operations, Special Operations Force (SOF) Support; and Joint Strike. 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) Resolution of software trouble reports during technology updates, from fleet feedback reports, and Submarine Warfare Federated Tactical System (SWFTS)/Non Propulsion Electronic System (NPES) Tactical Local Area Network (TACLAN) migrations; (3) Integration, test, and installation of COTS technology for system enhancements.

The program supports three submarine mission support categories; Threat Warning/Self Protection; Situational Awareness; and Intelligence, Surveillance and Reconnaissance (ISR). Threat Warning/Self Protection projects evaluate the vulnerability of submarine masts, periscopes and sensors to visual, radar, and infrared detection. It also evaluates 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 ISR projects develop submarine unique improvements based on emerging technologies that are available from DOD exploratory development programs and other sources.

Threat Warning/Self Protection sub-projects include: Low Probability of Intercept (LPI) Receiver and AN/BLQ-10 software enhancements, Information Warfare Payloads, Environmental Vulnerability Server.

Situational Awareness sub-projects include: Embedded National Tactical Receiver (ENTR), Integration of GALE, and Multifunction Modular Mast (MMM) Antenna, Specific Emitter ID enhancements, algorithm development, passive ranging.

ISR sub-projects include: Advanced EW Tuners, MMM Antenna, processor miniaturization, obsolescence issues, remote maintenance & operation, automatic calibration.

RDTE Funding line supports the entire AN/BLQ-10 ES procurement program. Average FY OPN and SCN hardware procurement yearly funds are $80M.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0775/Submarine Supt Equip Prog**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.693	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY 07

NPES software and SWFTS baseline changes. Research and resolve AN/BLQ-10 SPRs. ESM software enhancements. Support IO Payload development.

Support AN/BLQ-10(V)1 ES Virginia Class DT/OT. LPI Receiver DF development, remote maintenance & operations development, EVS development. SEI enhancements.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.379	0.000
RDT&E Articles Quantity	0	0	0

FY 08

Conduct Test of Specific Emitter Identification enhancements, Automatic Contact Correlation, LPI Receiver DF, EVS Test, Auto Calibration & testing, IO payload development, algorithm development. NPES and SWFTS software baseline changes.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.417
RDT&E Articles Quantity	0	0	0

FY 09

Conduct Test of Specific Emitter Identification, Automatic Contact Correlation, and LPI Receiver. Passive Ranging Development. Processor improvements.

Research and resolve AN/BLQ-10 SPRs.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDTEN/BA 5	**0604503N/SSN-688 AND TRIDENT MODERNIZATION**	**0775/Submarine Supt Equip Prog**	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
ML003 SSEP Special Purpose Equipment	0.275	0.280	0.285	0.291	0.297	0.303	0.309	Continuing	Continuing
ML007 ICADF	6.448	9.876	6.720	12.142	0.000	15.825	0.000	Complete	69.637
ML008 ICADF Antenna	15.556	7.447	17.354	20.190	20.554	10.492	8.030	Continuing	Continuing
ML009 APB-EW	0.282	3.721	3.817	11.717	31.452	31.048	47.251	Continuing	Continuing
ML010 Tech Refresh Upgrades	0.465	0.312	0.279	0.048	12.606	31.785	14.433	Continuing	Continuing
ML013 ESM IMA Support	0.186	0.190	0.193	0.197	0.201	0.205	0.210	Continuing	Continuing
ML015 AN/BLQ-10(V) SSN ES Backfit Systems	41.661	44.708	32.637	0.000	0.000	0.000	0.000	Complete	119.006
ML016 AN/BLQ-10(V) SSBN ES Systems	0.000	0.000	0.000	17.412	22.309	0.000	0.000	Continuing	Continuing
ML017 AN/BLQ-10 Field Change Kits	2.488	1.583	22.164	12.627	7.630	9.859	1.672	Continuing	58.023
MLCA1 AN/BLQ-10(V) Tech Refresh	2.500	0.000	0.000	0.000	0.000	0.000	0.000	Complete	2.500
SCN LI 201300 (ESM only)	25.320	25.824	26.240	26.665	54.196	55.388	56.606	Continuing	270.239
Related RDT&E:									
(U) PE 0603562N/Submarine Tactical Warfare System	4.756	4.215	4,369	4.462	4.573	4.662	4.754	Continuing	Continuing

D. ACQUISITION STRATEGY:

AN/BLQ-10 (V) ES System - Procurements are executed/managed in accordance with the Acquisition Strategy Report (Rev 4) for AN/BLQ-10(V) ES System dtd 3/7/06 and the Acquisition Plan (Rev 6) for AN/BLQ-10(V) ES System dtd 3/7/06.

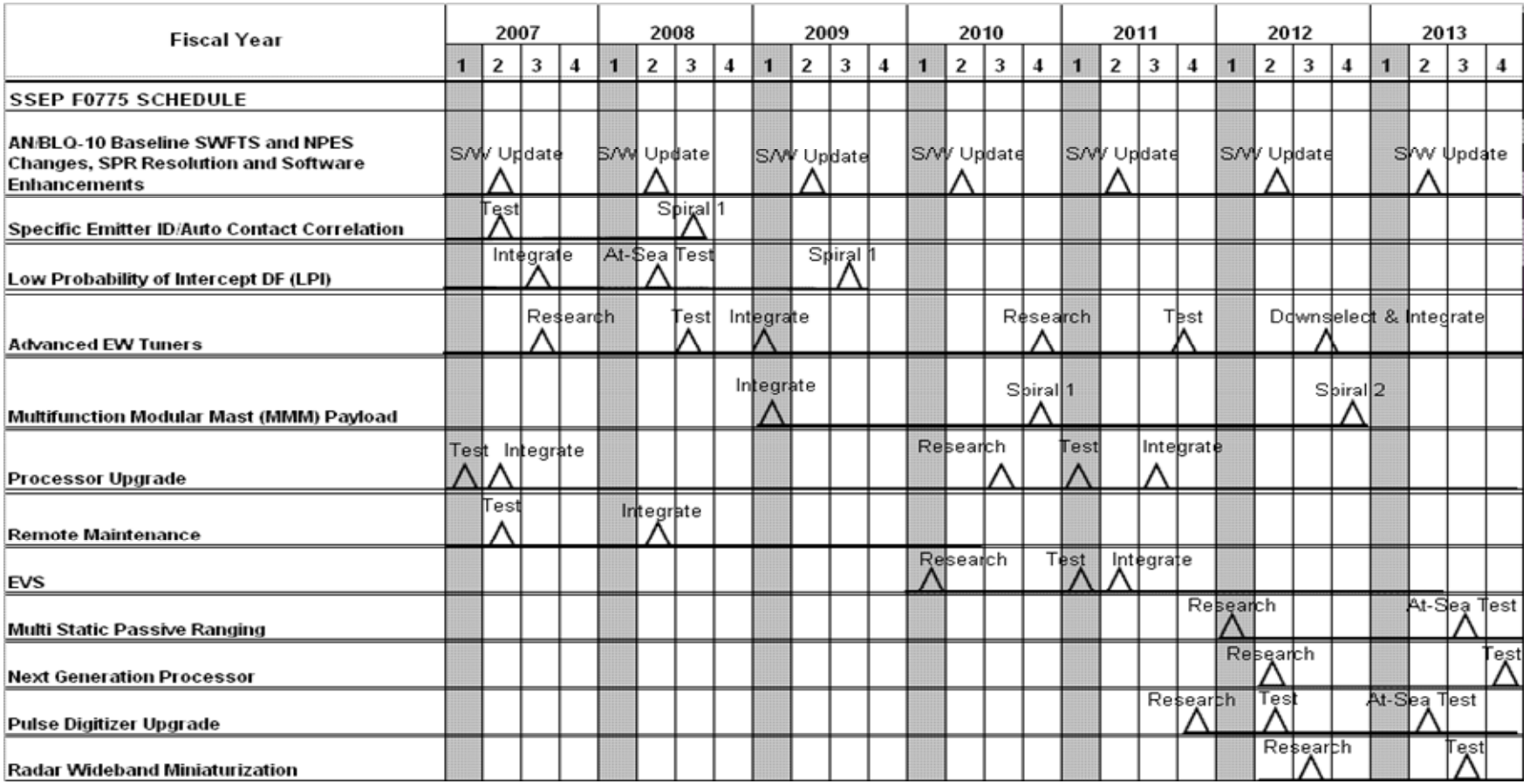
E. MAJOR PERFORMERS:

Lockheed-Martin, Syracuse, NY - AN/BLQ-10 system developer and End-to-End Integrator

NUWC, Newport, RI - EW Library developer, AN/BLQ-10 systems engineering, TEMPALT development, integration support, DT/OT support, ISEA, and TDA.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**					PROJECT NUMBER AND NAME **0775/Submarine Supt Equip Prog**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
AN/BLQ-10 ES Product Development	CPFF	Lockheed Syracuse, NY	0.467	0.671	FEB-07	0.632	MAR-08	0.626	MAR-09	CONT	CONT	0.000
Systems Engineering & Test Spt	WX	NUWC, Newport, RI	0.475	0.546	NOV-06	0.291	MAR-08	0.380	MAR-09	CONT	CONT	0.000
Miscellaneous	Various	Various	0.067	0.127	NOV-06	0.041	MAR-08	0.041	MAR-09	CONT	CONT	0.000
Subtotal Product Development			**1.009**	**1.344**		**0.964**		**1.047**		**CONT**	**CONT**	**0.000**
Remarks:												
Engineering Technical Services	CPAF	AT&T GSI, VA	0.250	0.213	MAR-07	0.217	MAR-08	0.222	MAR-09	CONT	CONT	0.000
Subtotal Support Costs			**0.250**	**0.213**		**0.217**		**0.222**		**CONT**	**CONT**	**0.000**
Remarks:												
Travel	WX	NAVSEA	0.070	0.080	DEC-06	0.090	DEC-07	0.091	DEC-08		0.331	0.000
SBIR Assessment			0.056	0.056		0.056		0.057		0.000	0.225	0.000
Labor (Research Personnel)			0.000	0.000		0.052		0.000		0.000	0.052	0.000
Subtotal Management Services			**0.126**	**0.136**		**0.198**		**0.148**		**0.000**	**0.608**	**0.000**
Remarks:												
Total Cost			**1.385**	**1.693**		**1.379**		**1.417**		**0.000**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **0775/Submarine Supt Equip Prog**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0775/Submarine Supt Equip Prog**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AN/BLQ-10 BASELINE CHANGES, SPR RESOLUTION, AND SOFTWARE ENHANC	2Q	2Q	2Q	2Q	2Q	2Q	2Q
--S/W Specification							
SPECIFIC EMITTER ID/ACC & VIRGINIA DT/OT							
--Test	2Q						
--Spiral 1		3Q					
LOW PROBABILITY OF INTERCEPT DF (LPI)							
--Integrate	3Q						
--At-Sea Test		2Q					
--Spiral 1			3Q				
ADVANCED EW TUNERS							
--Research	3Q			4Q			
--Test		3Q			4Q		
--Integrate			1Q				
--Downselect and Integrate						4Q	
MULTIFUNCTION MODULAR MAST (MMM) PAYLOAD							
--Integrate			1Q				
--Spiral 1				4Q			
--Spiral 2						4Q	
--PROCESSOR UPGRADE							
--Test	1Q				1Q		
--Integrate	2Q				3Q		
--Research				3Q			
REMOTE MAINTENANCE							
--Test	2Q						
--Integrate		2Q					
EVS							
--Research				1Q			
--Test					1Q		
--Integrate					2Q		
MILTI STATIC PASSIVE RANGIING							

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **0775/Submarine Supt Equip Prog**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
--Research						1Q	
--At-Sea Testing							3Q
NEXT GENERATION PROCESSOR							
--Research						2Q	
--Test							4Q
PULSE DIGITIZER UPGRADE							
--Research					4Q		
--Test						2Q	
--At-Sea Test						2Q	
RADAR WIDEBAND MINIATURATION							2Q
--Research						3Q	
--Test							3Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**				PROJECT NUMBER AND NAME **1411/SUBM TACT COMM SYS**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	15.982	16.194	15.999	21.633	19.112	19.175	9.341
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Submarine Tactical Communications System project (1411) provides submarines with communications systems designed to: (a) enhance data throughput through automation and integrated network management; (b) convert to ForceNet and tactical data networks, (c) provide submarines Internet Protocol (IP) connectivity; (d) be interoperable with other joint United States (U.S.) and combined allied military networks; and (e) improve reliability, maintainability, and availability. This is accomplished by providing the submarine with a properly integrated mix of fully interoperable Navy standard and Commercial Off-The-Shelf (COTS) communication equipment covering a wide range of frequencies and modes. The Common Submarine Radio Room (CSRR) integrates COTS and Government Off-The-Shelf (GOTS) components into a single radio room configuration for all classes of submarines. CSRR leverages the development of VIRGINIA Class Exterior Communications System (ECS) which includes Open Systems Architecture (OSA) design. The project provides for the development of a single land-based integration Test Facility (ITF) that consolidates existing land-based testing facilities into one facility supporting all classes of submarines. This project funds the development of a replacement Simulation/Stimulation (SIM/STIM) suite to support testing and training requirements. The project includes system engineering efforts associated with demonstration of new technology which will allow the submarine to connect to the Global Information Grid (GIG) and participate in strike group, as well as joint operations. The new technology will ensure the submarine's continued ability to participate in Network-Centric Warfare and exploit its inherent stealth capabilities in support of the joint and combined fight to achieve total battlespace 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.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **1411/SUBM TACT COMM SYS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
BCA OPCON architecture	0.653	0.497	0.000
RDT&E Articles Quantity	0	0	0

FY07 Continued system engineering supporting Broadcast Control Authority/Operational Control (BCA/OPCON) architecture ($0.653).
FY08: Continue system engineering supporting BCA/OPCON architecture ($0.497).

	FY 2007	FY 2008	FY 2009
Common Sub Radio Room/Sub Comms Support System	15.329	15.697	15.999
RDT&E Articles Quantity	0	0	0

FY07 Continued system engineering/design development for SCSS modernization ($0.310). Commenced software development to incorporate CSRR Information Assurance (IA) requirements to begin integrating Digital Modular Radio (DMR) capability and other component programs into the Control and Management (C&M) software ($5.072). Commenced systems engineering efforts for Digital Modular Radio (DMR) 6.4 integration and Super High Frequency (SHF) integration into the CSRR architecture ($5.072). Completed system engineering and development of an operator Multi-Purpose Reconfigurable Training System (MRTS) for Increment I ($1.505). Continued IA and Information Security (INFOSEC) certification for all CSRR platforms ($1.740). Continued test and evaluation efforts of the CSRR SEAWOLF and OHIO platforms ($1.741).
FY08: Complete software integration of the CSRR IA requirements for DMR and other component programs into the C&M software ($1.335). Complete systems engineering for DMR 6.4 and SHF integration into the CSRR architecture ($1.643). Continue system engineering/design development for SCSS modernization ($0.232). Commence system engineering and development of MRTS for maintenance trainers ($2.101). Continue implementation of security upgrades to meet IA, INFOSEC and multiple levels of certification requirements General Service (GENSER) and Sensitive Compartmented Information (SCI) for all CSRR platforms ($3.879). Commence software integration of new technologies for CSRR Increment 1 Version 2 into the C&M control system ($2.878). Commence systems engineering design development testing supporting CSRR modernization Increment 1 Version 2 ($3.983).
FY09: Continue system engineering and development of maintenance trainers Inc 1 Ver 0, and upgrade maintenance operator MTRS to CSRR Inc 1 v2 baseline ($3.274). Continue implementation of security upgrades to meet IA, INFOSEC and multiple levels of certification requirements for GENSER and SCI for all CSRR platforms ($3.606). Commence systems engineering/design development and testing for CSRR Increment 1 Version 2 for the VIRGINIA platform and complete on SEAWOLF and SSGN ($5.088). Commence software integration of new technologies for CSRR Increment 2 ($3.591). Commence systems engineering design development testing supporting CSRR modernization Increment 2 for new technologies ($0.440).

C. OTHER PROGRAM FUNDING SUMMARY:

Related RDT&E

PE 0602232N Space and Electronic Warfare (SEW) Technology

PE 0204163N Fleet Communications

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
31300 Submarine Communications	86.370	83.980	76.761	61.420	92.435	136.989	144.049	Continue	Continue

D. ACQUISITION STRATEGY:

CSRR transforms SSN 688, SSBN 726 and SSN 21 Class radio room from suites of class-specific, closed system equipment to a common design which incorporates Open System Architecture (OSA) communications equipment. CSRR will: leverage off VIRGINIA Class Exterior Communication System (ECS) design, use VIRGINIA Class ECS control and management software, apply a systems approach to design and implementation of Joint Maritime Communication System (JMCOMS), and maximize use of COTS products and emerging technologies.

Program Milestones: 4Q FY07 CSRR - FRP

T&E Milestones: Completed CSRR SSBN TECHEVAL 2Q FY07, CSRR SSBN OPEVAL 2Q FY07, CSRR SSGN TECHEVAL 1Q FY07, CSRR GN OPEVAL 3Q FY07. All FY07 testing reported operationally suitable and operationally effective. FOT&E scheduled 3Q FY10 platform TBD (SEAWOLF or SSGN).

E. MAJOR PERFORMERS:

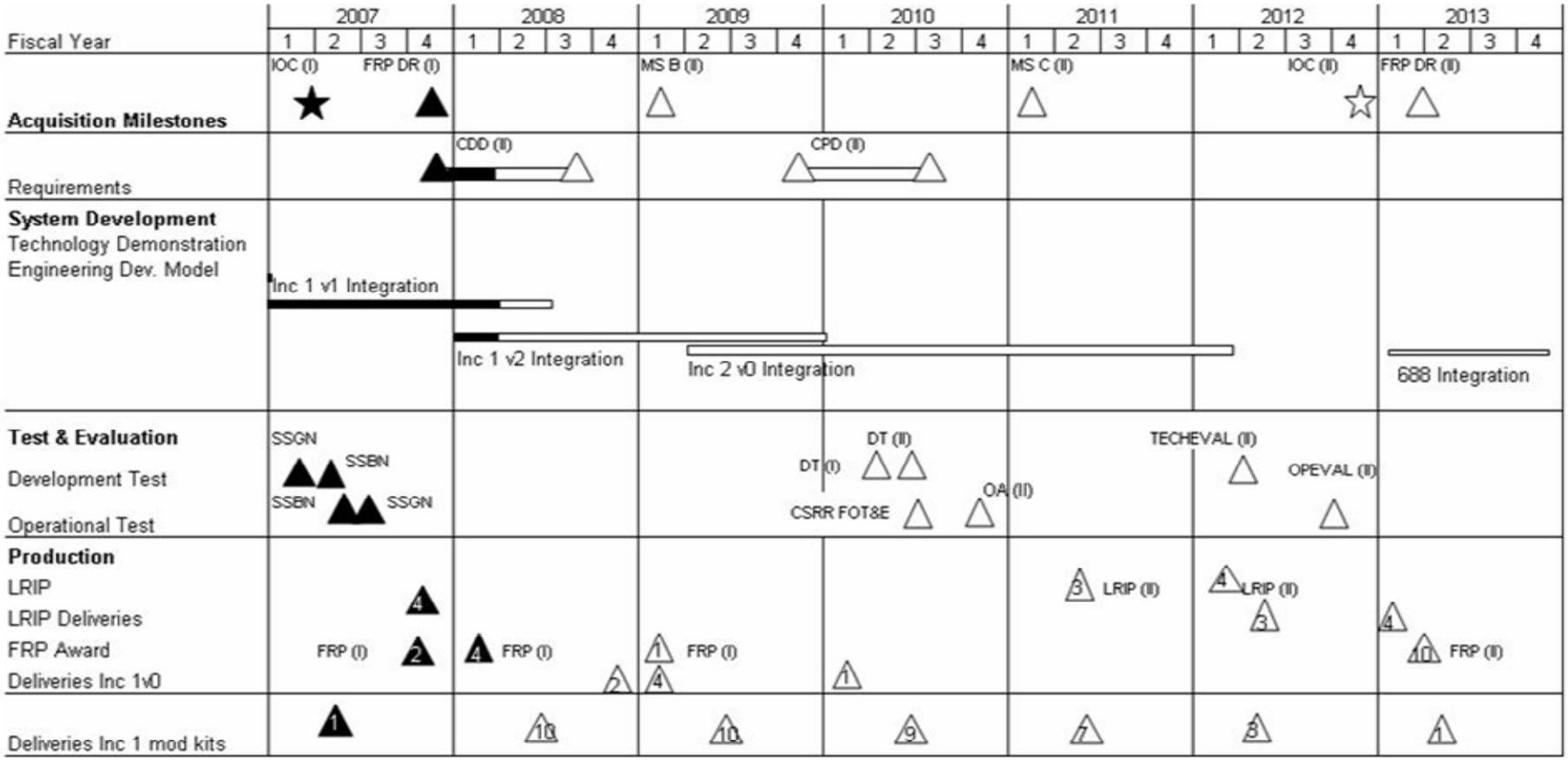
Naval Undersea Warfare Center, Division Newport, RI - Technical Design Agent & System Integration

Lockheed Martin/Maritime Sensors & Systems, Eagan, MN - Software Development

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**					PROJECT NUMBER AND NAME **1411/SUBM TACT COMM SYS**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Hardware Development*	CPFF	SSC-SD/NUWC Newport, RI	2.776	0.000		0.000		0.000		0.000	2.776	0.000
Hardware Development**	CPFF	SSCs/NUWC Newport, RI	0.211	0.000		0.000		0.000		0.000	0.211	0.000
MCS Development	Various	Motorola, misc labs	10.214	0.000		0.000		0.000		0.000	10.214	0.000
H/W Development Facilities	Various	NUWC Newport, RI	0.000	0.000		0.000		0.000		0.000	0.000	0.000
Software Development	CPFF/WX	SSC-SD San Diego, CA	2.068	0.000		0.000		0.000		0.000	2.068	0.000
Software Development	WX	NUWC Newport, RI	5.498	0.000		0.000		0.000		0.000	5.498	0.000
MRTS Development	CPFF	NAVAIR, Orlando	1.738	1.505	JAN-07	2.349	JAN-08	1.474	JAN-09	CONT	CONT	0.000
Systems Engineering	Various	Misc Labs	14.927	2.879	DEC-06	3.700	DEC-07	4.665	DEC-08	CONT	CONT	0.000
Systems Eng/Design 688 Class	Various	Misc Labs	3.074	0.300	DEC-06	0.232	DEC-07	0.000	DEC-08	CONT	CONT	0.000
Site Platform Integration/Certification	Various	NUWC Newport, RI	9.676	0.498	DEC-06	0.588	DEC-07	0.323	DEC-08	CONT	CONT	0.000
BCA/OPCON architecture	WX	NUWC Newport, RI	2.533	0.653	DEC-06	0.497	DEC-07	0.000		0.000	3.683	0.000
Subtotal Product Development			**52.715**	**5.835**		**7.366**		**6.462**		**CONT**	**CONT**	**0.000**
Remarks: * SCSS Development for SSN 688 Class submarines ** CSRR Development for OHIO Class submarines												
Software Development (CSRR)	CPAF	Lockheed Martin Tech Sys	11.393	4.867	JAN-07	2.860	JAN-08	4.267	JAN-09	CONT	CONT	0.000
Integrated Logistics Support	WR	NUWC Newport, RI	0.300	0.944	DEC-06	0.584	DEC-07	0.453	DEC-08	CONT	CONT	0.000
Software Engineering	WR	SSC-SD San Diego, CA	1.153	0.000		0.000		0.000		0.000	1.153	0.000
INFOSEC/IA Certification	Various	Various	1.666	1.740	JAN-07	3.859	JAN-08	1.770		CONT	CONT	0.000
Subtotal Support Costs			**14.512**	**7.551**		**7.303**		**6.490**		**CONT**	**CONT**	**0.000**
Remarks:												
Developmental/Operational T&E	Various	Various	6.165	1.741	DEC-06	0.677	DEC-07	2.299	DEC-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**6.165**	**1.741**		**0.677**		**2.299**		**CONT**	**CONT**	**0.000**
Remarks:												

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**					PROJECT NUMBER AND NAME **1411/SUBM TACT COMM SYS**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Program Management Support	Various	Various	6.240	0.855	DEC-06	0.848	DEC-07	0.748	DEC-08	CONT	CONT	0.000
Subtotal Management Services			**6.240**	**0.855**		**0.848**		**0.748**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**79.632**	**15.982**		**16.194**		**15.999**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **1411/SUBM TACT COMM SYS**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**			PROJECT NUMBER AND NAME **1411/SUBM TACT COMM SYS**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IOC (Increment II)						APR-12	
Full Rate Production Decision (FRP DR) (Increment II)							JAN-13
Low Rate Initial Production LRIP (Increment II)					JAN-11		
TECHEVAL (Increment II)						JAN-12	
OPEVAL (Increment II)						APR-12	
Capabilities Production Document (Increment II)	JUL-07	OCT-APR 08					
OA (Increment II)				JUL-10			
Milestone C (Increment II)					OCT-10		
CSRR FOT&E			APR-09				
Capabilities Development Document (Increment II)		OCT-07					
Milestone B (Increment II)			OCT-08				
SSBN OPEVAL	JAN-07						
SSGN TECHEVAL	OCT-06						
SSGN OPEVAL	APR-07						
SEAWOLF TECHEVAL/OA (FY06)							
SEAWOLF OPEVAL (FY06)							
SSBN TECHEVAL	JAN-07						
IOC (Increment I)	OCT-06						
Full Rate Production Decision (FRP DR) (Increment I)	JUL-07						
FRP Decision (Increment II)							JAN-13

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Common Submarine Radio Room (CSRR)/Submarine Communications Support System	3.894	0.000	0.000
RDT&E Articles Quantity	0	0	0
FY07 Accomplishments: Initiated Information Assurance (IA) necessary to achieve the maximum level of integrated control and management of radio room communications equipment to enhance operability and situational awareness.			
	FY 2007	FY 2008	FY 2009
9843N/ Submarine-Enabling Airborne Data Exchange (SEADEEP)	2.337	0.000	0.000
RDT&E Articles Quantity	0	0	0
FY07 Accomplishments: Continue to develop the communications signal processor electronics and software (source code) and related documentation.			
	FY 2007	FY 2008	FY 2009
9A40N/ Active Intercept and Ranging System	0.973	3.180	0.000
RDT&E Articles Quantity	0	0	0
The Active intercept and Ranging System will test a laboratory theory at sea for an active intercept and ranging system that uses GPS and cellular phone localization algorithms on a submarine. Should the test prove successful and should additional funds become available then the algorithms will be integrated into the sonar systems aboard US Navy submarines.			
	FY 2007	FY 2008	FY 2009
9A41N/ Connectionless Technology for Towed Arrays	1.602	0.000	0.000
RDT&E Articles Quantity	0	0	0
Funds would be used to initiate a research and development effort to integrate connectionless technology into current single Thin Line and future Thin Line Twin Line Towed Array capability on submarines, including the TB-33 system by including a common twin line thin line capability for both submarines and surveillance platforms. Enhancements to the baseline TB-33 design would allow a common modular set of array components to be built to meet both single line and twin line requirements			
	FY 2007	FY 2008	FY 2009
9A42N/ Twin Thin Line Towed Array Processing Imp. ARCI	1.602	3.180	0.000
RDT&E Articles Quantity	0	0	0
Twin Thin Line Towed Array Processing Improvements will accomplish specific research and development efforts that would significantly increase every submarine's war fighting capability with improved long range detection (i.e. twin line SURTASS like capability that can be covertly deployed), increased processing power for improved target detection, classification, hold, and tracking (i.e. Field Programmable Gate Arrays), and significantly improve reliability for continuous deployed operations.			
	FY 2007	FY 2008	FY 2009
9384C/ Affordable Towed Array Construction	1.266	0.000	0.000
RDT&E Articles Quantity	0	0	0

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604503N/SSN-688 AND TRIDENT MODERNIZATION**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**

Affordable Towed Array Construction development provides evaluation through fabrication of additional hardware, automate manufacturing processes to improve product quality, increase production rate and minimize defects resulting in improved system reliability and reduced cost, and qualify commercial sources for critical components including amplitude modulators, fiber Bragg gratings, and low noise lasers.

	FY 2007	FY 2008	FY 2009
9840C/ Improved Submarine Towed Array Reliability	1.754	0.000	0.000
RDT&E Articles Quantity	0	0	0

Improved Submarine Towed Array Reliability development provides procurement of Towed Array Handler reliability improvements such as the Capstan Wrap Reduction Modification and Control/Indicator unit upgrades which reduce stress on the towed array, improving reliability and availability of the array.

	FY 2007	FY 2008	FY 2009
9841C/ SONAR Advanced Optical Co-Processor (SAOC)	0.974	0.000	0.000
RDT&E Articles Quantity	0	0	0

Insertion of optical computer technology into the ARCI offers the potential of skip-generation increases in computational processing power while remaining within on-board physical size, weight, heat production, and power consumption constraints. Funding will support testing advanced algorithm effectiveness, identification of current and un-met candidate signal processing needs that can be off-loaded from the ARCI digital computers and executed on the SOAC, develop a prototype SAOC for formal system test and evaluation, and establish Low Rate Initial SAOC
Pre-production Plan and LRIP Run.

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604504N, AIR CONTROL	
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	4.587	4.072	8.191	6.594	6.554	6.975	7.131
0718 MARINE AIR TRAFFIC (MATCALS)	.714	1.145	2.253	.519	.398	.680	.697
0993 CARRIER ATC	3.466	2.927	5.492	5.631	5.707	5.838	5.966
1657 ATC IMPROVEMENT	.407		.446	.444	.449	.457	.468

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 (NASs) and Marine Corps Air Stations (MCASs) and Fleet Area Control and Surveillance Facilities (FACSFAC) worldwide. Funded programs are required to upgrade or replace aging ATC and landing system equipment on aircraft, aircraft carriers, amphibious ships, NASs, MCASs and Navy/Marine Corps tactical/expeditionary airfields and remote landing sites.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	4.586	4.166	8.296
Current BES:	4.587	4.072	8.191
Total Adjustments	0.001	-0.094	-0.105
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.089	-0.031	
Congressional Increases			
Economic Assumptions			-0.041
Miscellaneous Adjustments	0.090	-0.063	-0.064
Subtotal	0.001	-0.094	-0.105

SCHEDULE:

0718: The MATCALS Air Surveillance and Precision Approach Radar Control System (ASPARCS) Production Contract Award and Delivery milestones have been modified to reflect the most current program schedule. The MATCALS ATC Common Aviation Command and Control System (CAC2S) schedule has been extended out to FY 2012 due to a budget reduction in FY 2008 and to better align with the CAC2S program element.

0993: The AN/TPX-42 ATC Common Console Field Change 3 development effort was extended six to nine months to accommodate integration and environmental testing issues. The Test Readiness Review (TRR), Operational Assessment (OA) and Production milestones have been modified to reflect the most current program schedule.

TECHNICAL: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification										DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604504N, AIR CONTROL					PROJECT NUMBER AND NAME 0718, MARINE AIR TRAFFIC (MATCALS)				
COST ($ in Millions)					FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0718 MARINE AIR TRAFFIC (MATCALS)					.714	1.145	2.253	.519	.398	.680	.697
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 requirements for all-weather operation and improved flight safety of Air Traffic Control and Landing Systems at Marine Corps expeditionary airfields. Current program includes approved transition to 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 (HMMWV) based PAR, ASR, and Command and Control (C2) Subsystem. Efforts will commence for requirements definition, development and engineering for the ASPARCS Preplanned Product Improvements (P3I), in accordance with Marine Corps Requirements Oversight Council (MROC) Decision Memorandum 11-2005 dated Dec 2004. P3I includes the design and development of software code to interface Common Aviation Command and Control System (CAC2S) input/output to existing software, incorporating Radar Range Extension and Mapping functionality, enhanced simulation and training and providing increased operator workstations.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

ASPARCS Improvements		FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		.714	.637	.668
RDT&E Articles Qty				

Investigate and resolve obsolescence issues. Perform studies and analyses to implement P3I and other evolutionary improvements. Develop criteria for existing ASPARCS software to achieve Defense Information Infrastructure-Common Operating Environment (DII-COE) Level 5 compliance, Information Assurance, Radar Range Extension and Mapping functionality,and enhanced simulation and training into the existing ASPARCS software. Perform studies and analyses.

ATC Interface with CAC2S		FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			.508	1.585
RDT&E Articles Qty				

Develop the ATC interface increment for the Common Aviation Command and Control System (CAC2S) , which will allow the ATC detachment to exchange radar track data with the Marine Air Command and Control Squadron (MACCS) and joint agencies.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
* 56 - OPN BLI 281500, MATCALS	31.069	19.964	17.409	17.749	18.162	2.627	2.643	Continuing	Continuing

* OPN BLI 281500, MATCALS is not limited to ASPARCS.

D. ACQUISITION STRATEGY:

ASPARCS is an ACAT IVT program. Lockheed Martin was awarded the contract for this effort in June 2000. This effort included First Article development (Fixed Price Incentive) with (Firm Fixed Priced) production options. Schedule delays and technical issues with the Precision Approach Radar (PAR) and Air Surveillance Radar (ASR) and integration with the operation subsystem/communication subsystem resulted in a no-cost close out to the Lockheed Martin contract in November 2004. An Acquisition Decision Memorandum was signed in Jan 2005 approving the procurement of the Army AN/TPN-31 System to fulfill the ASPARCS requirement for July 2006. The Marine Corps Requirements Oversight Council (MROC) Decision Memorandum 11-2005 of December 2004 outlined the evolutionary improvements envisioned by Headquarters Marine Corps (HQMC). This program has joined with the Army to implement Pre-Planned Product Improvements (P3I) and evolutionary product improvements.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604504N, AIR CONTROL				PROJECT NUMBER AND NAME 0718, MARINE AIR TRAFFIC (MATCALS)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/FFP	Raytheon/Marlboro, MA	13.806								13.806	13.806
Primary Hardware Development	WX	NAWCAD S.I., MD				.508	3/08	1.585	12/08	Continuing	Continuing	
Training Development	WX	NAWCAD S.I., MD	0.175								.175	
Systems Engineering	WX	NAWCAD S.I., MD	5.131								5.131	
Ancillary Hardware Development	SS/FFP	Rockwell Collins/Rochester, NY	0.424								.424	.424
Primary Hdw Development (TTLS)	SS/FFP	ANPC/Hood River, OR	2.000								2.000	2.000
GFE	WX	NCCOSC/San Diego, CA	.175								.175	
P3I	SS/FFP	US Army/Redstone Arsenal, AL	6.213								6.213	6.213
SUBTOTAL PRODUCT DEVELOPMENT			27.924			.508		1.585		Continuing	Continuing	

Remarks: The program has joined with the U.S. Army for pre-planned product improvements.

Integrated Logistics Support	SS/FFP	US Army/Redstone Arsenal, AL	0.336								.336	.336
Configuration Management	WX	NAWCAD S.I., MD	0.284								.284	
Technical Data	WX	NAWCAD S.I., MD	0.479								.479	
Development Support MATCALS	WX	NAWCAD S.I, MD.	0.205								.205	
Studies and Analyses	SS/FFP	Raytheon/Largo, FL		.714	02/07	.637	02/08	.668	02/09	Continuing	Continuing	
SUBTOTAL SUPPORT			1.304	.714		.637		.668		Continuing	Continuing	

Remarks:

Developmental Test & Evaluation	WX	NAWCAD S.I., MD	7.261								7.261	
Operational Test & Evaluation	WX	MCOTEA/Quantico, VA	1.072								1.072	
SUBTOTAL TEST & EVALUATION			8.333								8.333	

Remarks:

Travel	TO	NAVAIR HQ, PATUXENT RIVER, MD	0.081								.081	
SUBTOTAL MANAGEMENT			.081								.081	

Remarks:

Total Cost			37.642	.714		1.145		2.253		Continuing	Continuing	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile
ASPARCS

DATE: February 2008

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

PROGRAM ELEMENT NUMBER AND NAME
0604504N, AIR CONTROL

PROJECT NUMBER AND NAME
0718, MARINE AIR TRAFFIC (MATCALS)

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
ASPARCS System		IOC ▲																										
Pre-Planned Improvements Obsolescence Studies	■	■	■	■	■	■	■	■	System Development																			
Test & Evaluation Milestones																												
Development Test																												
Operational Test																												
Production Milestones																												
Follow on Production FY 06 (2)		▲				△				△				△				△										
Follow on Production FY 07 (2)																												
Follow on Production FY 08 (2)																												
Follow on Production FY 09 (2)																												
Follow on Production FY 10 (2)																												
Follow on Production FY 11 (2)																												
Follow on Production FY 12 (2)																												
Production Deliveries						2	2				2					2							2					

CLASSIFICATION:

Exhibit R-4a, Schedule Detail ASPARCS						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604504N, AIR CONTROL				PROJECT NUMBER AND NAME 0718, MARINE AIR TRAFFIC (MATCALS)			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IOC		2Q						
System Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Production Contract Award		2Q	2Q	1Q	1Q	1Q		
Production Deliveries			2Q, 3Q	3Q	3Q	3Q	3Q	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile CAC2S																													DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5									PROGRAM ELEMENT NUMBER AND NAME 0604504N, AIR CONTROL												PROJECT NUMBER AND NAME 0718, MARINE AIR TRAFFIC (MATCALS)											
Fiscal Year					FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
					1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
CAC2S																											IOC △					
ATC Interface Increment Development											System Development																					
Production Milestones CAC2S Systems Follow on Production (FY 10) Follow on Production (FY 11) Follow on Production (FY 12) Follow on Production (FY 13)																											△			△		
Production Deliveries																												1			1	

CLASSIFICATION:

Exhibit R-4a, Schedule Detail CAC2S						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604504N, AIR CONTROL				PROJECT NUMBER AND NAME 0718, MARINE AIR TRAFFIC (MATCALS)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IOC							3Q	
System Development (ATC Interface)			3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q	
Production Contract Award							3Q	2Q
Production Deliveries							4Q	3Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N, AIR CONTROL	PROJECT NUMBER AND NAME 0993, CARRIER ATC	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0993 CARRIER ATC	3.466	2.927	5.492	5.631	5.707	5.838	5.966
RDT&E Articles Qty							

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. Dual efforts are underway to improve the AN/SPN-46 system availability and supportability until at least September 2020. These efforts include various Engineering Change Proposals (ECPs), 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' 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 three 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, integrating and interface with Mode 5 IFF, and integrating a flat panel monitor into the AN/UYQ-70 console. The development of an Air Traffic Control common console will reduce operational costs, improve reliability, and provide compatible interfaces and commonality for all ATC workstations.

Test Article Descriptions:

For AN/SPN-46 Computer Group, a test article is required to perform a series of tests beginning December 2007 and completing in September 2009. This test article will replace two existing computer racks with a single rack utilizing a set of state-of-the-art Versa Module Eurocard processors and software rewritten in a high order program language ("C").

For AN/TPX-42, Air Traffic Control Common Console a test article is required to perform operational assessment in 4th quarter FY2007. The test article is best described primarily in terms of its functionality. It will combine the existing AN/TPX-42 console's hardware with the functionality to display targets processed by AN/TPX-42, AN/SPN-46 and the Joint Precision Approach and Landing System (JPALS).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

AN/SPN-46 Computer Group Replacement	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.466	2.927	4.618
RDT&E Articles Qty			

This subproject replaces the AN/AYK-14 processor and converts software from CMS to "C" language. Conduct a software requirements review and develop a specification. Develop software and hardware, build a test article, and integrate and test it in a lab environment. Conduct a test readiness review, developmental test and operational test. The test article is required to perform a series of tests in December 2007. This test article will replace two existing computer racks with a single rack utilizing a set of state-of-the-art Versa Module Eurocard processors and software rewritten in a high order program language ("C")

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N, AIR CONTROL	PROJECT NUMBER AND NAME 0993, CARRIER ATC

AN/TPX-42 Improvements	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost			.874
RDT&E Articles Qty			

Complete development of a Field Change 3 configuration to integrate Mode 5 capability, using the console from AN/TPX-42A(V)14 with Field Change 2 as the core technology. Conduct requirements and design reviews, and conduct an Operational Assessment. Following successful Full Rate Production approval, the design change will be introduced into the production of 'E', 'F' and 'G' Kits. Begin development of the final Air Traffic Control Console configuration in December 2008 to include JPALS interface and replacement of SPN-35 Operator displays. It is anticipated that this technology insertion will result in a formal nomenclature change for the AN/TPX-42 system, so the identification of the modification kits will change to 'H' Kits.Test article bought in FY2005 are required to perform environmental, shock, and vibration in 4th quarter FY2007.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
57 - OPN BLI 283100 Shipboard Air Traffic Control	7.446	7.667	7.944	8.082	9.343	9.533	11.231	Continuing	Continuing
58 - OPN BLI 283200 Automatic Carrier Landing Systems	17.932	18.279	18.787	19.172	19.415	19.834	20.256	Continuing	Continuing

D. ACQUISITION STRATEGY:

AN/SPN-46 Computer Group replacement subprojects are part of the AN/SPN-46 Life Cycle Extension (LCE) project, which is an Engineering Change Proposal (ECP). Initial contract was awarded in November 2003 for the Rada Control Group, and the contract for the Computer Group was awarded in December 2005.

AN/TPX-42 Common Console is an anticipated Engineer Change Proposal (ECP), 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, o address supportability and cost of ownership problems.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604504N, AIR CONTROL				PROJECT NUMBER AND NAME 0993, CARRIER ATC						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Develop - SPN-46	WX	NAWCAD, Pax River, MD	11.238	0.310	11/06						11.548	
Primary Hdw Develop - SPN-46	SS/CPIF	SNC, Sierra, NV	6.086	0.270	12/06						6.356	6.356
Primary Hdw Develop - TPX-42	WX	NAWCAD, Pax River, MD	2.623								2.623	
SUBTOTAL PRODUCT DEVELOPMENT			19.947	0.580							20.527	

Remarks: WX is a funding document (2276A) being send to a NAVAIR Field Activity

SUPPORT												
Software Development - SPN-46	WX	NAWCAD, Pax River, MD	4.014	0.332	11/06	2.208	11/07	0.384	12/08	Continuing	Continuing	
Software Development - SPN-46	WX	NAWCAD, Pax River, MD		2.496	12/06	0.623	12/07	3.063	12/08		6.182	
Software Development - TPX-42	WX	NAWCAD, Pax River, MD	2.929					0.874	12/08		3.803	
Integrated Logistics Support - TPX-42	WX	NAWCAD, Pax River, MD	0.632								0.632	
Studies & Analyses - SPN-46	WX	NAWCAD, Pax River, MD	0.273								0.273	
SUBTOTAL SUPPORT			7.848	2.828		2.831		4.321		Continuing	Continuing	

Remarks:
Remarks: WX is a funding document (2276A) being send to a NAVAIR Field Activity

TEST & EVALUATION												
Developmental Test & Eval - SPN-46	WX	NAWCAD, Pax River, MD	0.626					1.117	12/08	Continuing	Continuing	
Developmental Test & Eval - TPX-42	WX	NAWCAD, Pax River, MD	0.748								0.748	
Operational Test & Eval - TPX-42	WX	OPTEVFOR, Norfolk, VA	0.062								0.062	
SUBTOTAL TEST & EVALUATION			1.436			0.000		1.117		Continuing	Continuing	

Remarks: WX is a funding document (2276A) being send to a NAVAIR Field Activity

MANAGEMENT												
Program Management Support	C/CPAF	NTA, Patuxent River, MD	1.296	0.043	12/06	.081	12/07	.039	12/08		1.459	1.459
Travel	TO	NAVAIRHQ, Pax River, MD	0.060	0.015	11/06	.015	11/07	.015	11/08	Continuing	Continuing	
SUBTOTAL MANAGEMENT			1.356	0.058		.096		.054		Continuing	Continuing	

Remarks: TO is a Travel Order

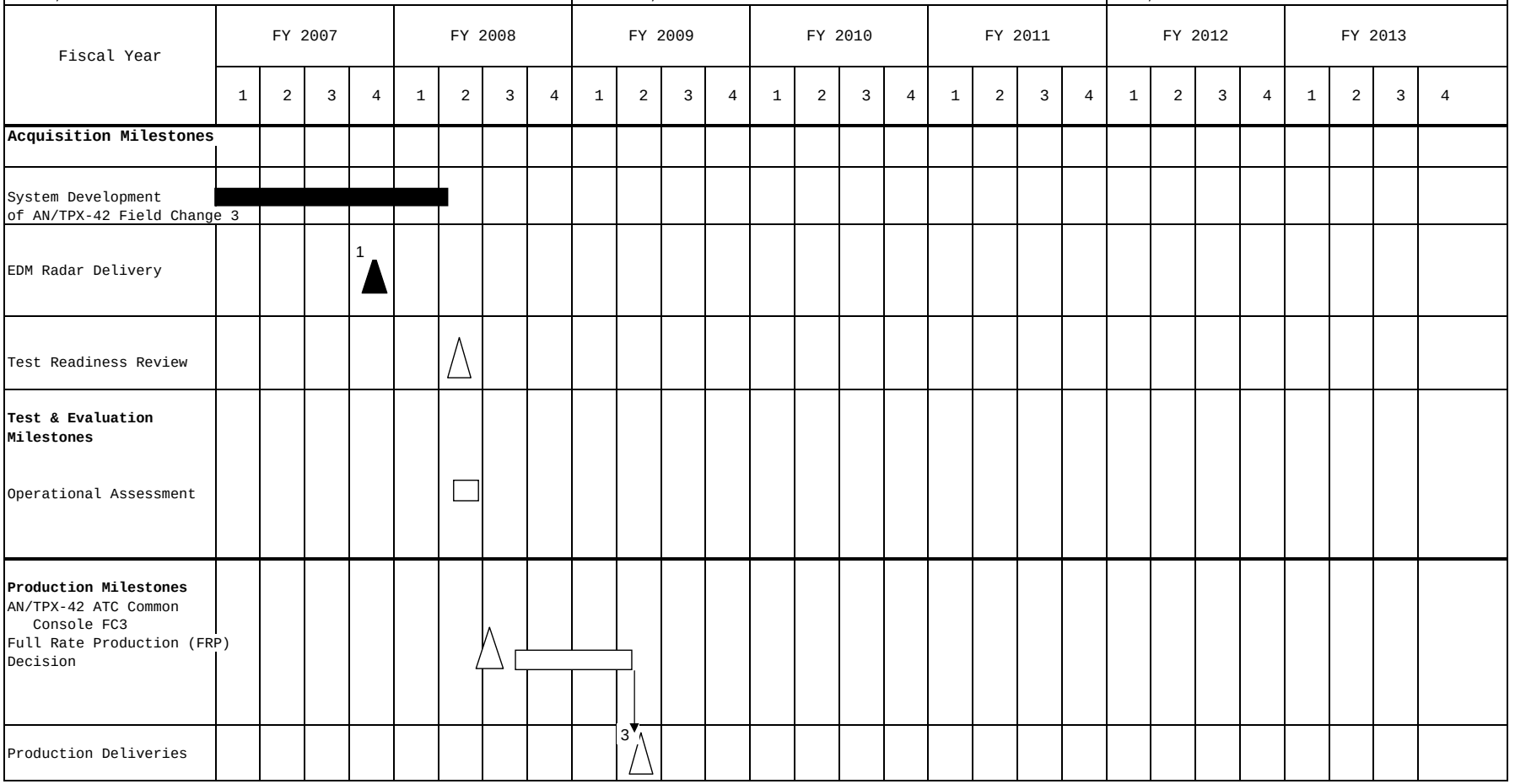
Total Cost			30.587	3.466		2.927		5.492		Continuing	Continuing	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile
AN/TPX-42 Air Traffic Control Common Console Field Change 3

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604504N, AIR CONTROL	0993, CARRIER ATC



CLASSIFICATION:

Exhibit R-4a, Schedule Detail AN/TPX-42 Air Traffic Control Common Console Field Change 3					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604504N, AIR CONTROL				PROJECT NUMBER AND NAME 0993, CARRIER ATC		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Development	1Q-4Q	1Q-2Q					
EDM Radar Delivery	4Q						
Test Readiness Review (TRR)	4Q	2Q					
Operational Assessment		2Q					
Full Rate Production (FRP) Decision		2Q-3Q					
Production Contract		3Q-4Q	1Q-2Q				
Production Deliveries (First Lot)			2Q				

EXHIBIT R4, Schedule Profile
AN/TPX-42B Air Traffic Control Common Console

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604504N, AIR CONTROL	0993, CARRIER ATC

Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
System Requirements Review of AN/TPX-42B																												
Preliminary Design Review																												
System Development																												
Critical Design Review																												
Quality Design and Build																												
EDM Radar Delivery (Qty 1)																			1									
Test Readiness Review																												
Test & Evaluation Milestones																												
Operational Assessment																												
Production Milestones																												
Full Rate Production (FRP) Decision																												
Production Deliveries																										3		

CLASSIFICATION:

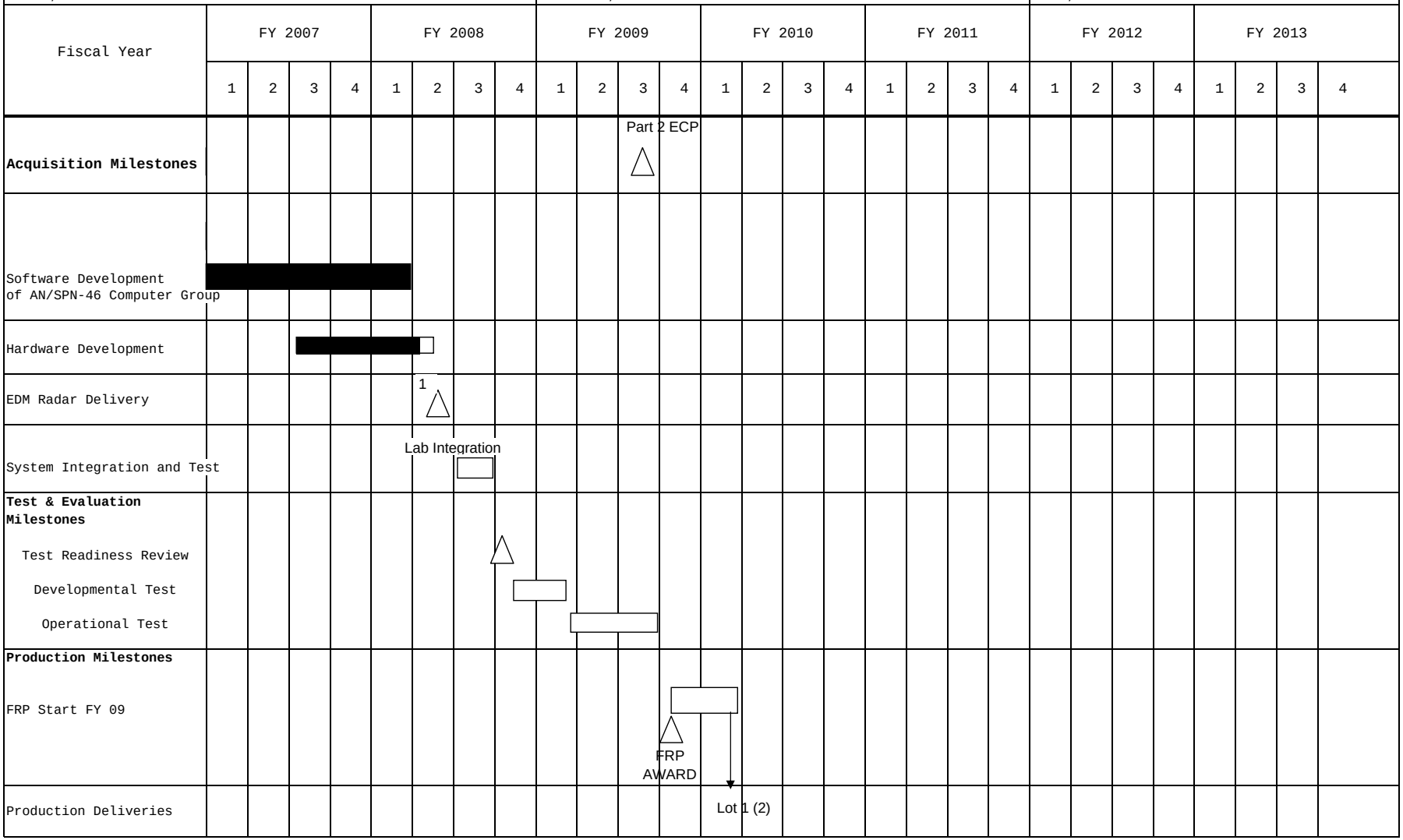
Exhibit R-4a, Schedule Detail AN/TPX-42B Air Traffic Control Common Console				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604504N, AIR CONTROL			PROJECT NUMBER AND NAME 0993, CARRIER ATC			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Requirements Review (SRR)			1Q-4Q				
Preliminary Design Review (PDR)				1Q			
System Development				1Q-4Q			
Critical Design Review (CDR)				4Q	1Q		
Quality Design and Build				4Q	1Q-2Q		
EDM Radar Delivery					3Q		
Test Readiness Review (TRR)					3Q		
Operational Assessment					3Q		
Full Rate Production (FRP) Decision					4Q		
Production Contract Award						1Q-4Q	1Q
Production Deliveries (First Lot)							2Q

CLASSIFICATION:

EXHIBIT R4, Schedule Profile
AN/SPN-46 COMPUTER GROUP

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0604504N, AIR CONTROL	0993, CARRIER ATC



CLASSIFICATION:

Exhibit R-4a, Schedule Detail AN/SPN-46 COMPUTER GROUP					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604504N, AIR CONTROL				PROJECT NUMBER AND NAME 0993, CARRIER ATC		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Development	1Q-4Q	1Q					
Hardware Development	3Q-4Q	1Q-2Q					
EDM Radar Delivery		2Q					
System Integration and Test (Lab)		3Q					
Test Readiness Review (TRR)		4Q					
Developmental Test		4Q	1Q				
Operational Test			1Q-3Q				
Part 2 ECP			3Q				
Full Rate Production (FRP) Decision			4Q				
Production Contract			4Q	1Q			
Production Deliveries (First Lot)				1Q			

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N, AIR CONTROL	PROJECT NUMBER AND NAME 1657, ATC IMPROVEMENT	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
1657 ATC IMPROVEMENT	.407		.446	.444	.449	.457	.468	
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 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 Air Traffic Control Systems. These systems are critical to Naval Aviation and provide for safe, efficient air operations. Additionally, the Federal Aviation Administration (FAA) is effecting major modernization of the National Airspace System (NAS). The Navy must maintain compatibility with FAA developed ATC systems in order to ensure seamless interoperabilit within the NAS. NAS modernization initiatives in Project 1657 include the Visual Information Display System (VIDS) and follow-on Preplanned Product Improvements, with additional RDT&E efforts required for modifiec commercial-off-the-shelf (COTS) ATC systems and equipment for modernization and recapitalization of these systems at our NAS, MCAS & Fleet Area Control & Surveillance Facilities (FACSFACs) worldwide. Landing Systems initiatives include re-engineering and technology insertion efforts for the Precision Approach Radar (PAR), Tactical Air Navigation System (TACAN), and other landing systems.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

NAS_MOD VIDS	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.287		.332
RDT&E Articles Qty			

Continue engineering development of pre-planned product improvements for the Visual Information Display Systems (VIDS) and initiate efforts to incorporate VIDS into the FACSFACs. Research display alternatives for Navy ATC systems, and evaluate alternatives for future communication and radar systems.

LANDING SYSTEMS PAR & TACAN	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.100		.094
RDT&E Articles Qty			

Initiate re-engineering and technology insertion efforts for the Precision Approach Radar, the Tactical Air Navigation System and other Landing Systems and Navigation Aids.

FLEET ATC SYSTEMS	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			.020
RDT&E Articles Qty			

Research efforts to determine the best technical approach to integrate various data link and communication system upgrades into the FACSFAC System including but not limited to the Digital Airport Surveillance Radar into the FACSFAC FACTS 3200 system. Evaluate alternatives for future processor/display systems.

FACSFAC	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.020		
RDT&E Articles Qty			

FACSFAC
Research efforts to determine the best technical approach to integrate various data link and communication system upgrades into the FACSFAC System including but not limited to the Digital Airport Surveillance Radar into the FACSFAC FACTS 3200 system. Evaluate alternatives for future processor/display systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N, AIR CONTROL	PROJECT NUMBER AND NAME 1657, ATC IMPROVEMENT

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
59 - OPN BLI 284000 National Air Space System	27.319	23.786	29.066	29.306	29.760	30.391	31.066	Continuing	Continuing
60 - OPN BLI 284500 Fleet Air Traffic Control Systems	18.053	13.992	8.238	8.304	8.475	8.652	8.845	Continuing	Continuing
61 - OPN BLI 284600 Landing Systems	9.120	9.321	10.799	10.677	10.890	11.120	11.351	Continuing	Continuing
62 - OPN BLI 284700 FACSFAC	2.266	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.266

Note: FACSFAC OPN Budget is being merged with the Fleet Air Traffic Control Systems budget (BLI 284500) effective FY2008

D. 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 requirements or address supportability and cost of ownership problems.

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**					R-1 ITEM NOMENCLATURE 0604512N Shipboard Aviation Systems			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		**32.297**	**27.499**	**42.843**	**62.670**	**19.661**	**48.025**	**20.520**
2232 - CV Launch & Recovery Systems		**29.353**	**27.499**	**42.843**	**62.670**	**19.661**	**48.025**	**20.520**
9999 - Congressional Adds		**2.944**						

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 element includes:

(1) Advanced Arresting Gear (AAG): AAG replaces the MK7 arresting gear, which has reached the limits of its operating capability.

(2) Aviation Data Management and Control System (ADMACS): ADMACS will use state-of-the-art information technology and decision support systems to automate collection and distribution of information, enabling aviation operations on board aircraft carriers to be accomplished in a more efficient and effective manner.

(3) Technology insertion efforts for the Electromagnetic Aircraft Launch System (EMALS) and the steam catapult:

a) EMALS Advanced Control Technology Insertion: Introduction of sensorless control technologies, resulting in removal of a significant number of feedback sensors in the system; improving reliability, maintainability and availability.

b) EMALS High Density Energy Storage: Introduction of solid state energy storage technology to replace the first generation rotary inertial systems. This will result in a 300 Long Ton reduction in ship system installed weight with a corresponding reduction in Height of Center of Gravity above the Baseline, and enhanced reliability, availability and maintainability.

c) Advanced Catapult Control System for Steam Catapults: Introduce EMALS control, prognostics and health monitoring technology into the steam catapult, providing a common operator interface, reduced maintenance and enhanced availability. This effort compliments the improvements introduced into the arresting gear through AAG.

(4) Swaging Machine: The High-Density Swaging Machine replaces the current process for attaching the terminal on the arresting gear purchase cable and will produce 2200 Tons of pressing force in a compact, lightweight package. The current process for attaching the terminal on the arresting gear purchase cable is very workload intensive and hazardous. It requires fleet personnel to separate each strand of wire from the cable, degrease and grit blast the strands, carefully reassemble them into a socket, and pour toxic molten zinc at 1000 degrees Fahrenheit into the socket on a moving ship. Additionally, recent inspections have uncovered instances of cable imperfections due to improper terminations, which could compromise the safety of recovery operations. The High-Density Swaging Machine would enable sailors to attach arresting cable terminal safely and decrease the potential for cable failure.

Congressional Adds:

Synthetic Material Arresting Cable Gear: This program will develop and test a new Synthetic Fiber Arresting Gear Cable to replace the current steel cable material with a lighter weight material having a higher strength to weight ratio. Conduct systems engineering tasks of requirements analysis and tracking, and specification development. Conduct design engineering and laboratory developmental testing on various novel materials and constructions. Conduct modeling and simulation, failure mode analysis, performance data analysis, and fatigue life testing. Award contract to cable manufacturer for various synthetic cables. Conduct advanced material sheave study to optimize cable to sheave performance.

Aircraft Carrier Launch and Recovery Support Equipment: This program is used to research modernization strategies for the Aircraft Launch and Recovery Equipment and Support Equipment systems aboard carriers in order to reduce the number of human operators, reduce human error, and thereby increase safety/reliability and reduce the fleet's operating costs.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0604512N Shipboard Aviation Systems

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 07	FY 08	FY 09
Previous President's Budget:	32.767	28.100	22.302
Current BES Budget:	32.297	27.499	42.843
Total Adjustments	-0.470	-0.601	20.541
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.470	-0.179	
Congressional Increases			
Economic Assumptions			-0.288
Miscellaneous Adjustments		-0.422	20.829
Subtotal	-0.470	-0.601	20.541

Schedule:

2232 : AAG - The AAG Critical Design Review (CDR) was successfully completed in April 2007, five months later than the originally scheduled date of Nov2006, because of delays in defining shock and vibration requirements, delays in finalizing the design for system hardware and software, and clearing the backlog of technical documentation required for CDR. Some of the final manufacturing and check out of the test units had to be pushed into FY08, and Integrated Testing periods were forced into FY09 and FY10. As the design has been finalized, the manufacturing lead time for an AAG has increased from 18 to 27 months. Considering the development schedule slip and the increase in manufacturing lead time, advanced material orders for the initial shipset are will begin in FY09. The initial shipset will be used to conduct the Operational and Shipboard Technical Evaluation of AAG.

2232: ADMACS Block 2 : There is no MS B because it was decided that ADMACS Block 2 was so far advanced in development, it would enter acquisition Post MS B. MS C was moved to the left into FY08 in order to support the procurement and subsequent installation of the first Low Rate Initial Procurement (LRIP) ship, the CVN-72. If ADMACS did not meet the availability, the next availability would not be until 2013 and that availability would be for a refueling overhaul. Therefore, the CVN-72 would not be using ADMACS Block 2 until it came out of the Refueling Complex Overhaul (RCOH) which is in 2016. Need to have MS C prior to LRIP phase.

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME 2232- CV Launch & Recovery Systems			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**29.353**	**27.499**	**42.843**	**62.670**	**19.661**	**48.025**	**20.520**
RDT&E Articles Qty		**1**		**1**				

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 following systems under Project 2232, including the funding of production representative models (PRM) for:

(1) Advanced Arresting Gear (AAG): AAG replaces the MK-7 arresting gear, which has reached the limits of its operating capability. The test articles consist of single land based arresting gear wire with all associated hardware and software subsystems and initial shipset.

(2) Aviation Data Management and Control System (ADMACS): ADMACS will use state-of-the-art information technology and decision support systems to automate collection and distribution of information, enabling aviation operations on board aircraft carriers to be accomplished in a more efficient and effective manner.

(3) Technology Insertion Effort for the Electromagnetic Aircraft Launch System (EMALS) and the steam catapult:

(a) EMALS Advanced Control Technology Insertion: Introduction of sensorless control technologies, resulting in removal of a significant number of feedback sensors in the system; improving reliability, maintainability and availability.

(b) EMALS High Density Energy Storage: Introduction of solid state energy storage technology to replace the first generation rotary inertial systems. This will result in a 300 Long Ton reduction in ship system installed weight with a corresponding reduction in Height of Center of Gravity above the Baseline, and enhanced reliability, availability and maintainability.

(c) Advanced Catapult Control System for Steam Catapults: Introduce EMALS control, prognostics and health monitoring technology into the steam catapult, providing a common operator interface, reduced maintenance and enhanced availability. This effort compliments the improvements introduced into the arresting gear through AAG.

(4) Swaging Machine: Replaces the current process for attaching the terminal on the arresting gear purchase cable and will produce 2200 Tons of pressing force in a compact, lightweight package. The current process for attaching the terminal on the arresting gear purchase cable is very workload intensive and hazardous. It requires fleet personnel to separate each strand of wire from the cable, degrease and grit blast the strands, carefully reassemble them into a socket, and pour toxic molten zinc at 1000 degrees Fahrenheit into the socket on a moving ship. Additionally, recent inspections have uncovered instances of cable imperfections due to improper terminations, which could compromise the safety of recovery operations. The High-Density Swaging Machine would enable sailors to attach arresting cable terminal safely and decrease the potential for cable failure.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	2232- CV Launch & Recovery Systems

B. Accomplishments/Planned Program

AAG		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		25.693	25.774	41.463
RDT&E Articles Quantity		1		1

Complete Preliminary Design and Integrated Baseline Reviews. Complete initial Critical Design Reviews. Purchase one AAG production representative test system to support shorebased integrated testing. Complete remaining Critical Design Reviews. Fabricate test systems hardware. Initiate test site upgrades. Deliver test system to the NAVAIR Lakehurst Jet Car Test Site Install test system. Conduct Test Readiness Review. Conduct IT-B1 , IT-B2, IT-B3, IT-B5 integrated testing, and initiate IT-B4. Provide engineering and management support to the program. Prepare Runway Arrested Landing Site (RALS). Procure advanced material for the initial ship set.

ADMACS		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.660	1.725	1.380
RDT&E Articles Quantity				

Conduct a series of preliminary and critical design reviews for the Block 2 upgrades. Purchase on ADMACS Block 2 production representative test system to support developmental testing. The Block 2 test article will consist of network servers, switches, a router, workstations and affiliated database and communications software. Conduct a system level critical design review. Integrate the test Block 2 software and hardware. Prepare for and conduct Milestone B and C for Block 2 upgrade.
ADMACS Block 2 was funded under Project 9071 (Congressional Add) and Project 3126 (ONR) in FY2002-200

R-1 LINE ITEM - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604512N Shipboard Aviation Systems	2232- CV Launch & Recovery Systems

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN Line Item: 92 Aircraft Launch and Recovery Equipment	29.697	38.6	46.362	89.239	116.4	81.505	97.957	Continuing	Continuing

D. ACQUISITION STRATEGY:

AAG: The Navy competitively awarded two Cost Plus Fixed Fee (CPFF) TD phase contracts to develop the AAG. Upon completion of the Preliminary Design and Integrated Baseline Reviews, the Navy awarded a single Cost Plus Award Fee (CPAF) option to General Atomics for the System Development and Demonstration (SDD) phase to develop and demonstrate a production representative AAG at the NAVAIR Lakehurst Jet Car and Runway Aircraft Landing test sites. After successful demonstration of the production representative AAG, the Navy will award Fixed Price Incentive (FPI) contracts for LRIP and full rate production quantities.

ADMACS: The Navy will develop ADMACS internally, using commercially available servers, switches, routers, workstations and database and communications software. Production systems will be procured from multiple sources, and integrated and deployed by NAWCAD Lakehurst, N.J. or possibly by a systems integrator contractor.

Swaging Mach: The Navy will award a cost type contract to develop prototype 1. Prototype 1 will be tested to refine design. Prototype 2 will be built and tested by vendor and Navy.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5** | PROGRAM ELEMENT: 0604512N Shipboard Aviation Systems | PROJECT NUMBER AND NAME: 2232- CV Launch & Recovery Systems

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/W Development (AAG)	C/CPFF	Northrop Grum/Sunnyvale,CA	12.418								12.418	12.418
Primary H/W Development (AAG)	C/CPAF	Gen Atomics/San Diego, CA	44.173	19.020	12/06	16.423	12/07	11.909	12/08	0.606	92.131	92.131
H/W Fabrication/Install Initial shipset(AA	SS/TBD	Gen Atomics/San Diego, CA						16.000	01/09	55.168	71.168	
Award Fees (AAG)	C/CPAF	Gen Atomics/San Diego, CA	2.355	0.551	12/06	2.203	12/07	0.551	12/08	4.665	10.325	10.235
Primary H/W Development (AAG)	WX	NAWCAD, Lakehurst NJ	2.633	0.789	11/06	0.814	11/07	0.943	11/08	0.068	5.247	
Systems Engineering (AAG)	WX	NAWCAD, Lakehurst NJ	4.641	1.108	11/06	2.218	11/07	2.320	11/08	0.184	10.471	
Shipboard Integration (AAG)	WX	NAWCAD, Lakehurst NJ	0.563	0.341	11/06	0.290	11/07	0.300	11/08	0.024	1.518	
Primary H/W Dev (Tech Inserts)	Var	NAWCAD, Lakehurst NJ								73.724	73.724	
Primary H/W Dev (ADMACS)	Var	NAWCAD, Lakehurst NJ		3.120	11/06	0.325	11/07	0.500	11/08	0.000	3.945	
Shipboard Integration (ADMACS)	WX	NAWCAD, Lakehurst NJ				1.200	11/07	0.665	11/08		1.865	
Systems Engineering (ADMACS)	WX	NAWCAD, Lakehurst NJ		0.140	11/06						0.140	
Subtotal Product Development			66.783	25.069		23.473		33.188		134.439	282.952	

Remarks: Award fee is 0% fixed and 12% (max.) of total contract.

Integrated Logistics Support (AAG)	WX	NAWCAD, Lakehurst NJ	1.522	0.850	11/06	0.877	11/07	0.924	11/08	0.073	4.246	
Integrated Logistics Sup (ADMACS)	WX	NAWCAD, Lakehurst NJ		0.150	11/06						0.150	
Subtotal Support			1.522	1.000		0.877		0.924		0.073	4.396	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME 2232- CV Launch & Recovery Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DT&E (AAG)	WX	NAWCAD Lakehurst, NJ	0.386	1.777	11/06	1.608	11/07	8.342	12/08	0.651	12.764	
OT&E (AAG)	Var	Various	0.380	0.150	var.	0.150	var.	0.060	var.		0.740	
Facility Testing - JCTS (AAG)	WX	NAWCAD Lakehurst, NJ	0.947	1.000	04/07	1.080	04/08				3.027	
Developmental Test- Lab (ADMACS)	WX	NAWCAD Lakehurst, NJ		0.250	11/06	0.200	11/07				0.450	
Integrated Testing (ADMACS)	WX	NAWCAD Lakehurst, NJ						0.215	11/08		0.215	
Subtotal T&E			1.713	3.177		3.038		8.617		0.651	17.196	
Remarks:												
Program Management Support	CPFF	Eagle Systems/California,MD	0.180	0.082	11/06	0.091	11/07	0.094	11/08	Continuing	Continuing	
Travel	TO	NAVAIR Patuxent Rv, MD	0.077	0.025	var.	0.020	var.	0.020	var.	Continuing	Continuing	
Subtotal Management			0.257	0.107		0.111		0.114		Continuing	Continuing	
Remarks:												
Total Cost			70.275	29.353		27.499		42.843		Continuing	Continuing	
Remarks:												

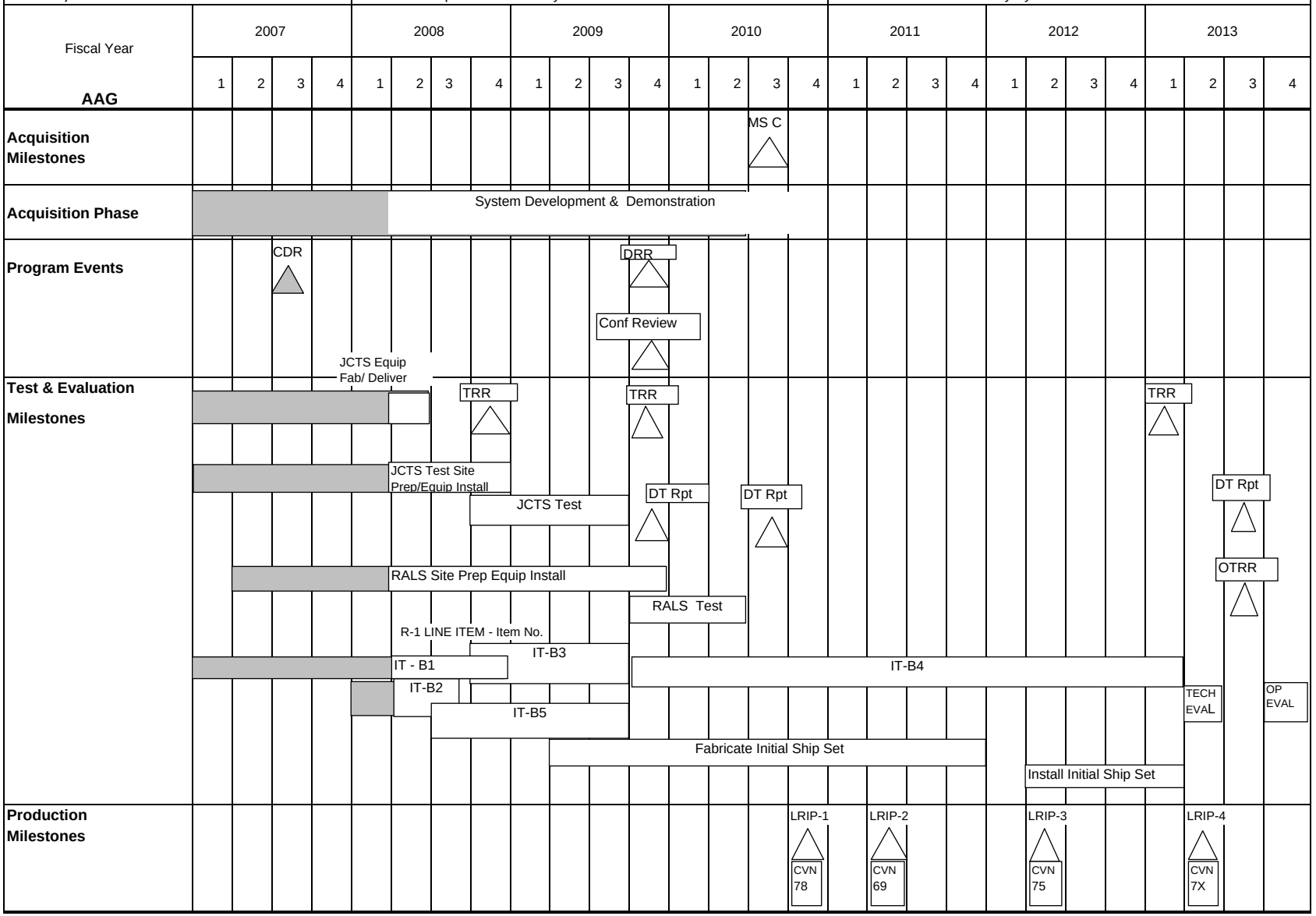
R-1 LINE ITEM - Item No. 107

EXHIBIT R4, Schedule Profile — AAG — DATE: **February 2008**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604512N Shipboard Aviation Systems

PROJECT NUMBER AND NAME: 2232- CV Launch & Recovery Systems



R-1 LINE ITEM - Item No. 107

CLASSIFICATION:

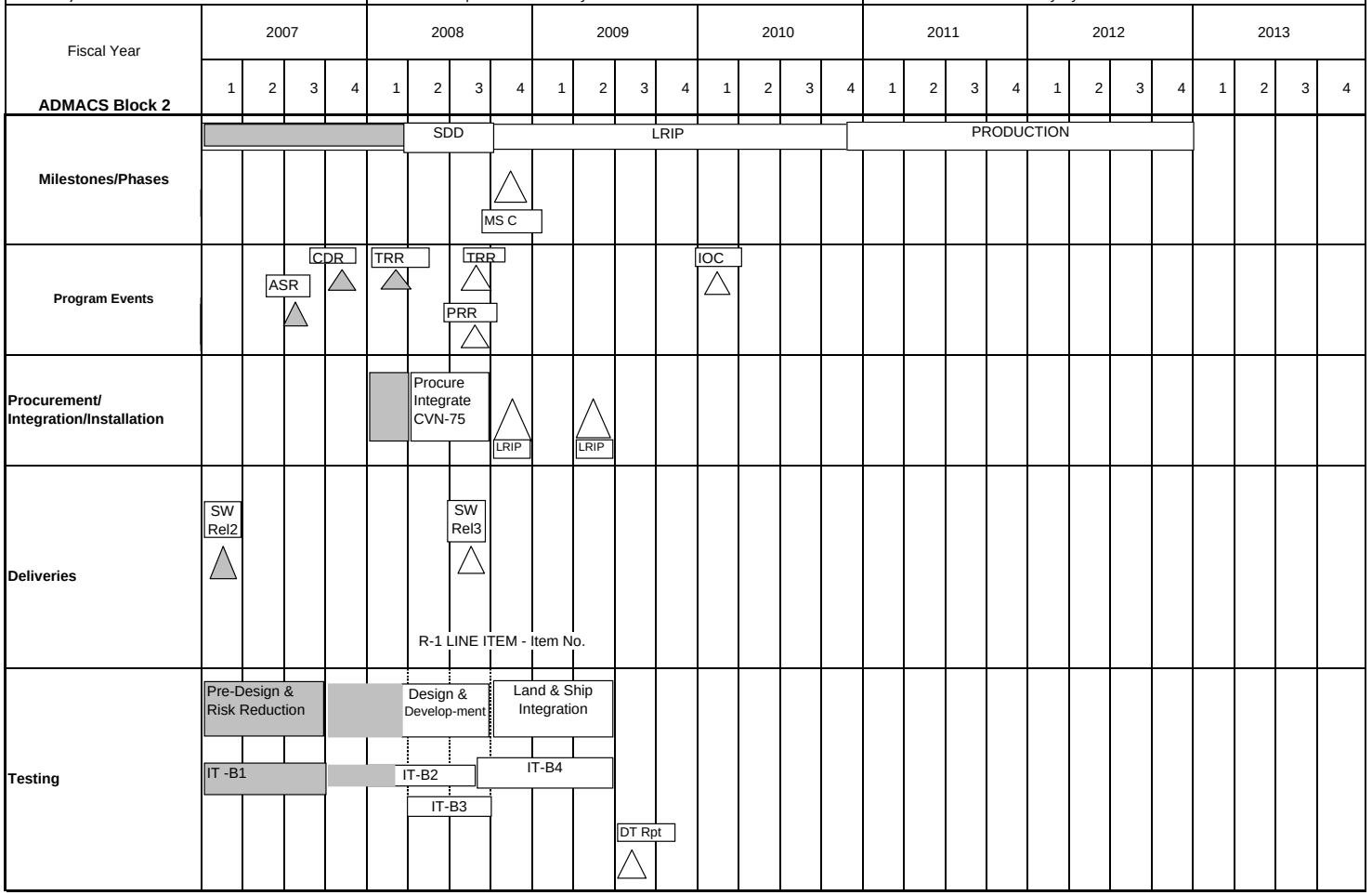
Exhibit R-4a, Schedule Detail						DATE:		
			AAG			**February 2008**		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT& BA-5	0604512N Shipboard Aviation Systems				2232- CV Launch & Recovery Systems			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SDD Phase		1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
Critical Design Review (CDR)		3Q						
Design Readiness Review (DRR)				4Q				
Configuration Review				4Q				
JCTS Equipment Fabrication/Deliver		1Q-4Q	1Q-2Q					
Test Readiness Review (TRR)			4Q	4Q				1Q
JCTS Test Site Prep & Equip Install		1Q-4Q	1Q-4Q					
JCTS Test			4Q	1Q-3Q				
Development Test Report (DTR)				4Q	3Q			3Q
RALS Site Prep Equip Install		2Q-4Q	1Q-4Q	1Q-4Q				
RALS Test				4Q	1Q-2Q			
Operational Test Readiness Review (OTRR)								3Q
IT B1 Integrated Test		1Q-4Q	1Q-4Q					
IT B2 Integrated Test			1Q-3Q					
IT B3 Integrated Test			4Q	1Q-3Q				
IT B4 Integrated Test				4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q
IT B5 Integrated Test			3Q-4Q	1Q-3Q				
Technical and Evaluation Test								2Q
Operational and Evaluation Test								4Q
Fabricate Initial Ship Set				2Q-4Q	1Q-4Q	1Q-4Q		
Install Initial Ship Set							2Q-4Q	1Q
Milestone C					3Q			
Low Rate Initial Production (LRIP) Award					4Q	2Q	2Q	2Q
NOTE:								
JCTS is the Jet Car Test Site, NAWCAD Lakehurst, NJ								
RALS is the Runway Arrested Landing Site, NAWCAD Lakehurst, NJ								
				R-1 LINE ITEM - Item No.				

EXHIBIT R4, Schedule Profile | ADMACS Block 2 | DATE: February 2008

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

PROGRAM ELEMENT NUMBER AND NAME: 0604512N Shipboard Aviation Systems

PROJECT NUMBER AND NAME: 2232- CV Launch & Recovery Systems



CLASSIFICATION:

Exhibit R-4a, Schedule Detail	ADMACS Block 2				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME 2232- CV Launch & Recovery Systems			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SDD Phase		1Q-4Q	1Q-3Q					
Acquisition Strategy Review (ASR)		3Q						
Critical Design Review (CDR)		4Q						
Test Readiness Review (TRR)			1Q & 3Q					
Program Readiness Review (PRR)			3Q					
Initial Operating Capability (IOC)					1Q			
Procure/Integration			1Q-3Q					
Software Release 2		1Q						
Software Release 3			3Q					
Pre-Design & Risk Reduction		1Q-3Q						
Design & Development		4Q	1Q-3Q					
Land & Ship Integration			4Q	1Q-2Q				
IT-B1 Integrated Test		1Q-3Q						
IT-B 2 Integrated Test		4Q	1Q - 3Q					
IT-B 3 Integrated Test			2Q-3Q					
IT-B 4 Integrated Test			3Q-4Q	1Q-2Q				
Development Test Report (DTR)				3Q				
Milestone C			4Q					
Low Rate Initial Production (LRIP)			4Q	1Q-4Q	1Q-4Q			
LRIP Procurement			4Q	2Q				
Production					4Q	1Q-4Q	1Q-4Q	

R-1 LINE ITEM - Item No. 107 NE ITEM - Item No.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME 9999-Congressional Adds			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**2.944**						
RDT&E Article Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional Adds

B. Accomplishments/Planned Program:

9565C Synthetic Matl Arresting Gear Cable				FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				0.977		
RDT&E Articles Quantity						

Congressional Add:
Synthetic Material Arresting Gear Cable: This program will develop and test a new Synthetic Fiber Arresting Gear Cable to replace the current steel cable material with a lighter weight material having a higher strength to weight ratio. Conduct systems engineering tasks of requirements analysis and tracking, and specification development. Conduct design engineering and laboratory developmental testing on various novel materials and constructions. Conduct modeling and simulation, failure mode analysis, performance data analysis, and fatigue life testing. Awarded contract to Cortland cable for development and testing of 3/4" diameter cable samples. Based on data from 3/4" diameter cable test, the best three candidates were down selected for full scale cycle testing. Continue development and inclusion of design changes to reduce stretch and alleviate cause of premature failure. Evaluate best candidate to conduct full scale testing at Jet Car Track Site. Conduct advanced material sheave study to optimize cable to sheave performance.

9A43N Research Modernization Strategies				FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				1.967		
RDT&E Articles Quantity						

Congressional Add:
Aircraft Carrier Launch and Recovery Support Equipment: This program is used to research modernization strategies for the Aircraft Launch and Recovery Equipment and Support Equipment systems aboard carriers in orde to reduce the number of human operators, reduce human error, and thereby increase safety/reliability and reduce the fleet's operating costs.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604518N/COMBAT INFORMATION CENTER CONVERSION**						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	7.502	18.365	14.792	13.811	5.724	5.715	5.811
3094 / USW Decision Support	6.506	16.776	14.792	13.811	5.724	5.715	5.811
9999 / Congressional Add	0.996	1.589	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

The objective of this Program Element (PE), under Project 3094, is to develop a net-centric Undersea Warfare Decision Support System (USW-DSS) capability to support the Theater Anti-Submarine Warfare (ASW) Commander (TASWC), Sea Combat Commander (SCC), Anti-Submarine Warfare Commander (ASWC) and the Mine Warfare Commander (MIWC). USW- will consist primarily of computer software components that will be developed and implemented to comply with FORCEnet and Open Architecture Computing Environment (OACE) architecture standards and guidance. The resultant system will yield a single software architecture for afloat ASW Combat Command and Control (C2) that will bridge the Command, Control, Communications, Computers, & Intelligence (C4I) domain and the combat systems, to achieve the capabilities described in USW-DSS Increment 1 Capabilities Production Document (CPD). USW-DSS will provide the following integrated capabilities on board selected Carrier Strike Groups (CSGs): plan, conduct, and coordinate USW operations with multiple ASW and MIW platforms; rapidly receive and implement the directions of the SCC, respond to the actions of other assigned platforms and make inputs to the SCC and other platforms concerning the current state of the tactical situation; encompass other assets that may be available in the form of deployed sensor fields, autonomous vehicles and other similar capabilities; communicated intentions, on-going actions, requirements, and results to peer-level warfare commanders, supporting commands and higher authority; integrate functionality and interoperate with the needs of the TASWC and capabilities already available at theater commands; receive and distribute contact/track data, Tactical Decision Aid (TDA) data, and other information necessary for data fusion and providing coordinated situational awareness. Assets assigned to the TASWC and the SCC may include surface combatants; ASW aircraft; dedicated Mine Countermeasure (MCM) platforms; submarines; undersea surveillance platforms; shore processing facilities; supporting commands. These form a hierarchy of participants that will each be provided with varying levels of net-centric USW-DSS functionality.

This PE, under Project 9844, in FY07 developed preliminary network accessible data services that can be used to gain a strategic advantage. This capability will serve threat/force information and other USW services on-demand to other participants in the network as independent services that are accessed in a standardized manner, providing more reliable, consistent data sets across programs, and easier and timelier updates to data sets.

This PE, under Project 9999 in FY08, will develop an environmentally sealed, ruggedized, large-scale display for Tactical Operations Centers. This effort consists of the development, testing, and delivery of a production representative, environmentally sealed, 82-inch fan-less Light Emitting Diode (LED) driven, SCRAMscreen polyplaner array display system for the USN ASW Dead-Reckoning Table program.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604518N/COMBAT INFORMATION CENTER CONVERSION**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget Controls	7.679	17.139	12.769
FY 2009 President's Budget Controls	7.502	18.365	14.792
Total Adjustments	- 0.177	1.226	2.023
Summary of Adjustments	FY 2007	FY 2008	FY 2009
Undistributed General/Congressional Adjustments	- 0.008	- 0.363	- 0.067
SBIR/STTR Transfers	-0.169		
Congressional Add		1.589	
Program Adjustments			2.090
Subtotal	- 0.177	1.226	2.023

C. OTHER PROGRAM FUNDING SUMMARY:

OPN BLI 2176 / USW Support Equipment

Specific Sub-Procurement Item:

Space Information Command and Control Programs (N61), Undersea Warfare-Decision Support System (USW-DSS)

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN/BLI 2176/USW Support Equipment (Grand Total BLI)	9.160	14.805	15.578	15.699	15.477	13.478	12.467	CONT.	CONT.
OPN/BLI 2176/USW Support Equipment (Related N61 Portion)	4.460	6.100	2.299	2.760	3.657	3.723	3.669	CONT.	CONT.

D. ACQUISITION STRATEGY:

- Hardware/Software integration contractor to be funded through SBIR Phase III contract (in process of award).

E. MAJOR PERFORMERS:

- Johns Hopkins University Applied Physics Laboratory (JHU/APL), MD - USW-DSS OMI/HSI support, test & evaluation support
- Naval Air Warfare Center (NAWC), Patuxent River, MD - USW-DSS interface design and documentation, software management, test & evaluation
- NAVSEA, Carderock, MD - USW-DSS interface design and documentation, software management, test & evaluation
- NAVSEA, Keyport, WA - USW-DSS Carrier integration, track management
- NAVSEA, Newport, RI - USW-DSS Technical Design Agent (TDA), CHENG, submarine integration.
- SSC, San Diego, CA - GCCS-M, C2 collaboration tools, network and security certifications, mission planner development
- Progeny Systems Corporation, Manassas, VA - USW-DSS hardware/software integration (Builds 1/2)

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604518N/COMBAT INFORMATION CENTER CONVERSION**				PROJECT NUMBER AND NAME **3094/USW Decision Support**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	6.506	16.776	14.792	13.811	5.724	5.715	5.811
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 3094 will develop the Undersea Warfare Decision Support System (USW-DSS) that will:

1) Provide a critical Command & Control (C2) capability package that includes improvements in battle group vulnerability assessments, sensor performance predictions, mission planning and execution improvements, and optimized search planning and collaboration capabilities for the SCC, TASWC, MIW Commander and ASW Commander;
2) Provide full capability to plan and conduct USW operations through functional alignment of platforms/sensors to exploit the environment and improved allocation of resources; and
3) Increase lethality and survivability through improved asset allocation, optimized platform/sensor placement, and increased situational awareness.

These capabilities will provide a consistent, accurate, and timely situational understanding of the underwater battle space and the various entities that may influence it, including force disposition and the environment (atmospheric, oceanographic and geographic), to all participants that are in the process of conducting either ASW, MIW or other warfare operations. USW-DSS capabilities will be developed and integrated in a build-test-build process with each build improving on the previous delivery and/or adding additional capabilities.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604518N/COMBAT INFORMATION CENTER CONVERSION**	PROJECT NUMBER AND NAME **3094/USW Decision Support**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
USW-DSS Build 0.3 / 1 Development / Integration / Test	0.600	0.000	0.000
RDT&E Articles Quantity	0	0	0

Integrate and test additional USW-DSS tools/capabilities including Manual ASW Mission, Asset and Threat definition, Acoustic Performance Prediction Web Services, Improved Mission Planning including vulnerability analysis, improved ASW Search Planning/Performance Analysis and Mission Collaboration, and Improved Mission Monitoring and manual re-planning.

FY06-07 - Continued development, integration, and testing of Build 1 for use as permanent Ship Alteration (SHIPALT) installation. Completed requirements analysis and design, interface definition, system specifications and security accreditation.

FY07 - Installations of USW-DSS to commence mid FY07. Conduct development, integration, testing, and evaluation of Build 1 upgrades and correct deficiencies identified during Operational Assessments (OAs).

	FY 2007	FY 2008	FY 2009
USW-DSS Build 2 Development / Integration / Test	3.100	0.900	0.500
RDT&E Articles Quantity	0	0	0

Integrate and test additional USW-DSS tools/capabilities, including Improved ASW track management, automated asset allocation, automated re-planning, battle management capabilities including engagement target pairing, cross platform data fusion, and improved theater USW capabilities. Incorporate visualization/display service currently demonstrated as Theater ASW Composeable FORCEnet (CFn) prototype.

FY06 - Initiated Build 2 requirements analysis and system development efforts, including Operator-Machine Interface (OMI) design, environmental analysis capabilities, and embedded training. Conducted Fleet liaison.

FY07-09 - Complete integration, testing, and evaluation of new functionality in USW-DSS incremental Build 2.0. Develop and implement upgrades based upon Operational Testing. Conduct development, integration, testing, and evaluation of Build2 upgrades and correct deficiencies identified during OAs.

	FY 2007	FY 2008	FY 2009
USW-DSS Build 3 Development / Integration / Test	0.408	3.171	3.228
RDT&E Articles Quantity	0	0	0

Integrate and test additional USW-DSS tools/capabilities including improved integrated mission planning/execution tools, additional ASW track management improvement, improved situational awareness capabilities, improved data management including automated recommendations and extended use of intelligent agents, additional interfaces with tactical and environmental sensors, and MPRA ASW C2 toolset.

FY07 - Initiated specification and architecture for USW-DSS Build 3.0.

FY08/09 - Complete development, integration, and testing of USW-DSS incremental Build 3.0. Integrate USW-DSS with overall Navy FORCEnet framework.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604518N/COMBAT INFORMATION CENTER CONVERSION**	PROJECT NUMBER AND NAME **3094/USW Decision Support**	

	FY 2007	FY 2008	FY 2009
Mission Planning Development	1.198	3.605	2.164
RDT&E Articles Quantity	0	0	0

Develop and test integrated mission planning tools, including necessary TDAs and C2 tools, to optimize the use of all available platform and distributed sensors. Develop multi-static TDAs/tools for enhanced detection and interference prevention. Develop asset allocation tools. Incorporate real-time sensor performance and develop common display standards for maximum information sharing. Provide Mission Planning capabilities/tools for integration into the appropriate USW-DSS incremental builds.

	FY 2007	FY 2008	FY 2009
ASW Track Management Development	0.000	4.700	2.200
RDT&E Articles Quantity	0	0	0

Develop C2 tools to support new automated No Attack (NOTACK) concepts. Establish new track structure which allows sharing of ASW "collaborative-level" contacts and includes amplifying contact information. Develop scaleable track sharing capabilities, including intermittent operations with submarines and Maritime and Patrol Reconnaissance Aircraft (MPRA). Develop an ASW threat prioritization and ASW target asset pairing TDA. Define and develop all sensor data fusion services. Provide capabilities for implementation into the appropriate USW-DSS incremental builds.

	FY 2007	FY 2008	FY 2009
Improved Situational Awareness Development	0.000	1.000	2.000
RDT&E Articles Quantity	0	0	0

Develop the necessary capabilities to exchange data between C2 and Combat Systems to support enhanced ASW situational awareness. Develop improved force planning and status tools to access database and systems to obtain the status of platforms and combat systems (fuel, weapon inventory, readiness, etc.). Incorporate this information into planning system models. Provide capabilities for implementation into the appropriate USW-DSS incremental builds.

	FY 2007	FY 2008	FY 2009
MPRA ASW C2 Toolset Development	0.000	1.500	1.500
RDT&E Articles Quantity	0	0	0

Develop a P-3/Multi-Mission Maritime Aircraft (MMA) C2 toolset to include an integrated USW-DSS capability with the P-3 Integrated Tactical Picture. Capabilities will include: Common Operational Picture (COP) collaboration toolset, track management, in-situ mission planning tools and initial interface with Joint Mission Planning System (JMPS). Provide capabilities for implementation into the appropriate USW-DSS incremental build.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604518N/COMBAT INFORMATION CENTER CONVERSION**	PROJECT NUMBER AND NAME **3094/USW Decision Support**	

	FY 2007	FY 2008	FY 2009
Battle Management Capability Development	1.200	1.900	1.100
RDT&E Articles Quantity	0	0	0

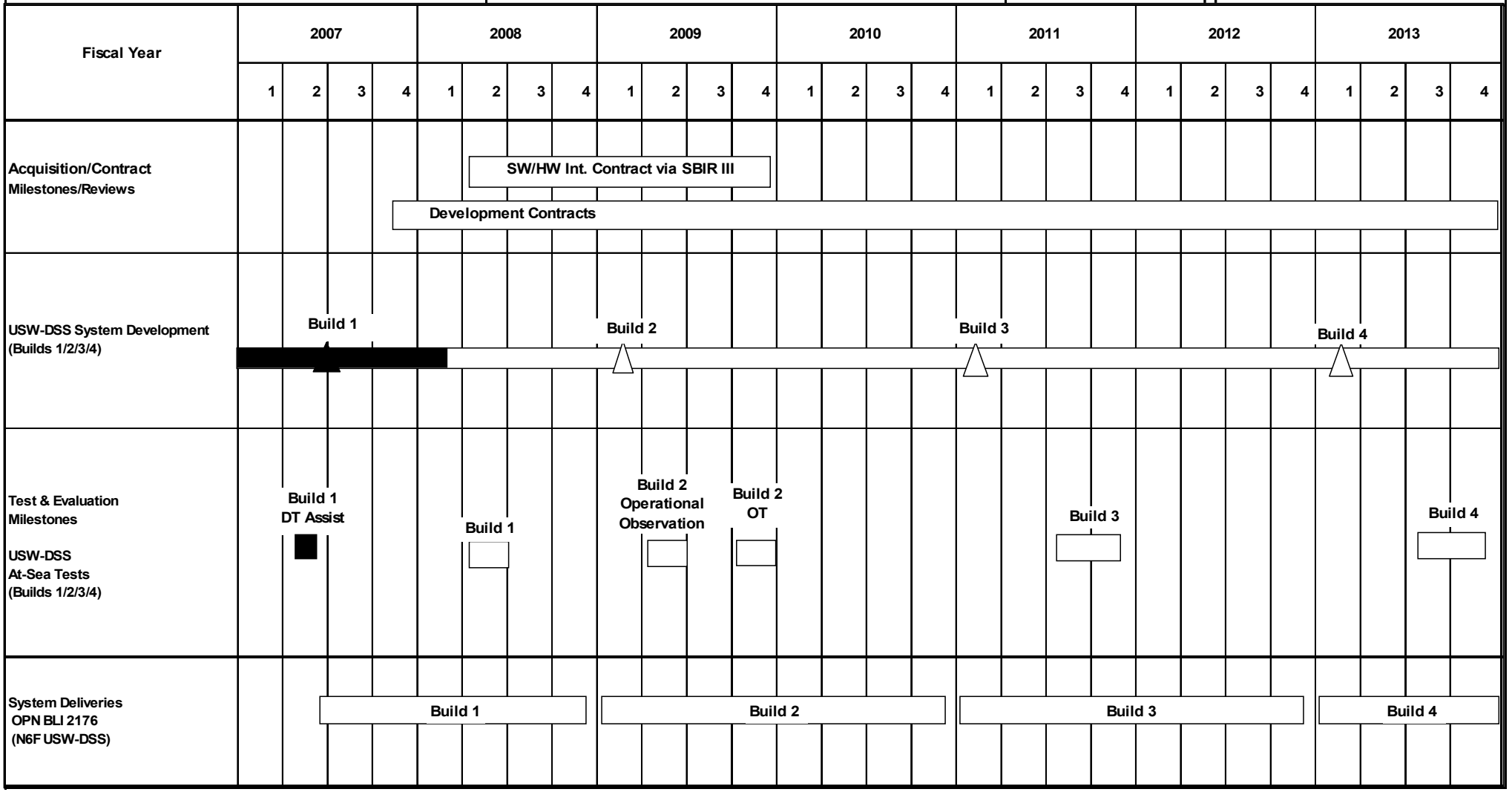
Develop TDA/tools for the engagement phase of an operation. These capabilities will include asset allocation, dynamic vulnerability analysis, dynamic re-planning, rapid access to rules of engagement, engagement target pairing, cross platform data fusion, reconstruction, improved Geographic Information System (GIS) functionality, and environmental data ingest and analysis. Provide capabilities for implementation into the appropriate USW-DSS incremental build.

	FY 2007	FY 2008	FY 2009
ISNS Integration	0.000	0.000	2.100
RDT&E Articles Quantity	0	0	0

Beginning in FY09, provide the required integration and testing for migration to the Integrated Shipboard Network System (ISNS) for surface platforms.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604518N/COMBAT INFORMATION CENTER CONVERSION**					PROJECT NUMBER AND NAME **3094/USW Decision Support**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Primary H/W & S/W Development	C/CPFF	JHU/APL, MD	0.300	0.300	FEB-07	0.623	DEC-07	0.100	NOV-08	CONT	CONT	0.000
Primary H/W & S/W Development	WR	NAWC Patuxent River, MD	0.000	0.000		0.000		0.330	OCT-08	CONT	CONT	0.000
Primary H/W & S/W Development	WR	NAVSEA Carderock, MD	0.350	0.443	NOV-06	1.017	OCT-07	2.000	OCT-08	CONT	CONT	0.000
Primary H/W & S/W Development	WR	NAVSEA Keyport, WA	0.600	0.600	OCT-06	0.479	OCT-07	2.650	OCT-08	CONT	CONT	0.000
Primary H/W & S/W Development	WR	NAVSEA Newport, RI	1.900	2.033	OCT-06	4.899	OCT-07	4.420	OCT-08	CONT	CONT	0.000
Primary H/W & S/W Development	WR	SSC San Diego, CA	0.525	0.025	MAY-07	0.000		0.000		0.000	0.550	0.000
Primary H/W & S/W Development	WR	VAR, (*See Remark)	0.533	0.306	OCT-06	1.473	DEC-07	0.124	OCT-08	CONT	CONT	0.000
Primary H/W & S/W Development	C/CPFF	VAR, (*See Remark)	0.000	0.000		2.032	DEC-07	0.000		0.000	2.032	0.000
Primary H/W & S/W Development	C/CPFF	Progeny, CA	1.675	2.079	NOV-06	4.833	FEB-08	4.448	NOV-08	CONT	CONT	0.000
Subtotal Product Development			**5.883**	**5.786**		**15.356**		**14.072**		**0.000**	**CONT**	**0.000**
Remarks: * Consists of multiple performing activities with funding for each not greater than $1 million per year.												
At-Sea Test and Evaluation	WR	VAR, VAR (*See Remark)	0.300	0.300	DEC-06	1.000	DEC-07	0.300	DEC-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**0.300**	**0.300**		**1.000**		**0.300**		**CONT**	**CONT**	**0.000**
Remarks: * Consists of multiple performing activities with funding for each not greater than $1 million per year.												
Program Management Support	C/CPAF	BAE Systems, MD	0.420	0.420	NOV-07	0.420	NOV-08	0.420	NOV-09	CONT	CONT	0.000
Subtotal Management Services			**0.420**	**0.420**		**0.420**		**0.420**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**6.603**	**6.506**		**16.776**		**14.792**		**0.000**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604518N/COMBAT INFORMATION CENTER CONVERSION**	PROJECT NUMBER AND NAME **3094/USW Decision Support**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604518N/COMBAT INFORMATION CENTER CONVERSION**			PROJECT NUMBER AND NAME **3094/USW Decision Support**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
USW-DSS Build 1 Complete	2Q						
USW-DSS DT Assist (lab-based) - Build 1	2Q						
USW-DSS Delivery to CSGs	3Q-4Q	1Q-4Q					
Contract Award - Build 2		2Q					
USW-DSS Build 2 Complete			1Q				
USW-DSS Delivery to CSGs			1Q-2Q				
USW-DSS Build 2 Delivery to CSGs			1Q-2Q	1Q-4Q			
USW-DSS At-Sea Test - Build 2			2Q-4Q				
USW-DSS Build 3 Complete					1Q		
USW-DSS At-Sea Test - Build 3					3Q-4Q		
USW-DSS Delivery to CSGs					1Q-2Q	1Q-4Q	
USW-DSS Delivery to CSG/non-CSG Platforms					1Q-2Q	1Q-4Q	
USW-DSS Build 4 Complete							1Q
USW-DSS Delivery to CSGs							1Q-2Q
USW-DSS Delivery to CSG/non-CSG Platforms							1Q-2Q
USW-DSS At-Sea Test - Build 4							3Q-4Q

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604518N/COMBAT INFORMATION CENTER CONVERSION**	PROJECT NUMBER AND NAME **9999/Congressional Add**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Command and Control (C2) Web-Based Architecture	0.996	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07: The C2 Web-Based Architecture Congressional Add developed preliminary network accessible data services that can be used to gain a strategic advantage. This capability will serve threat/force information and other USW services on-demand to other participants in the network as independent services that are accessed in a standardized manner, providing more reliable, consistent data sets across programs with easier and timelier updates to data sets.

	FY 2007	FY 2008	FY 2009
Environmentally Sealed, Ruggedized Large Scale Display for Tactical Ops	0.000	1.589	0.000
RDT&E Articles Quantity	0	0	0

FY08: The Environmentally Sealed, Ruggedized Large Scale Display for Tactical Operations Centers Congressional Add develops, tests, and delivers a production representative, environmentally sealed, 82-inch fan-less LED driven / DLP , SCRAMscreen polyplaner array display system for the USN ASW Dead-Reckoning Table program.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604558N/NEW DESIGN SSN**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	197.539	244.135	167.357	157.789	177.457	206.282	196.172
1947 / NEW DESIGN SSN HM&E	114.672	166.928	124.042	120.442	132.699	163.147	152.525
1950 / New Design SSN Combat Sys Dev	46.435	45.975	40.529	32.880	39.027	39.819	40.626
3062 / Submarine Multi-Mission Team Trainer	6.370	6.291	2.786	4.467	5.731	3.316	3.021
9999 / CONGRESSIONAL ADDS	30.062	24.941	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

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 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 Legacy was funded in OPN BLI 5661 to complete the trainer-unique software offload and enables further enhancements. The current SMMTT was formerly referred to as SMMTT "Phase 3" to distinguish it from the earlier Legacy versions, but is now simply SMMTT. The SMMTT 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 9999: FY07 Congressional Plus-Ups consists of Advanced Submarine Research, Flex Payload Interface Module, Large Scale Demo Item - VIRGINIA Class Bow Dome, Multilevel Secure Wireless Network, Submarine Low Power Computing Advanced technology, and Submarine Modernization and Technology Insertion, and Submarine Automated Simulation. FY08Congressional Plus-Ups include; Small Business Technology Insertion, Oxygen Generator, Combat Control for Distributed Netted Systems, and Submarine Electronic Chart Updates

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604558N/NEW DESIGN SSN**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget: (FY08 Pres Controls)	201.364	223.958	168.441
Current President's Budget: (FY09 Pres Controls)	197.539	244.135	167.357
Total Adjustments	3.825	20.177	1.084
Summary of Adjustments:			
Congressional Undistributed Reductions			
Economic Assumptions	-0.005	-1.183	
Reprogrammings			
Program Adjustment	-0.120	-3.740	
Pricing Adjustment			1.084
Congressional Plus Ups	1.350	25.100	
Cancelled Accounts Liability	-0.204		
SBIR Transfer	-5.086		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**				PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	114.672	166.928	124.042	120.442	132.699	163.147	152.525
RDT&E Articles Qty	0	0	0	0	0	0	0

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. In the future, products from the DARPA TANGO/BRAVO Submarine technology program may transition to prototyping and/or applicability on VIRGINIA hulls.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
HM&E Development	74.990	123.075	103.021
RDT&E Articles Quantity	0	0	0

HM&E DEVELOPMENT

FY07 Plan: Continue design, manufacturing, qualification testing, and logistics documentation of prototype technologies and components such as impressed current cathodic protection. Continue system verification studies, tests, and analyses in support of ship design including for example 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. Continue to support ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues. Complete evaluation of the acceptability of reducing damping in ballast tanks. Evaluate sea trial acoustic results and develop a responsive program plan. Initiate development of software for advanced electromagnetic signature reduction. Continue design integration of improved main seawater components. Complete Block 2 software upgrade for ship control system. Update ship control simulator. Continue shock qualification of torpedo tube system, VRLA batteries, and high efficiency inlet and rotary shutter doors. Completed design of improved rudder/anchor light and install TEMPALT. Continue shock qualification testing of air induction diesel exhaust (AIDE) valve, large penetrations, lock out trunk (LOT). Continue development of technology insertions including risk reduction technologies for Conformal Acoustic Velocity Sensor (CAVES) and validation of computational tools to be used in developing advanced electromagnetic signature control systems. Initiate design of CAVES Wide Aperture Array (WAA). Initiate broad program to introduce components and technology to reduce VIRGINIA construction and support costs including for example electrification of weapon handling module, simplified propulsion lube oil system, vendor supplied reverse osmosis system, fusion slicing of fiber optic cables, and reduced cost propulsion components. Initiate additional cost reduction efforts as required.

FY08 Plan: Continue design, manufacturing, qualification testing, and logistics documentation of prototype technologies and components such as impressed current cathodic protection. Continue system verification studies, tests, and analyses in support of ship design including for example 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. Continue to support ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues. Initiate developments responding to SSN774 OPEVAL and TECHEVAL findings. Continue ship control station software upgrades. Continue detailed design of CAVES array. Continue software development for advanced electromagnetic signature reduction. Complete shock qualification of all components including air induction diesel exhaust (AIDE) valve, large penetrations, lock out trunk (LOT), torpedo tube system, high efficiency inlet, rotary shutter doors, and radar. Manufacture implodable volumes test chamber. Continue broad program to introduce components and technology to reduce VIRGINIA construction and support costs including for example electrification of weapon handling module, simplified propulsion lube oil system, vendor supplied reverse osmosis system and reduced cost propulsion components. Continue cost reduction efforts as required. Install prototype main sea water components for at-sea testing. Initiate projects addressing sea trial acoustic results.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**

FY09 Plan: Continue design, manufacturing, qualification testing, and logistics documentation of prototype technologies and components such as impressed current cathodic protection. Continue system verification studies, tests, and analyses in support of ship design including for example 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. Continue to support ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues. Continue design of CAVES array. Continue program addressing sea trial acoustics results. Continue software development for reduced electromagnetic signature reduction. Continue ship control station software upgrades. Continue developments responding to SSN774 OPEVAL and TECHEVAL findings. Continue broad program to introduce components and technology to reduce VIRGINIA construction and support costs. Continue cost reduction efforts as required.

	FY 2007	FY 2008	FY 2009
Administrative/Environmental	1.360	1.341	0.920
RDT&E Articles Quantity	0	0	0

ADMINISTRATIVE/ENVIRONMENTAL

FY07 - FY09 Plans: 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.

	FY 2007	FY 2008	FY 2009
Test and Evaluation	38.322	42.512	20.101
RDT&E Articles Quantity	0	0	0

TEST AND EVALUATION

FY07 Plan: Conduct SSN 774 Post PSA testing including EM Silencing, Acoustic Trials, Target Strength Verification, and Hydrodynamic trials. Conduct remaining Total Ship Survivability Test drills on SSN 775. Plan for and perform Lock-out Trunk (LOT) DT/OT on SSN 776. Begin conduct of TECHEVAL/OPEVAL. Obtain final concurrence on Test and Evaluation Master Plan (TEMP) Rev E. Continue LFT&E modeling and analysis. Continue development of the Vulnerability Analysis Report (VAR) . Begin planning for DDS and ASDS Performance Trials. Begin development of FOT&E requirements..

FY08 Plan: Evaluate SSN 774 Post PSA testing including EM Silencing, Acoustic Trials, Target Strength Verification, and Hydrodynamic trials. Complete TECHEVAL/OPEVAL. Continue LFT&E modeling and analysis. Continue development of the Vulnerability Analysis Report (VAR). Continue planning for DDS and ASDS Performance Trials. Continue development of FOT&E requirements..

FY09 Plan: Evaluate TECHEVAL/OPEVAL data. Obtain final concurrence on the Vulnerability Analysis Report (VAR). Continue planning for DDS and ASDS Performance Trials. Continue development of FOT&E requirements.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
SCN Line 201300 PE: 0204281N	2,552.702	3,174.291	3,423.588	3,952.090	5,294.140	4,753.06480	4,956.7206	34,791.000	82,947.900
SCN Line 201310 PE: 0204281N	0.000	0.000	0.000	0.000	0.000	0.000		0.000	589.200
O&M, N BA-2 1B2B PE: 0204283N	26.725	44.425	58.011	57.900	61.710	63.006	64.329	cont.	cont.
OPN BA-8 Line Item 094200	155.586	145.365	199.904	187.805	253.592	199.935	202.524	cont.	cont.
(U) Related RDT&E									
Development									
(U) PE 0603570N (Advanced Nuclear Power Systems)									
(U) PE 0602121N (Surface Ship Technology)									

D. 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 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 awarded a multi-year contract for the FY04-08 ships. Future focus will be planning for the FY09-13 multiyear contract and efforts to reduce costs for the FY12 and beyond VIRGINIA Class submarines to $2B (FY05$) when procurement rate increases to 2 per year.

E. MAJOR PERFORMERS:

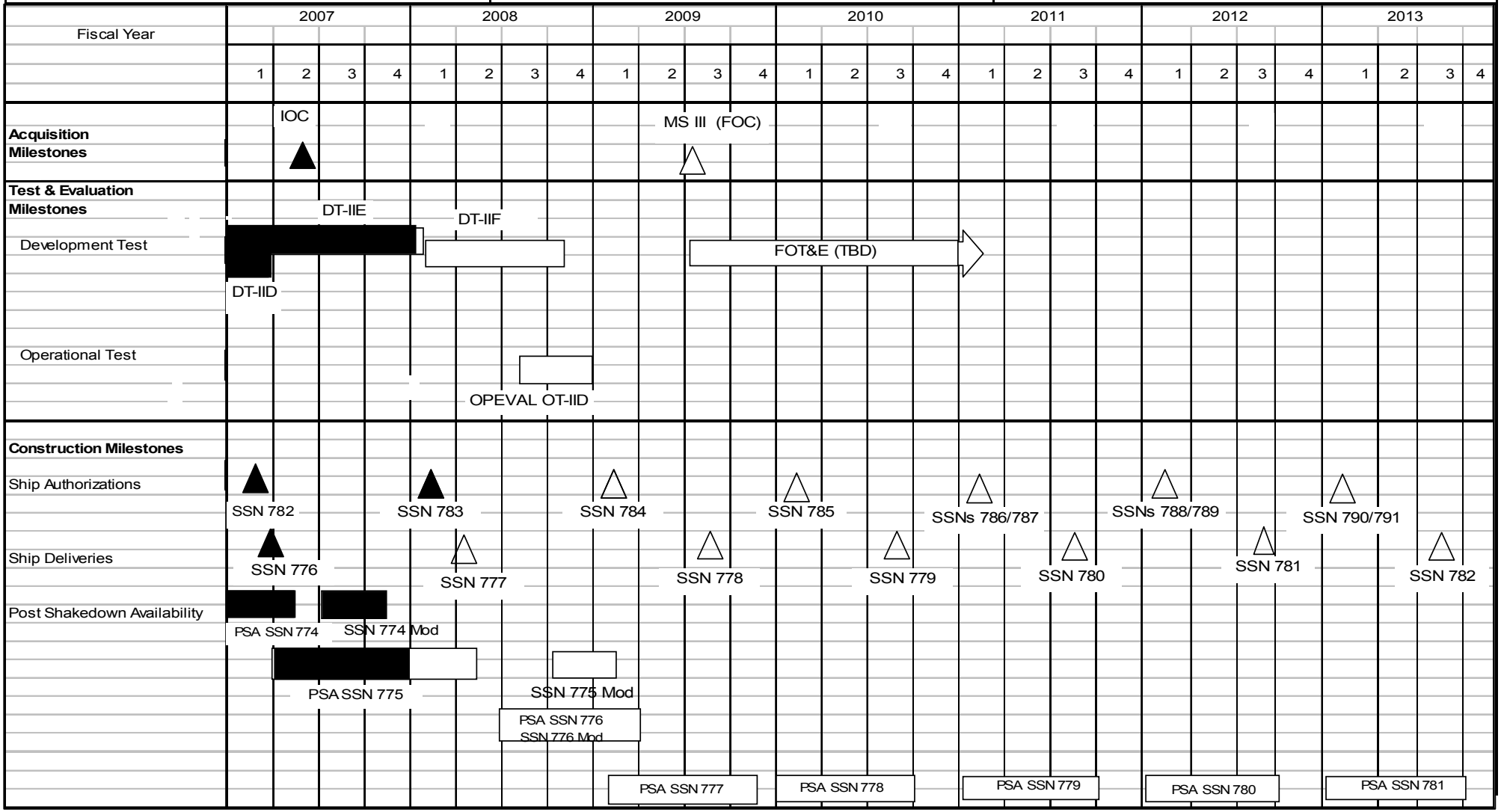
1. Electric Boat Corporation, Groton CT - Virginia Class Lead Shipbuilder

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:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**					PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Test and Evaluation	Contract	EB-2112 Groton, CT	5.616	0.000		0.000		0.000		0.000	5.616	0.000
Test and Evaluation	Contract	EB-2103 Groton, CT	0.315	0.496	NOV-06	0.045	NOV-07	0.000	NOV-08	0.000	0.856	0.000
Test and Evaluation	WR	NSWC Carderock MD	62.984	18.482	NOV-06	3.359		6.283	NOV-08	26.896	118.004	0.000
Test and Evaluation	WR	NUWC Newport	40.768	15.922	NOV-06	15.278		7.601	NOV-08	8.737	88.306	0.000
Test and Evaluation	C/CPAF	EG&G C6411 Rockville, MD	7.469	0.000		0.000		0.000		0.000	7.469	0.000
Test and Evaluation	C/CPAF	SEAPORT D7019 Rockville MD	15.237	1.299	NOV-06	1.165		1.075		0.000	18.776	0.000
Test and Evaluation	Contract	Progeny 00C6226	2.273	0.000		0.000		0.000		0.000	2.273	0.000
Test and Evaluation	Contract	Progeny 06C6256	0.538	0.668	OCT-06	0.702	OCT-07	0.713	NOV-08	3.812	6.433	0.000
Test and Evaluation	PD	COMOPTEVFOR	5.608	0.380	OCT-06	21.400	OCT-07	4.150	NOV-08	6.600	38.138	0.000
Test and Evaluation	Various	Miscellaneous	9.005	0.970	NOV-06	0.493	NOV-07	0.210	NOV-08	2.842	13.520	0.000
Test and Evaluation	WR	NSWC Dahlgren, VA	0.000	0.105	NOV-06	0.070		0.070			0.245	0.000
Subtotal Test and Evaluation			**149.813**	**38.322**		**42.512**		**20.102**		**48.887**	**299.636**	**0.000**
Remarks:												
Contractor Engineering Support	C/CPAF	SEAPORT D7019 Rockville MD	13.459	1.058	NOV-06	1.131	NOV-07	0.699	NOV-08	2.386	18.733	0.000
Program Management Support	C/CPAF	EG&G C6411 Rockville MD	21.537	0.000		0.000		0.000		0.000	21.537	0.000
Program Management Support	Various	Miscellaneous	19.856	0.000		0.000		0.000		0.000	19.856	0.000
Travel			1.517	0.302		0.210		0.220		0.000	2.249	0.000
Subtotal Management			**56.369**	**1.360**		**1.341**		**0.919**		**2.386**	**62.375**	**0.000**
Remarks:												
Component Development	Contract	EB-2112 Groton, CT	492.909	0.000		0.000		0.000		0.000	492.909	0.000
Component Development	Contract	EB-2103 Groton, CT	46.911	7.818	NOV-06	84.530	NOV-07	81.338	NOV-08	485.941	706.538	0.000
Component Development	SS/CPFF	EB-4030 Groton, CT	236.311	0.000		0.000		0.000		0.000	236.311	0.000
Component Development	PD	SOS/Groton	16.360	6.681		9.663		0.000		0.000	32.704	0.000
Component Development	SS/CPFF	LM-6226	18.661	0.000		0.000		0.000		0.000	18.661	0.000
Component Development	WR	NSWC Carderock MD	495.951	26.605	NOV-06	18.513	NOV-07	13.688	NOV-08	76.086	630.843	0.000
Component Development	WR	NSWC Crane IA	4.085	0.000		0.000		0.000		0.000	4.085	0.000
Component Development	WR	NUWC Newport RI	86.174	3.370	NOV-06	5.250	NOV-07	5.326	NOV-08	29.805	129.925	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**					PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Component Development	WR	NFPC, Phila PA	6.256	0.000		0.000		0.000		0.000	6.256	0.000
Component Development	Various	Various	212.691	5.457	VAR	3.150	NOV-07	0.549		0.000	221.847	0.000
Miscellaneous	Various	Various	34.418	1.152	VAR	1.969	NOV-07	2.120	TBD	43.053	82.712	0.000
Component Development	Contract	EB 04-C-2100	0.000	22.407		0.000		0.000		0.000	22.407	0.000
Component Development	SS/CPFF	Raytheon 05-C-6116	0.000	1.500	MAY-07	0.000		0.000		0.000	1.500	0.000
Subtotal Product Development			**1,650.727**	**74.990**		**123.075**		**103.021**		**634.885**	**2,586.698**	**0.000**
Remarks:												
Integrated Logistics Support	WR	NSWC Carderock MD	0.942	0.000		0.000		0.000		0.000	0.942	0.000
Integrated Logistics Support	WR	NAWC Orlando FL	26.715	0.000		0.000		0.000		0.000	26.715	0.000
Integrated Logistics Support	WR	NUWC Newport RI	2.711	0.000		0.000		0.000		0.000	2.711	0.000
Integrated Logistics Support	C/CPAF	SEAPORT D7019 Rockville MD	3.406	0.000		0.000		0.000		0.000	3.406	0.000
Integrated Logistics Support	SS/CPAF	EB-2100 Groton CT	0.090	0.000		0.000		0.000		0.000	0.090	0.000
Integrated Logistics Support	SS/CPAF	EB-2112 Groton CT	0.015	0.000		0.000		0.000		0.000	0.015	0.000
Subtotal Support			**33.879**	**0.000**		**0.000**		**0.000**		**0.000**	**33.879**	**0.000**
Remarks:												
Total Cost			**1,890.788**	**114.672**		**166.928**		**124.042**		**686.158**	**2,982.588**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**			PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operational Test (OT-IIC)							
Ship Authorization (SSN 779)							
Ship Delivery (SSN 774)							
Developmental Test (DT-IIC)							
Ship Authorization (SSN 780)							
Post Shakedown Availability (PSA SSN 774)	1Q-2Q						
Ship Delivery (SSN 775)							
Ship Authorization (SSN781)							
Post PSA Modernization (SSN 774)	3Q-4Q						
Developmental Test (DT-IID)	1Q-2Q						
Initial Operating Capability (IOC)	2Q						
Post Shakedown Availability (PSA SSN 775)	2Q-4Q	1Q-2Q					
Developmental Test (DT-IIE)	1Q-4Q	1Q					
Developmental Test (DT-IIF)		1Q-4Q					
Ship Authorization (SSN 782)	1Q						
Ship Delivery (SSN 776)	1Q						
Operational Evaluation (OT-IID) (OPEVAL)		2Q-4Q					
Post PSA Modernization (SSN 775)		4Q	1Q				
Post Shakedown Availability (PSA SSN 776)		3Q-4Q	1Q-2Q				
Milestone III (MSIII)			3Q				
Full Operational Capability (FOC)			3Q				
Ship Authorization (SSN 783)		1Q					
Ship Delivery (SSN 777)		2Q					
Post Shakedown Availability (PSA SSN 777)			1Q-4Q				
Ship Authorization (SSN 784)			1Q				
Post PSA Modernization (SSN 776)		3Q-4Q	1Q-2Q				
FOT&E (OT-III & DT-III)			TBD	TBD	TBD		
Ship Delivery (SSN 778)			3Q				
Ship Authorization (SSN 785)				1Q			
Post Shakedown Availability (PSA SSN 778)				1Q-3Q			

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**			PROJECT NUMBER AND NAME **1947/NEW DESIGN SSN HM&E**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Ship Delivery (SSN 779)				3Q			
Ship Authorization (SSN 786/787)					1Q		
Post Shakedown Availability (SSN 779)					1Q-3Q		
Ship Delivery (SSN 780)					3Q		
Ship Authorization (SSNs 788/789)						1Q	
Post Shakedown Availability (PSA SSN 780)						1Q-3Q	
Ship Delivery (SSN 781)						3Q	
Ship Authorization (SSNs 790/791)							1Q
Post Shakedown Availability (PSA SSN 781)							1Q-3Q
Ship Delivery (SSN 782)							3Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**				PROJECT NUMBER AND NAME **1950/New Design SSN Combat Sys Dev**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	46.435	45.975	40.529	32.880	39.027	39.819	40.626
RDT&E Articles Qty	0	0	0	0	0	0	0

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 include 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:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **1950/New Design SSN Combat Sys Dev**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
C3I Systems Engineering	32.424	34.600	28.820
RDT&E Articles Quantity	0	0	0

ACCOMPLISHMENTS:

1. (U) FY 2007 PLAN:

" (U) ($32.424M) Continue development of high priority ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Conduct C3I System/subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Complete the Voyage Management System implementation. Continue the information assurance implementation for NPES system/subsystems.

2. (U) FY 2008 PLAN:

" (U) ($34.600M) Continue development of high priority ship safety/self-protect and mission specific deficiencies identified during integration and lead ship sea test efforts including DT and OT events. Complete C3I System/subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Begin the development of System Level and other subsystem Improvements to maintain VIRGINIA Class Commonality to backfit fleet.

3. (U) FY 2009 PLAN:

" (U) ($28.820M) Complete development of high priority ship safety/self-protect and mission specific deficiencies identified during integration and lead ship sea test efforts including DT and OT events. Continue the development of System Level and other subsystem Improvements to maintain VIRGINIA Class Commonality to backfit fleet.

	FY 2007	FY 2008	FY 2009
Sonar Combat Control and Architecture Subsystems	14.011	11.375	11.709
RDT&E Articles Quantity	0	0	0

FY 2007 PLAN:

1.(U) ($14.011M) Continue development of high priority S/CC/A ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Conduct S/CC/A subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **1950/New Design SSN Combat Sys Dev**	

2. (U) FY 2008 PLAN:

(U) ($11.375M) Continue development of high priority S/CC/A ship safety/self protect and mission specific deficiencies identified during integration and lead ship test efforts including DT and OT events. Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.

3. (U) FY 2009 PLAN:

(U) ($11.709M) Continue development of high priority S/CC/A ship safety/self protect and mission specific deficiencies identified during integration and lead ship test efforts including DT and OT events. Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
SCN Line 201300 PE: 0204281N	2,552.702	3,174.291	3,423.588	3,952.090	5,294.140	4,753.064	4,956.720	34,791.000	82,947.900
SCN Line 201310 PE: 0204281N	0.000	0.000	0.000	0.000	0.000	0.000		0.000	589.200
O&M,N BA-2 1B2B PE: 0204283N	26.725	44.425	58.011	57.900	61.710	63.006	64.329	cont.	cont.
OPN BA-8 Line Item 094200	155.586	145.365	199.904	187.805	253.592	199.935	202.524	cont.	cont.
(U) Related RDT&E									
Development)									
Development)									
(U) PE 0603562N (Submarine Tactical Warfare System)									
(U) PE 0603570N (Advanced Nuclear Power Systems)									
Development)									
(U) PE 0604574N (Navy Tactical Computer Resources)									
(U) PE 0604777N (Navigation/ID Systems)									
Development)									
(U) PE 0604562N (Submarine Tactical Warfare System)									
(U) PE 0604524N (Submarine Combat Systems)									

D. 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 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 awarded a multi-year contract for the FY04-08 ships. Future focus will be planning for the FY09-13 multiyear contract and efforts to reduce costs for the FY12 and beyond VIRGINIA Class submarines to $2B (FY05$) when procurement rate increases to 2 per year.

E. MAJOR PERFORMERS:

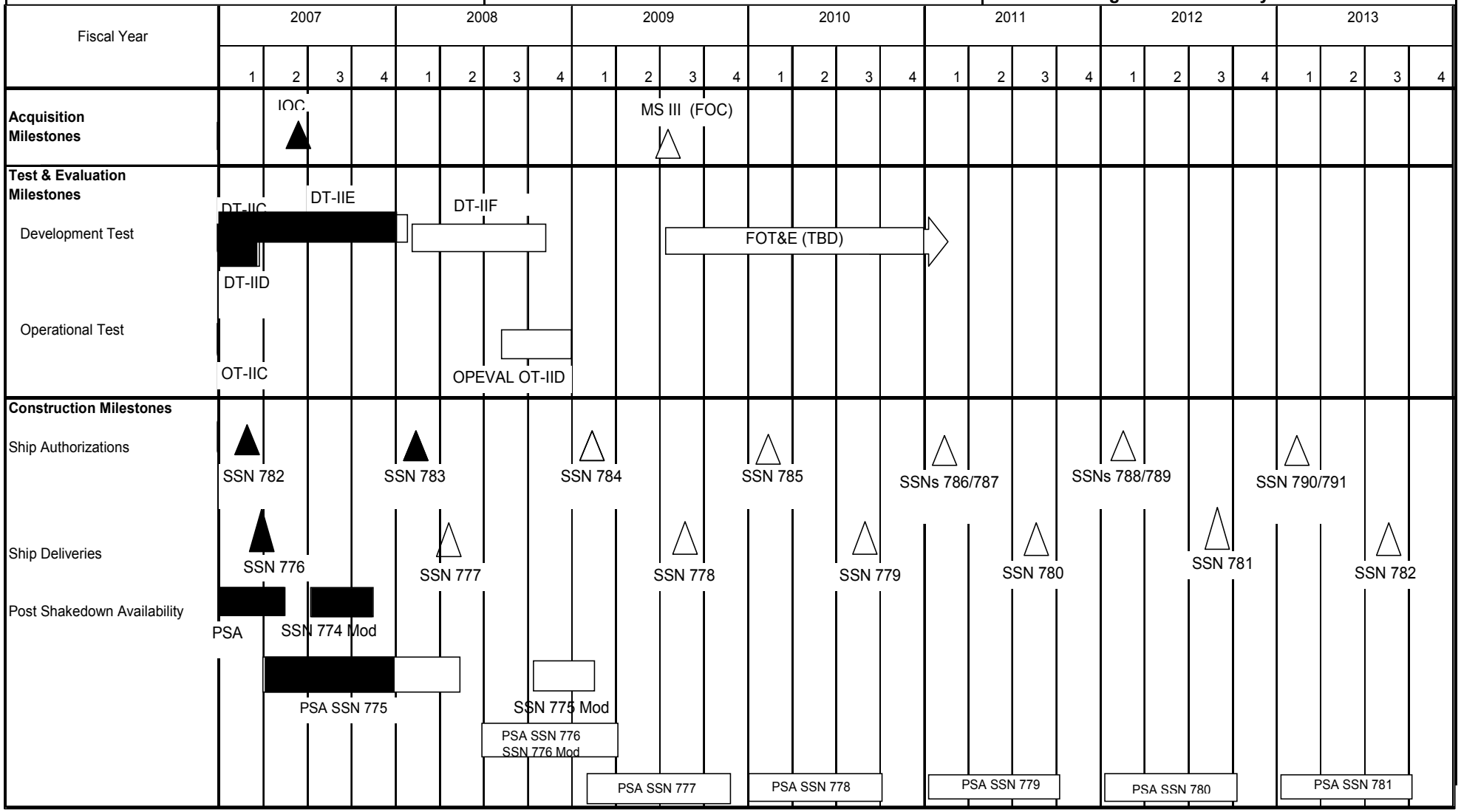
Lockheed Martin, Manassas, Virginia. C3I Prime Contractor, Development and Limited Production of the S/CC/A Subsystems

Naval Undersea Warfare Center, Newport, Rhode, Island, Technical Direction Agent for all Virginia Class Electronics.

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**					PROJECT NUMBER AND NAME **1950/New Design SSN Combat Sys Dev**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
C3I Prime Contract E&MD Total	C/CPAF	Lockheed Manassas, VA	258.854	0.000		0.000		0.000		0.000	258.854	0.000
C3I Prime Contract E&MD Award Fee	C/CPAF	Lockheed Manassas, VA	7.891	0.000		0.000		0.000		0.000	7.891	0.000
Systems Engineering	N/A	SSC Charleston, SC	3.501	0.500	NOV-06	0.515	NOV-07	0.530	NOV-08	3.300	8.346	0.000
Systems Engineering	N/A	SSC San Diego, CA	2.545	0.000		0.000		0.000		0.000	2.545	0.000
Systems Engineering	N/A	NUWC Keyport, WA	9.521	0.172	NOV-06	0.184	NOV-07	0.188	NOV-08	7.800	17.865	0.000
Miscellaneous	Various	Various	101.523	4.350	TBD	6.150	TBD	6.513	TBD	41.322	159.858	0.000
C3I Prime Contract Post Delivery	C/FFP	Lockheed Manassas, VA	22.372	0.000		0.000		0.000		0.000	22.372	0.000
ARCI Prime Contract	SS/CPAF	Lockheed Manassas, VA	8.666	3.222	FEB-07	0.000		0.000		0.000	11.888	0.000
PTR Corrections	Various	Various/TBD	6.100	8.564	TBD	12.898	TBD	12.648	TBD		40.210	0.000
Weapons Control Contract	C/CPIF	Raytheon, Portsmouth, RI	3.115	2.111	DEC-06	0.000		0.000		0.000	5.226	0.000
Unique Virginia Class Improvements	TBD	Various/TBD	0.000	0.000		4.737	NOV-07	6.538	NOV-08	80.519	91.794	0.000
Advanced Display Sys (AN/UYQ-70)	SS/CPIF	Lockheed St. Paul, MN	27.921	0.956	NOV-06	0.728	NOV-07	0.749	NOV-08	6.410	36.764	0.000
Multi-Purpose Processor	SS/CPIF	Digital Sys Fairfax, VA	41.449	0.000		0.000		0.000		0.000	41.449	0.000
Multi-Purpose Processor	SS/CPIF	Lockheed Manassas, VA	1.755	0.000		0.000		0.000		0.000	1.755	0.000
Photonics	C/CPIF	Kollmorgen Northhampton, MA	35.956	1.824	TBD	0.763	TBD	1.145	TBD	6.410	46.098	0.000
Non-Penetrating Periscope	C/CPIF	Kollmorgen Northhampton, MA	4.060	0.000		0.000		0.000		0.000	4.060	0.000
Electronic Support Measures	C/FFP	Lockheed Syracuse, NY	38.067	0.000		0.000		0.000		6.410	44.477	0.000
Platform Integration	SS/CPFF	EB Corp Groton, CT	37.276	4.000	TBD	1.000	NOV-07	1.000	NOV-08	12.823	56.099	0.000
Platform Integration	SS/CPFF	NNews Shipbuilding NNews, VA	3.065	0.000		0.000		0.000		0.000	3.065	0.000
Integrated Electronics Mast	SS/CPFF	Goleta Portsmouth, RI	8.897	0.000		0.000		0.000		0.000	8.897	0.000
Tactical Simulator	SS/CPFF	Goleta Portsmouth, RI	2.750	0.000		0.000		0.000		0.000	2.750	0.000
High Frequency Sail Array	SS/CPFF	Applied Research Austin, TX	3.273	0.000		0.000		0.000		0.000	3.273	0.000
Navigation/Radar	SS/CPFF	Sperry Corp. Charlottesville, VA	7.626	0.000		0.000		0.000		0.000	7.626	0.000
Technology Refreshment	Various	Various/TBD	10.765	0.000		7.922	NOV-07	1.668	NOV-08	0.000	20.355	0.000
Open Systems Module	SS/CPFF	UNISYS Corp St. Paul, MN	2.500	0.000		0.000		0.000		0.000	2.500	0.000
Technical Direction Agent	N/A	NUWC Newport, RI	223.759	10.438	TBD	6.000	TBD	6.000	TBD	38.466	284.663	0.000
Technology Refreshment/Info. Assurance	C/CPFF	Progeny Systems, Manassas, VA	24.989	1.997	NOV-06	1.000	NOV-07	1.000	NOV-08	6.410	35.396	0.000
NTDPS Network Centric Architecture	SS/CPFF	GD-AIS, Fairfax, VA	9.349	0.350	DEC-06	0.000		0.000		0.000	9.699	0.000
Systems Engineering	N/A	NSWC Carderock, MD	5.983	0.610	NOV-06	0.340	NOV-07	0.350	NOV-08	2.160	9.443	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**					PROJECT NUMBER AND NAME **1950/New Design SSN Combat Sys Dev**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Systems Engineering	N/A	NSWC Crane, IN	3.742	0.000		0.000		0.000		0.000	3.742	0.000
Subtotal Product Development			**917.270**	**39.094**		**42.237**		**38.329**		**212.030**	**1,248.960**	**0.000**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Test and Evaluation	Various	Various	0.000	4.712	TBD	1.500	TBD	0.000		0.000	6.212	0.000
Subtotal Test and Evaluation			**0.000**	**4.712**		**1.500**		**0.000**		**0.000**	**6.212**	**0.000**
Remarks:												
Contractor Support Services/ETS	C/CPAF	EG&G Rockville, MD	9.806	2.629	TBD	2.238	TBD	2.200	TBD	19.233	36.106	0.000
Contractor Support Services/ETS	C/CPAF	EG&G Rockville, MD	14.406	0.000		0.000		0.000		0.000	14.406	0.000
CSS/ETS Award Fee	C/CPFF	EG&G Rockville, MD	1.195	0.000		0.000		0.000		0.000	1.195	0.000
Contractor Support Services/ETS	C/CPFF	EG&G Rockville, MD	8.857	0.000		0.000		0.000		0.000	8.857	0.000
Contractor Support Services/ETS	C/CPFF	SWL Inc., Vienna, VA	5.705	0.000		0.000		0.000		0.000	5.705	0.000
Miscellaneous	Various	Various	4.765	0.000		0.000		0.000		0.000	4.765	0.000
Contractor Support Services/ETS	C/CPFF	American Sys, Chantilly, VA	2.099	0.000		0.000		0.000		0.000	2.099	0.000
Subtotal Management Services			**46.833**	**2.629**		**2.238**		**2.200**		**19.233**	**73.133**	**0.000**
Remarks:												
Total Cost			**964.103**	**46.435**		**45.975**		**40.529**		**231.263**	**1,328.305**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **1950/New Design SSN Combat Sys Dev**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**			PROJECT NUMBER AND NAME **1950/New Design SSN Combat Sys Dev**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operational Test (OT-IIC)							
Ship Authorization (SSN 779)							
Ship Delivery (SSN 774)							
Developmental Test (DT-IIC)							
Ship Authorization							
Post Shakedown Availability (PSA SSN 774)	2Q						
Ship Delivery (SSN 775)							
Ship Authorization (SSN 781)							
Post PSA Modernization (SSN774)	3Q-4Q						
Developmental Test (DT-IID)	1Q-2Q						
Initial Operating Capability (IOC)	2Q						
Post Shakedown Availability (PSA SSN 775)	2Q-4Q	2Q					
Developmental Test (DT-IIE)	1Q						
Developmental Test (DT-IIF)	1Q-4Q	1Q-3Q					
Ship Authorization (SSN 782)	1Q						
Ship Delivery (SSN 776)	1Q						
Operational Evaluation (OT-IID) OPEVAL		2Q-4Q					
Post PSA Modernization (SSN 775)		4Q	1Q				
Post Shakedown Availability (PSA SSN 776)		3Q-4Q	2Q				
Milestone III (MSIII)			3Q				
Full Operational Capability (FOC)			3Q				
Ship Authorization (SSN 783)		1Q					
Ship Delivery (SSN 777)		2Q					
Post Shakedown Availability (PSA SSN 777)			1Q-4Q				
Ship Authorization (SSN 784)			1Q				
Post PSA Modernization (SSN 776)			3Q-4Q				
FOT&E (OT-III & DT-III)			TBD	TBD	TBD		
Ship Delivery (SSN 778)			3Q				
Ship Authorization (SSN 785)				1Q			
Post Shakedown Availability (PSA SSN 778)				1Q-3Q			

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**			PROJECT NUMBER AND NAME **1950/New Design SSN Combat Sys Dev**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Ship Delivery (SSN 779)				3Q			
Ship Authorization (SSN 786/787)					1Q		
Post Shakedown Availability (SSN 779)					1Q-3Q		
Ship Delivery (SSN 780)					3Q		
Ship Authorization (SSNs 788/789)						1Q	
Post Shakedown Availability (PSA SSN 780)						1Q-3Q	
Ship Delivery (SSN 781)						3Q	
Ship Authorization (SSNs 790/791)							1Q
Post Shakedown Availability PSA SSN 781)							1Q-3Q
Ship Delivery (SSN 782)							3Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**				PROJECT NUMBER AND NAME **3062/Submarine Multi-Mission Team Trainer**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	6.370	6.291	2.786	4.467	5.731	3.316	3.021
RDT&E Articles Qty	0	0	0	0	0	0	0

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) MK1 and CCS MK2are installed on SSN and SSGN Class submarines, and there are currently plans to further upgrade these systems with the next hardware and software 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 (AN/BYG-1) and ARCI (AN/BQQ-10) upgrades directly impact shore based Team Trainers. In addition, the Advanced Processing Builds (APB) and new TI-0x sensors, 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 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:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **3062/Submarine Multi-Mission Team Trainer**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	6.370	6.291	2.786
RDT&E Articles Quantity	0	0	0

FY07 Develop implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. Develop standalone functionality of SMMTT SEAWOLF Sonar and Combat Control.

FY08 Develop implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. Develop standalone functionality of SMMTT SEAWOLF Sonar and Combat Control.

FY09 Develop implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
566100, Submarine Training Device	17.100	25.500	26.900	16.800	26.100	30.300	16.200	0.000	183.700
Modification (TD009 Cost Code)									

D. ACQUISITION STRATEGY:

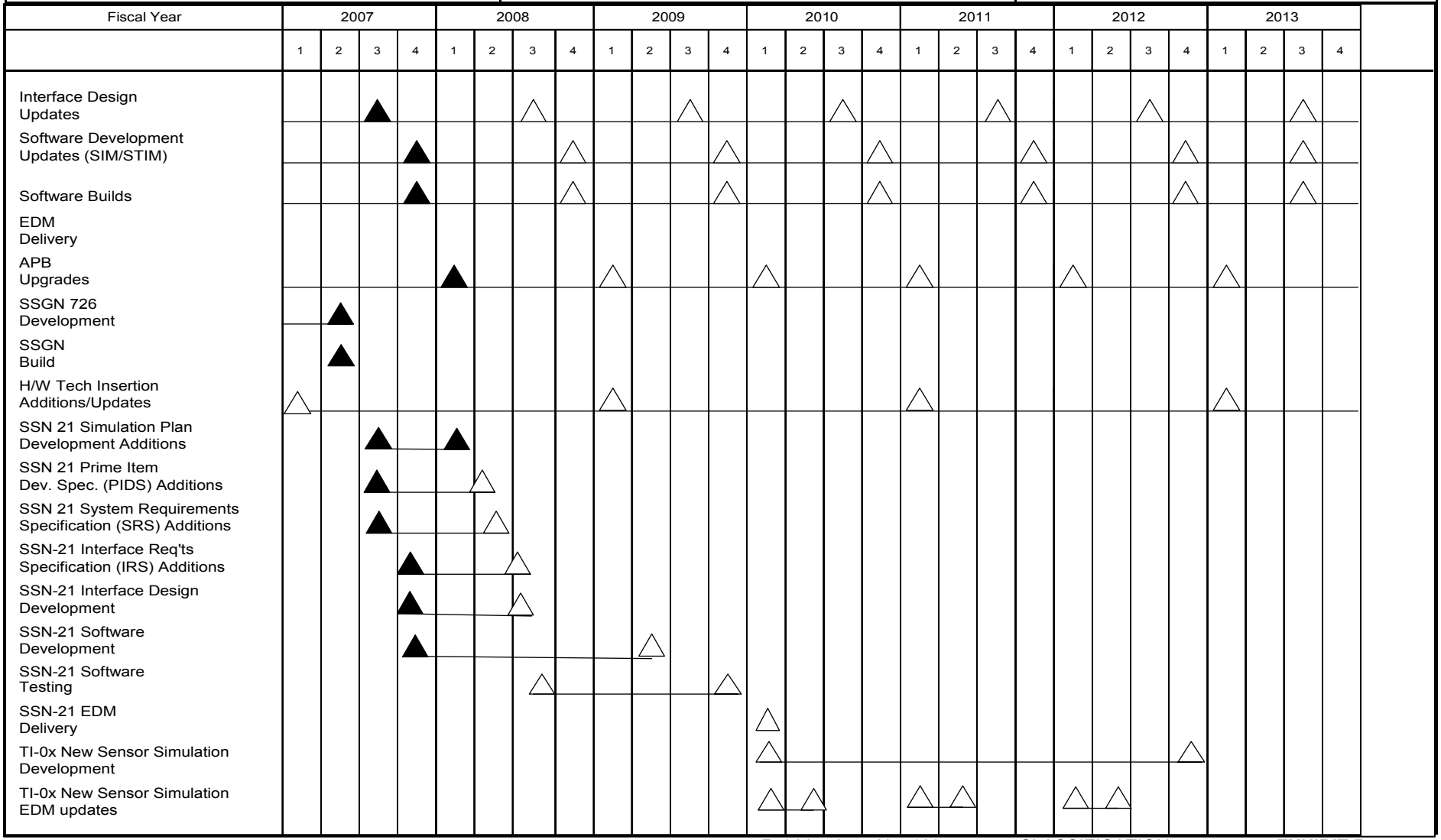
The SMMTT program software development is accounted for in this RDT&E line. All production kits are procured in OPN PE 0804731N BLI 566100.

E. MAJOR PERFORMERS:

NSWCCD

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**					PROJECT NUMBER AND NAME **3062/Submarine Multi-Mission Team Trainer**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Component Development	REQN	NSWCCD, Bethesda, MD	2.312	6.145	OCT-06	5.826	JAN-08	2.386	TBD	14.935	31.604	0.000
Component Development	C\CPFF	UT Austin ARL	0.265	0.225	MAR-07	0.465	MAR-08	0.400	TBD	1.600	2.955	0.000
Subtotal Product Development			**2.577**	**6.370**		**6.291**		**2.786**		**16.535**	**34.559**	**0.000**
Remarks:												
Total Cost			**2.577**	**6.370**		**6.291**		**2.786**		**16.535**	**34.559**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **3062/Submarine Multi-Mission Team Trainer**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**			PROJECT NUMBER AND NAME **3062/Submarine Multi-Mission Team Trainer**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Interface Design Updates	3Q	3Q	3Q	3Q	3Q	3Q	3Q
Software Development Updates (SIM/STIM)	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Software Builds	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Engineering Development Model (EDM) delivery							
Advanced Processing Build (APB) Upgrades	1Q	1Q	1Q	1Q	1Q	1Q	1Q
SSGN 726 Development	2Q						
SSGN Build	2Q						
Hard Ware Tech Insertion Updates	1Q		1Q		1Q		1Q
SSN 21 Simulation Plan Development Additions	3Q-4Q	1Q					
SSN 21 Prime Item Dev Spec. (PIDS) Additions	3Q-4Q	1Q-2Q					
SSN 21 System Requirements Spec (SRS) Additions	3Q-4Q	1Q-2Q					
SSN 21 Interface Reqt's Spec (IRS) Additions	4Q	1Q-3Q					
SSN 21 Interface Design Development	4Q	1Q-3Q					
SSN 21 Software Development	4Q	1Q-4Q	1Q-2Q				
SSN 21 Software Testing		3Q-4Q	1Q-4Q				
SSN 21 EDM Delivery				1Q			
TI-0x New Sensor Simulation Development				1Q-4Q	1Q-4Q	1Q-4Q	
TI-0x New Sensor Simulation EDM Updates				1Q-2Q	1Q-2Q	1Q-2Q	

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.590	0.000
RDT&E Articles Quantity	0	0	0

70806 Combat Control for Distributed Netted Systems

Conduct research, design, develop and prototype an advanced submarine war fighter command and control supporting Distributed Netted System directed toward implementation in the 3rd flight or later of the VIRGINIA Class submarine program with applicability across the submarine fleet. Specific problems to be addressed in the FY08 timeframe include net-centric warfighter control and information assurance of planned and conceptual payload systems for the VIRGINIA Class payload tubes. The methodology for this development includes a detailed requirements analysis, a detailed design phase and followed by a spiral development approach which evolves the Concept of Operations (CONOPS) and technological development in parallel.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	2.683	0.000
RDT&E Articles Quantity	0	0	0

70807 Submarine Electronic Chart Updates

Research, design and develop updates to the common Navy solution for the Submarine digital nautical charts. These updates will enhance the current Voyage Management System/Enhanced Control Display Unit capabilities on the VIRGINIA Class and backfit submarines. Establish an interim chart update repository ashore to support the Navy until formal transition to NGA production. Develop and evaluate potential bandwidth reduction options for vector data products, and establish related certification requirements and procedures. Demonstrate navigation task reduction through automated chart updates by data consumers, such as certified ECDIS-N systems. Complete operational testing of developed services and web clients for release to Fleet

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.795	0.000
RDT&E Articles Quantity	0	0	0

70804 Oxygen Generator

'Develop and extend existing commercial efficiencies in electrolyzer design to result in a improved Low Pressure Electrolyzer (LPE) electrolysis cell that 50% cheaper than current, resulting in a potential savings of $150M over 15 years. Existing patented low-cost cellstack construction technology will be rugged-ized for submarine use. The improved LPE electrolysis cell has potential application in the VIRGINIA Class Integrated Low Pressure Electrolyzer (ILPE) as well the LPE being implemented in OHIO and SEAWOLF Class submarines

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost 9A48N	0.971	0.000	0.000

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**	
RDT&E Articles Quantity	0	0	0
Research Total Ownership Cost reduction technology insertion opportunities with Submarine Command and Control System electronics. Conduct research in engineering design alternatives and identify specific viable candidates to reduce the production and life cycle cost of the low power advanced technology electronics.			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost 9A49N	4.174	0.000	0.000
RDT&E Articles Quantity	0	0	0
Research Total Ownership Cost reduction technology insertion opportunities with Virginia Class electronics. Conduct research in engineering design alternatives and identify specific viable candidates to reduce the production and life cycle cost of the active sonar transmit electronics.			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	19.873	0.000
RDT&E Articles Quantity	0	0	0
70805 Small Business Technology Insertion Research and development efforts for fresh, creative, and innovative solutions to the Navy's requirements for high risk/high reward components of submarine combat system development. Variours combat system component technology insertions/upgrades (torpedo, photonics, navigation data distribution, etc.) to reduce the cost of ship acquisition.			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost 9A45N	6.564	0.000	0.000
RDT&E Articles Quantity	0	0	0
This project will pursue detail design of a bow redesign for the VIRGINIA Class that includes a Payload Interface Module (PIM) and a compatible Flexible Payload Module (FPM). The new bow design reconfigures the bow of the submarine by removal of the present vertical launch system design and inserting a PIM. The FPM will be inserted into the PIM. The initial concept for a FPM is one that reconstitutes the 12 vertical launch tubes so that no VIRGINIA capability is lost. The design is predicated upon inclusion of the Large Aperture Bow (LAB) Array in the same bow redesign.			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost 9A46N	4.863	0.000	0.000
RDT&E Articles Quantity	0	0	0
This project will qualify an alternative vendor, Seamann Composites, Gulfport, MS, for submarine bow domes promising a significant cost reduction.			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost 9A47N	1.261	0.000	0.000
RDT&E Articles Quantity	0	0	0
Develop a Multilevel Secure Wireless Network for deployment on the Virginia Class submarine with a full backfit capability across in service platforms. The use of a wireless network within the submarine will allow personnel and their workstations to be relocated dynamically within the available space in a highly mission-context specific manner. The employment of advanced MLS technology will function in synergy with the wireless network to enable all personnel to run any application appropriate to his/her clearance			

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604558N/NEW DESIGN SSN**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**

level regardless of the workstation at which he/she is working. This mobile deployment of personnel within the submarine will greatly increase the flexibility of the submarine platform and it□s Concept of Operation.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost 1947C	5.871	0.000	0.000
RDT&E Articles Quantity	0	0	0

Large Aperture Bow (LAB) Array:

This project will pursue detail design of a bow redesign for the VIRGINIA Class that includes a Payload Interface Module (PIM) and a compatible Flexible Payload Module (FPM). The new bow design reconfigures the bow of the submarine by removal of the present vertical launch system design and inserting a PIM. The FPM will be inserted into the PIM. The initial concept for a FPM is one that reconstitutes the 12 vertical launch tubes so that no VIRGINIA capability is lost. The design is predicated upon inclusion of the Large Aperture Bow (LAB) Array in the same bow redesign. Design concept for the PIM, as originally conceived as a large removable box-like structure, was developed and traded-off against the alternative of inserting 2 large diameter payload tubes. The latter had certain advantages over the original PIM concept, including lower development and construction costs. As a result, the payload enhancement concept transitioned to the Virginia Payload Tube (VPT) concept presently being implemented in the VIRGINIA class beginning in FY09.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost 9989N	1.310	0.000	0.000
RDT&E Articles Quantity	0	0	0

Testing, insertion and integration of simulation automation technology developed under a SBIR project into the AN/BQQ-10 Onboard Team Trainer (OBTT) for Los Angeles 688 class SSN. SubAutoSim will enhance the complexity and proficiency of onboard training tactical training through the use of advanced computer-assisted simulator control tools thus significantly reducing the current over-reliance on manpower intensive training techniques.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost 9A44N	5.048	0.000	0.000
RDT&E Articles Quantity	0	0	0

Funds will be used to evaluate and migrate unique military standard weapons systems, sensors, electronics, and software system components to common COTS based architectures and technologies. Specifically, the funds would be utilized to develop an integrated weapon and countermeasure launch & control system. This small business □Common Open Architecture□ technology insertion effort will focus on high risk/high reward components of the submarine combat system weapon□s control, launch, sonar, and communications systems. It will identify opportunities for commonality across submarine and surface ship electronic subsystems to provide significant life cycle cost reductions

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		R-1 ITEM NOMENCLATURE **0604561N/SSN-21 DEVELOPMENTS**					
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	2.548	2.403	0.000	0.000	0.000	0.000	0.000
1946 / SSN-21 DEVELOPMENT	2.548	2.403	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

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. SEAFAC Range Upgrade funding is included in 1946 in FY07 - $1.9M.

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 began in FY04. (Note: Please refer to RDT&E,N PE0604561N/1946 R2 and OPN BLI 094200/H1RC08 budget exhibits for associated SEAFAC Upgrade Program funding.)

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604561N/SSN-21 DEVELOPMENTS**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY08 Pres Controls)	2.548	2.457	2.538
Current BES/President's Budget (FY09 Pres Controls)	2.548	2.403	0.000
Total	0.000	-0.054	-2.538
Summary of Adjustments			
Contractor Efficiencies	0.000	-0.004	0.000
Realignment of Program Funds Previously Use	0.000	0.000	-2.538
Revised Economic Assumptions	0.000	-0.012	0.000
Section 8025: FFRDC Reduction	0.000	-0.002	0.000
Execution Realign SB Issue	0.000	-0.036	0.000
Subtotal Adjustments	0.000	-0.054	-2.538
Schedule:			
Not applicable			
Technical			
Not applicable			

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name

(U) Related RDT&E:

(U) P.E. 0603570N (Advanced Nuclear Power Systems)

(U) P.E. 0604524N (Submarine Combat Systems)

(U) P.E. 0604567N (Ship Contract Design/Live Fire T&E)

D. ACQUISITION STRATEGY:

(U) Delivered 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.

E. MAJOR PERFORMERS:

Naval Surface Warfare Center (NSWC) Carderock, MD -FY07 - $1.908M (Acoustics, NPE, Shock, Test & Evaluation, SEAFAC and Tech Insertion), FY08 - $1.968 M (Acoustics and Tech Insertion). Contract award was November 2006 for FY07. Contract awards scheduled for February 2008 (FY08).

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604561N/SSN-21 DEVELOPMENTS**				PROJECT NUMBER AND NAME **1946/SSN-21 DEVELOPMENT**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.548	2.403	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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. SEAFAC Range Upgrade funding is included in 1946 in FY07 - $1.9M.

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 began in FY04. (Note: Please refer to RDT&E,N PE0604561N/1946 R2 and OPN BLI 094200/H1RC08 budget exhibits for associated SEAFAC Upgrade Program funding.)

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604561N/SSN-21 DEVELOPMENTS**	PROJECT NUMBER AND NAME **1946/SSN-21 DEVELOPMENT**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.908	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY-07 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.

Note: Please refer to OPN BLI 094200/H1RC08 P5 budget exhibits for associated SEAFAC Upgrade Program funding.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.075	0.671	0.000
RDT&E Articles Quantity	0	0	0

FY-07, FY-08 Plan: Re-engineering and correction of Ship Control System (SCS) and acoustic sail deficiencies.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.565	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY-07, Plan: Re-engineering and correction of interfaces to the External Hydraulic Pump.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.732	0.000
RDT&E Articles Quantity	0	0	0

Technology Insertion for the SSN23.1.786

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	53.148	55.728	58.592	55.902	54.632	58.149	59.300
0236 / SSN Comb Cont Sys Imprvmnt (ENG)	50.073	52.548	58.592	55.902	54.632	58.149	59.300
9999 / CONGRESSIONAL ADDS	3.075	3.180	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

Project Unit 0236: This program develops Commercial-Off-The-Shelf (COTS) based software and hardware upgrades to integrate improved tactical and weapons control capabilities for multiple submarine Classes (SSN688, 688I, SSGN, SEAWOLF, and VIRGINIA (Post Shakedown Availability)). The AN/BYG-1 is the combat control system common across submarine platforms which incorporates tactical control, weapon control and tactical Local Area Network (LAN) functions into a single development program. The hardware upgrades (technology insertions (TI's)) are developed on a biennial basis to provide improved capability and address COTS obsolescence. Funding also accommodates the annual integration of software Advanced Processing Builds (APBs) for 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 improved 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 torpedoes. 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.

This program also develops and tests a Common Weapon Launcher, a COTS-based software weapons launch capability for SSN688 and Virginia Class submarines. This upgrade provides a more reliable capability for launching missiles and torpedoes from submarines while providing the architecture to support the introduction of the next generation of payloads and sensors. This new design will also reduce the recurring costs of VA Class submarine weapon launch systems.

Project Unit 9999 is comprised of FY07 & FY08 congressional adds for Automated Submarine Command and Control Center, Submarine Maintenance Automation and Communication, Submarine Maintenance Automation and Communication and Automated Sub Command and Control Center.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President Budget	51.454	53.703	54.954
FY2009 President Budget	50.073	52.548	58.592
Total Adjustments	-1.381	-1.155	3.638
Summary of Adjustments			
Cancelled Accounts Liabilities	- 0.065	0.000	0.000
Sea Strike-TACTOM Mission-Security	0.000	0.000	2.000
Sub Bridge Modernization Shipalt Dev	0.000	0.000	2.000
Small Business Innovation Research (SBIR) Tax	-1.316	0.000	0.000
Navy Working Capital Fund (NWCF) Rate	0.000	0.000	0.016
Reductions, adjustments, economic assumptions	0.000	-0.349	-0.378
ExecRealign SB Issue	0.000	-0.806	0.000
Sub Total	-1.381	-1.155	3.638

C. OTHER PROGRAM FUNDING SUMMARY:

Related RDT&E:

PE 0204229N (Tomahawk & Tomahawk Mission Planning Center)

PE 0205632N (MK 48 ADCAP)

PE 0603561N (Advanced Submarine Systems Development)

PE 0604503N (SSN-688 and Trident Modernization)

PE 0604558N (New Design SSN)

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN/BA-4 5420	87.575	106.142	92.500	105.282	104.622	104.928	105.975	CONT.	CONT.

D. ACQUISITION STRATEGY:

- This budget integrates APBs developed by the advanced development community.
- This program has been tailored in accordance with the new DoD5000 directive to incorporate annual MDA production reviews.
- Competitive contracts awarded in Dec 02 started the development of a combat control system which segregates tactical control from weapons control system.
- Advanced Processing Builds (APB) products associated with AN/BYG-1 Release-To- Fleet 4Q 2003, 3Q 2004, 3Q 2006, 3Q 2007, 3Q 2008, and 3Q 2009.

- Follow-On contracts for both tactical and weapons control subsystems are planned for award in FY2009.

E. MAJOR PERFORMERS:

Raytheon Portsmouth, RI - Software Development for AN/BYG-1 weapon control subsystem - December 2002.

General Dynamics (GD AIS) Fair Lakes, VA - Software Development for AN/BYG-1 tactical control subsystem - December 2002.

NUWC Newport, RI - Government Engineering

Progeny Systems, Manassas, VA - Common Weapon Launcher development

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**				PROJECT NUMBER AND NAME **0236/SSN Comb Cont Sys Imprvmnt (ENG)**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	50.073	52.548	58.592	55.902	54.632	58.149	59.300
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project Unit 0236: This program develops Commercial-Off-The-Shelf (COTS) based software and hardware upgrades to integrate improved tactical and weapons control capabilities for multiple submarine Classes (SSN688, 688I, SSGN, SEAWOLF, and VIRGINIA (Post Shakedown Availability)). The AN/BYG-1 is the combat control system common across submarine platforms which incorporates tactical control, weapon control and tactical Local Area Network (LAN) functions into a single development program. The hardware upgrades (technology insertions (TI's)) are developed on a biennial basis to provide improved capability and address COTS obsolescence. Funding also accommodates the annual integration of software Advanced Processing Builds (APBs) for 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 improved 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 torpedoes. 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.

This program also develops and tests a Common Weapon Launcher, a COTS-based software weapons launch capability for SSN688 and Virginia Class submarines. This upgrade provides a more reliable capability for launching missiles and torpedoes from submarines while providing the architecture to support the introduction of the next generation of payloads and sensors. This new design will also reduce the recurring costs of VA Class submarine weapon launch systems.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**	PROJECT NUMBER AND NAME **0236/SSN Comb Cont Sys Imprvmnt (ENG)**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
AN/BYG-1 TI-04	0.500	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07: Completed development, integration and test of the next generation AN/BYG-1 (TI04) for SSN 688 Class/SSGN submarines scheduled for delivery in FY07.

	FY 2007	FY 2008	FY 2009
AN/BYG-1 TI-06	10.588	2.995	0.000
RDT&E Articles Quantity	0	0	0

FY07: Continued development, integration and test of the next generation AN/BYG-1 (TI06) for SSN 688 Class submarines scheduled for delivery in FY07.
FY08: Complete development, integration and test of the next generation AN/BYG-1 (TI06) for SSN 688 Class submarines scheduled for delivery in FY08.

	FY 2007	FY 2008	FY 2009
AN/BYG-1 TI-08	3.974	13.288	12.125
RDT&E Articles Quantity	0	0	0

FY07: Began engineering development process for selection and prototyping of new technologies for TI08.
FY08:Continue development, integration and test of the next generation AN/BYG-1 (TI08) for SSN 688/SSGN Class submarines scheduled for delivery in FY09.
FY09:Continue development, integration and test of the next generation AN/BYG-1 (TI08) for SSN 688/SSGN Class submarines scheduled for delivery in FY09.

	FY 2007	FY 2008	FY 2009
AN/BYG-1 TI-10	0.000	2.143	7.572
RDT&E Articles Quantity	0	0	0

FY08: Began engineering development process for selection and prototyping of new technologies for TI10.
FY09: Continue development, integration and test of the next generation AN/BYG-1 (TI10) for SSN 21/688 Class submarines scheduled for delivery in FY11. One capability for delivery will include hardware improvements to provide the Officer of the Deck improved situational awareness, particularly in the area of of navigation and contact management.

	FY 2007	FY 2008	FY 2009
Advanced Processor Builds	16.871	21.122	26.395
RDT&E Articles Quantity	0	0	0

FY07: Began integration of APB-07 into AN/BYG-1. Completed APB-06 integration into AN/BYG-1 baseline.
FY08: Began integration of APB-08 into AN/BYG-1. Complete APB-07 integration into AN/BYG-1 baseline.
FY09: Begin integration of APB-09 into AN/BYG-1. One capability for delivery will be the ability to operate the TOMAHAWK Weapon System at the SECRET level, while maintaining the ability to operate at the TOP SECRET level if the need arises. Complete APB-08 integration into AN/BYG-1 baseline.

	FY 2007	FY 2008	FY 2009

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**	PROJECT NUMBER AND NAME **0236/SSN Comb Cont Sys Imprvmnt (ENG)**	

Testing	4.300	4.000	6.000
RDT&E Articles Quantity	0	0	0

FY07: Completed FOT&E for AN/BYG-1 TI04 and APB-05 and began FOT&E for AN/BYG-1 TI06 and APB-06 on SSN 688 Class submarines.

FY08: Complete FOT&E for AN/BYG-1 TI06 and APB-06 and begin FOT&E for AN/BYG-1 APB-07 on SSN 688 Class/SSGN submarines.

FY09: Begin FOT&E for AN/BYG-1 TI08 and APB-08 on 688 Class/SSGN submarines.

	FY 2007	FY 2008	FY 2009
Common Weapon Launcher (CWL)	13.840	9.000	6.500
RDT&E Articles Quantity	0	0	0

FY07: Continued development and integration on Common Weapon Launcher (CWL)

FY08: Continue integration of CWL with AN/BYG-1 TI-08

FY09: Conduct DT/OT on CWL

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**					PROJECT NUMBER AND NAME **0236/SSN Comb Cont Sys Imprvmnt (ENG)**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Multi-Tube Weapon Simulator	SBIR	Progeny	2.635	0.000		0.000		0.000		0.000	2.635	0.000
AN/BYG-1 Tech Insertion	CPIF/CPAF	Raytheon Portsmouth, RI	22.755	7.080	OCT-06	8.478	OCT-07	10.201	OCT-08	CONT	CONT	0.000
AN/BYG-1 Tech Insertion	CPIF/CPAF	General Dynamics (GDAIS)	20.906	6.063	OCT-06	7.500	OCT-07	7.241	OCT-08	CONT	CONT	0.000
Government Engineering	WX	NUWC Newport, RI	62.187	1.919		2.140		2.255		CONT	CONT	0.000
AN/BYG-1 Tech Insertion	FFRDC	MITRE	2.202	0.000		0.308		0.000		0.000	2.510	0.000
AN/BYG-1 Tech Insertion	CPIF/CPAF	ANTEON	6.000	0.000		0.000		0.000		0.000	6.000	0.000
COTS Hardware & Software	CPFF	DDL Omni	8.500	0.000		0.000		0.000		0.000	8.500	0.000
Common Weapon Launcher	CPAF	Progeny	4.052	13.840	JAN-07	9.000	JAN-08	6.500	JAN-09	CONT	CONT	0.000
Subtotal Product Development			**129.237**	**28.902**		**27.426**		**26.197**		**CONT**	**CONT**	**0.000**
Remarks:												
APB Software Integration	CPIF/CPAF	Raytheon Portsmouth, RI	16.876	6.700	OCT-06	7.947	OCT-07	11.460	OCT-08	CONT	CONT	0.000
APB Software Integration	CPIF/CPAF	General Dynamics (GDAIS)	16.110	6.300	OCT-06	7.700	OCT-07	9.088	OCT-08	CONT	CONT	0.000
APB Software Integration	WX	NUWC Newport, RI	9.195	3.871		5.475		5.847		CONT	CONT	0.000
Software Development	Various	Various	36.679	0.000		0.000		0.000		0.000	36.679	0.000
Subtotal Support Costs			**78.860**	**16.871**		**21.122**		**26.395**		**CONT**	**CONT**	**0.000**
Remarks:												
Developmental Test & Evaluation	WX	NUWC	15.312	2.700	OCT-06	2.300	OCT-07	3.500	OCT-08	CONT	CONT	0.000
Operational Test & Evaluation	WX	COMOPTEVFOR	11.169	1.600	OCT-06	1.700	OCT-07	2.500	OCT-08	CONT	CONT	0.000
Test & Evaluation	Various	Various	1.295	0.000		0.000		0.000		0.000	1.295	0.000
Subtotal Test and Evaluation			**27.776**	**4.300**		**4.000**		**6.000**		**CONT**	**CONT**	**0.000**
Remarks:												
Program Management Support	CPFF	EG&G Arlington, VA	9.330	0.000		0.000		0.000		0.000	9.330	0.000
Travel	PD	NAVSEA Arlington, VA	0.370	0.000		0.000		0.000		0.000	0.370	0.000
Subtotal Management Services			**9.700**	**0.000**		**0.000**		**0.000**		**0.000**	**9.700**	**0.000**
Remarks:												

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**					PROJECT NUMBER AND NAME **0236/SSN Comb Cont Sys Imprvmnt (ENG)**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Total Cost			**245.573**	**50.073**		**52.548**		**58.592**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED

EXHIBIT R4, Schedule Pr

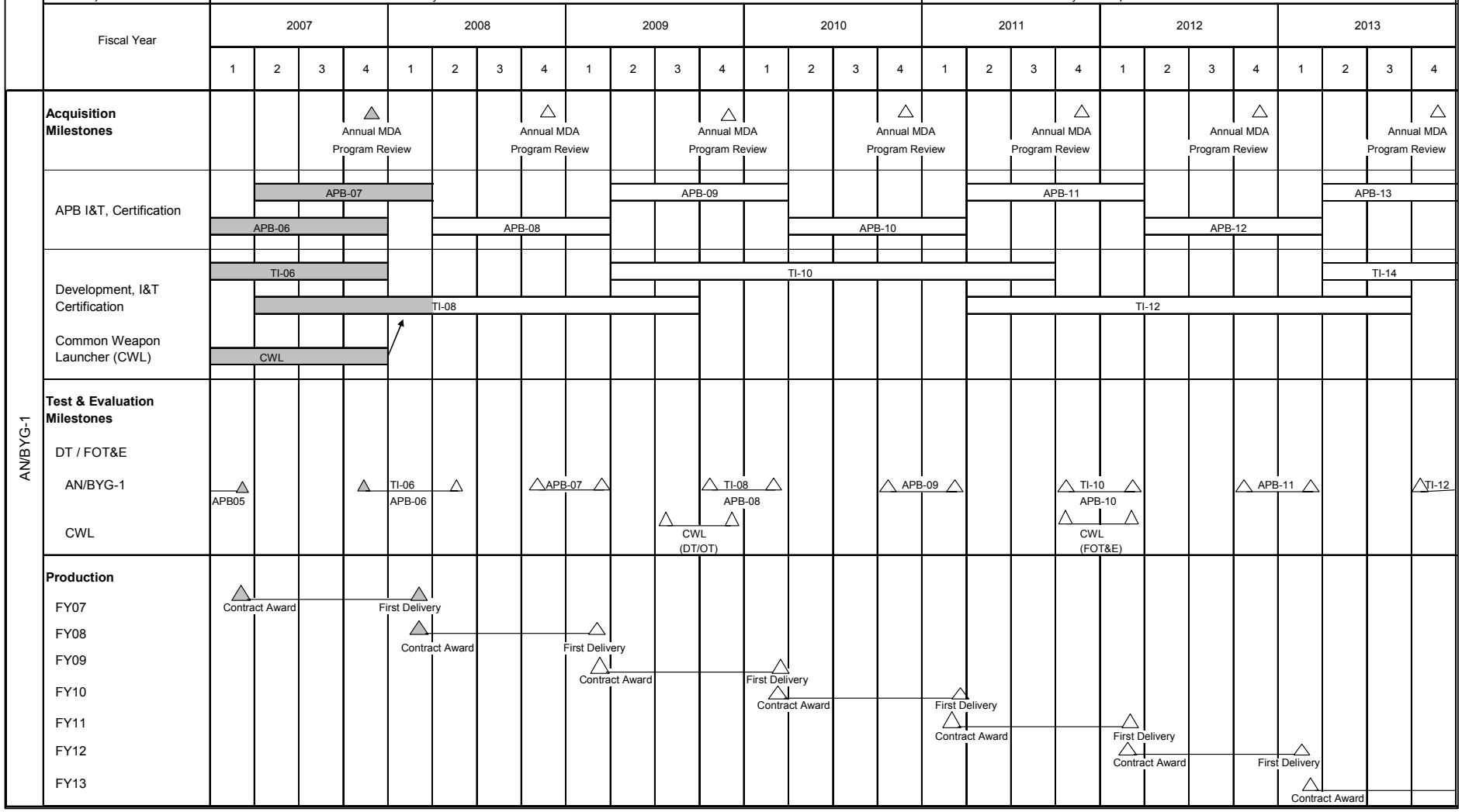
DATE: **February 2008**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604562N / Submarine Tactical Warfare System

PROJECT NUMBER AND NAME: 0236 / Submarine Combat System Improvements

AN/BYG-1



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**			PROJECT NUMBER AND NAME **0236/SSN Comb Cont Sys Imprvmnt (ENG)**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AN/BYG-1 TI06 - Development	1Q-4Q						
AN/BYG-1 - APB06 Integration & Test, Certification	1Q-4Q						
Common Weapon Launcher - Development	1Q-4Q						
AN/BYG-1 APB07 Integration & Test, Certification	2Q-4Q	1Q					
AN/BYG-1 APB05 DT/OT	1Q						
AN/BYG-1 APB06/TI06 DT/OT	4Q	1Q-2Q					
AN/BYG-1 TI08 - Development	2Q-4Q	1Q-4Q	1Q-3Q				
CWL DT/OT			3Q-4Q				
AN/BYG-1 APB08 - MDA Review	4Q						
AN/BYG-1 APB08 Integration & Test, Certification		2Q-4Q	1Q				
AN/BYG-1 APB08/TI08 DT/OT			4Q	1Q			
AN/BYG-1 APB09 Integration & Test, Certification			2Q-4Q	1Q			
AN/BYG-1 APB09 MDA Review		4Q					
AN/BYG-1 APB07 DT/OT		4Q	1Q				
AN/BYG-1 TI10 Development			2Q-4Q	1Q-4Q	1Q-3Q		
AN/BYG-1 APB10 MDA Review			4Q				
AN/BYG-1 APB10 Integration & Test, Certification				2Q-4Q	1Q		
AN/BYG-1 TI12/APB11 MDA Review				4Q			
AN/BYG-1 APB11 Integration & Test, Certification					2Q-4Q	1Q	
AN/BYG-1 APB09 DT/OT				4Q	1Q		
AN/BYG-1 TI12 Development					2Q-4Q	1Q-4Q	1Q-3Q
AN/BYG-1 APB10/TI10 DT/OT					4Q	1Q	
CWL FOT&E					4Q	1Q	
AN/BYG-1 APB12 MDA Review					4Q		
AN/BYG-1 APB12 Integration & Test, Certification						2Q-4Q	1Q
AN/BYG-1 APB11 DT/OT						4Q	1Q
AN/BYG-1 APB13 MDA Review						4Q	
AN/BYG-1 APB13 Integration & Test, Certification							2Q-4Q
AN/BYG-1 TI14 Development							2Q-4Q
AN/BYG-1 TI12 DT/OT							4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**			PROJECT NUMBER AND NAME **0236/SSN Comb Cont Sys Imprvmnt (ENG)**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AN/BYG-1 APB14 MDA Review							4Q

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604562N/SUBMARINE TACTICAL WARFARE SYSTEM**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
9999 Sub Maintenance Automation and Communication	0.000	1.590	0.000
RDT&E Articles Quantity	0	0	0

The congressional add will be used to expand the Submarine Maintenance Free Operating Period (MFOP) effort, designed to automate scheduled preventive maintenance events, potentially reducing the weekly allocation of man-hours dedicated to maintenance.

	FY 2007	FY 2008	FY 2009
9999 Automated Sub Command and Control Center	0.000	1.590	0.000
RDT&E Articles Quantity	0	0	0

The congressional add will be used to support the insertion of knowledge management and automation technologies into the AN/BYG-1 combat system modernization efforts. This additional technology will allow for a reduced number of crew members to safely perform the actions required in the submarine attack center.

	FY 2007	FY 2008	FY 2009
9A50N Sub Maintenance Automation and Communication	2.087	0.000	0.000
RDT&E Articles Quantity	0	0	0

The congressional add will be used to expand the Submarine Maintenance Free Operating Period (MFOP) effort, designed to automate scheduled preventive maintenance events, potentially reducing the weekly allocation of man-hours dedicated to maintenance.

	FY 2007	FY 2008	FY 2009
9850C Automated Sub Command and Control Center	0.988	0.000	0.000
RDT&E Articles Quantity	0	0	0

The congressional add will be used to support the insertion of knowledge management and automation technologies into the AN/BYG-1 combat system modernization efforts. This additional technology will allow for a reduced number of crew members to safely perform the actions required in the submarine attack center.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	50.947	62.068	72.932	63.830	89.862	77.365	80.838
1803 / SHIP CONTRACT DESIGN	6.274	4.658	4.763	8.497	6.437	5.323	5.419
2198 / Live Fire Test & Evaluation	1.400	0.000	0.000	0.000	0.000	0.000	0.000
2465 / DC/Survivability	13.149	5.804	2.421	4.981	8.912	3.706	8.497
3108 / CVN 80 Total Ship Integration	0.000	0.000	0.000	0.000	41.738	47.701	47.701
3133 / Sea Base to Shore Connectors (Contract Des)	0.000	14.320	26.154	9.854	1.878	1.942	1.999
3179 / CVN-79 Total Ship Integration	0.000	26.420	37.523	38.084	27.946	16.971	15.990
4007 / CVN 21 LFT&E	7.271	3.130	2.071	2.414	2.951	1.722	1.232
4008 / CVN 78 Total Ship Integration	21.446	6.743	0.000	0.000	0.000	0.000	0.000
9999 / Congressional Add	1.407	0.993	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

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 packagedeveloped 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.

Project 3134 was realigned to PE 0208058N FY07 through FY11.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget: (FY 08 Pres Controls)	51.729	62.404	73.698
President's Budget: (FY 09 Pres Controls)	50.947	62.068	72.932
Total Adjustments	-0.782	-0.336	-0.766
Programmatic Adjustments			
Reprogramming	2.260		
Programmatic Adjustment	-1.170	-0.993	-0.780
SBIR	-1.872	0.000	
NWCF	0.000		0.014
Congressional Adjustment	0.000	0.597	
Total Adjustment	-0.782	-0.336	-0.766

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**				PROJECT NUMBER AND NAME **1803/SHIP CONTRACT DESIGN**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	6.274	4.658	4.763	8.497	6.437	5.323	5.419
RDT&E Articles Qty	0	0	0	0	0	0	0

A. 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. This project also funds the research, development, test, and evaluation of shipyard workload and resource management tools. The funding in this project unit supports Cruiser Modernization Program. DDG Modernization Program effort does not start until FY10.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **1803/SHIP CONTRACT DESIGN**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	6.274	4.658	4.763
RDT&E Articles Quantity	0	0	0

Continued CG Modernization design and engineering efforts; continued government efforts for design products, data base development, specifications development, program planning, and system integration efforts for lead ship. Continued system integration efforts, baseline preliminary and detail design for combat systems, manning reduction studies, and improved embedded training efforts.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN 096000 CG Modernization	231.167	216.031	271.170	389.776	410.283	459.048	468.868	700.570	3,419.962
WPN 422300 CG Modernization	18.396	23.402	45.168	52.413	54.127	55.160	56.224	52.630	374.235

D. ACQUISITION STRATEGY:

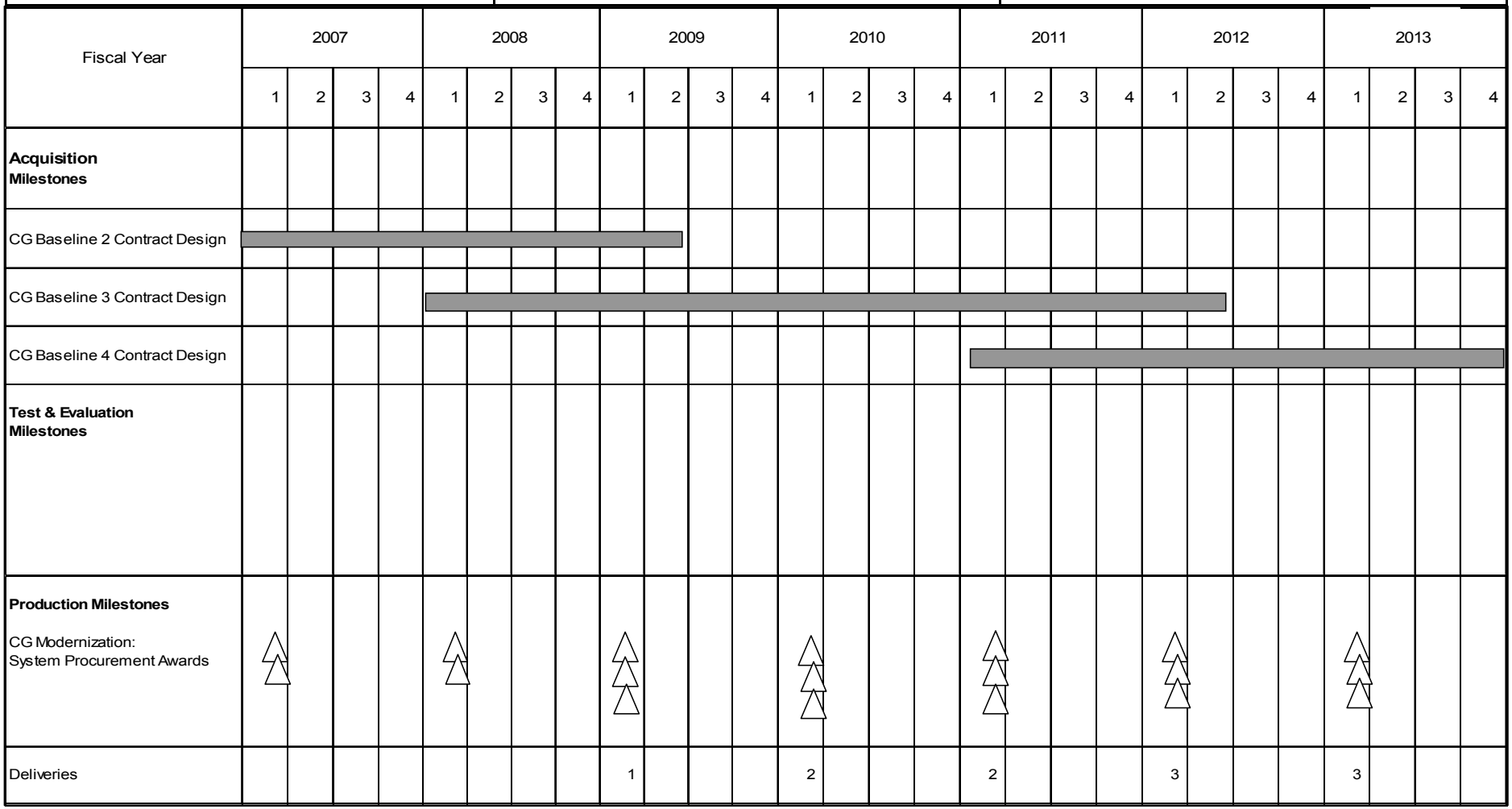
N/A

E. MAJOR PERFORMERS:

N/A

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**					PROJECT NUMBER AND NAME **1803/SHIP CONTRACT DESIGN**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
CG Mod Electronic Systems Eng	C/CPAF	Lockheed Martin, Moorestown, NJ	7.235	3.774	FEB-07	2.158	NOV-07	2.263	NOV-08		15.430	0.000
Systems Integration and B/L Design	C/CPAF	Northrop Grumman	0.000	1.000	FEB-07	1.000	NOV-07	1.000	NOV-08		3.000	0.000
Subtotal Product Development			**7.235**	**4.774**		**3.158**		**3.263**		**0.000**	**18.430**	**0.000**
Remarks:												
Program / Engineering Spt	MISC	NSWC/SSES	0.800	1.000		1.000		1.000			3.800	0.000
Program / Engineering Spt	MISC	NSWC/DD	1.000	0.000		0.000		0.000		0.000	1.000	0.000
Program / Engineering Spt	MAC	CSC/BAE	2.000	0.500		0.500		0.500		0.000	3.500	0.000
Subtotal Support Costs			**3.800**	**1.500**		**1.500**		**1.500**		**0.000**	**8.300**	**0.000**
Remarks:												
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Subtotal Management Services			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Total Cost			**11.035**	**6.274**		**4.658**		**4.763**		**0.000**	**26.730**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **1803/SHIP CONTRACT DESIGN**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**			PROJECT NUMBER AND NAME **1803/SHIP CONTRACT DESIGN**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Continue CG Baseline 2 Engineering	1Q-4Q	1Q-4Q	1Q-2Q				
Continue CG Baseline 3 Engineering		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q	
Continue CG Baseline 4 Engineering					1Q-4Q	1Q-4Q	1Q-4Q
CGM PROCUREMENT AWARD							
CGM PROCUREMENT AWARD	1Q						
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CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**				PROJECT NUMBER AND NAME **2198/Live Fire Test & Evaluation**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	1.400	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **2198/Live Fire Test & Evaluation**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.400	0.000	0.000
RDT&E Articles Quantity	0	0	0

C. OTHER PROGRAM FUNDING SUMMARY:

D. ACQUISITION STRATEGY:

E. MAJOR PERFORMERS:

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**				PROJECT NUMBER AND NAME **2465/DC/Survivability**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	13.149	5.804	2.421	4.981	8.912	3.706	8.497
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The mission of the LHA Replacement (R) Program is an incremental 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 FY2009; ensure that the Amphibious Fleet remains capable of Expeditionary Strike Warfare in support of the Navy and Marine Corp's Global Concept of Operations (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 multi-national maritime expeditionary forces. Additionally, they will be designed to operate for sustained periods in transit to and operations in an Amphibious Objective Area to include the embarkation, deployment, and landing of a Marine Landing Force in an assault by helicopters and tilt rotors supported by Joint Strike Fighters.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **2465/DC/Survivability**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	13.149	5.804	2.421
RDT&E Articles Quantity	0	0	0

Resolve low confidence areas in analytical models for Live Fire Test and Evaluation (LFT&E) concerns and continue the LFT&E surrogate test program.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
SCN 304100 LHA(R) LEAD SHIP	1,131.121	1,377.414	14.310	70.000	0.000	0.000	0.000		2,508.535
SCN 304100 LHA(R) LEAD SHIP (OUTFITTING)	0.000	0.000	0.000	13.694	22.643	24.403	2.042		55.050
SCN 304100 LHA(R) LEAD SHIP (POST-DELIVERY)	0.000	0.000	0.000	0.000	0.000	23.347	0.000		15.820

D. ACQUISITION STRATEGY:

Acquisition strategy signed February 7, 2005 approved strategy for sole source to Northrup Grumman Ship Systems (NGSS) to incorporate previous LHD engineering, design and producability lessons-learned into LHA(R). Advanced Procurement contract for Long Lead-Time Material (LLTM) procurement and engineering support awarded July 05 with continuation of these efforts in FY06 prior to award of Detail Design and Construction (DD&C) contracton 1 June 2007.The Advance Procurement contract was subsumed by the FPI DD&C contract.

E. MAJOR PERFORMERS:

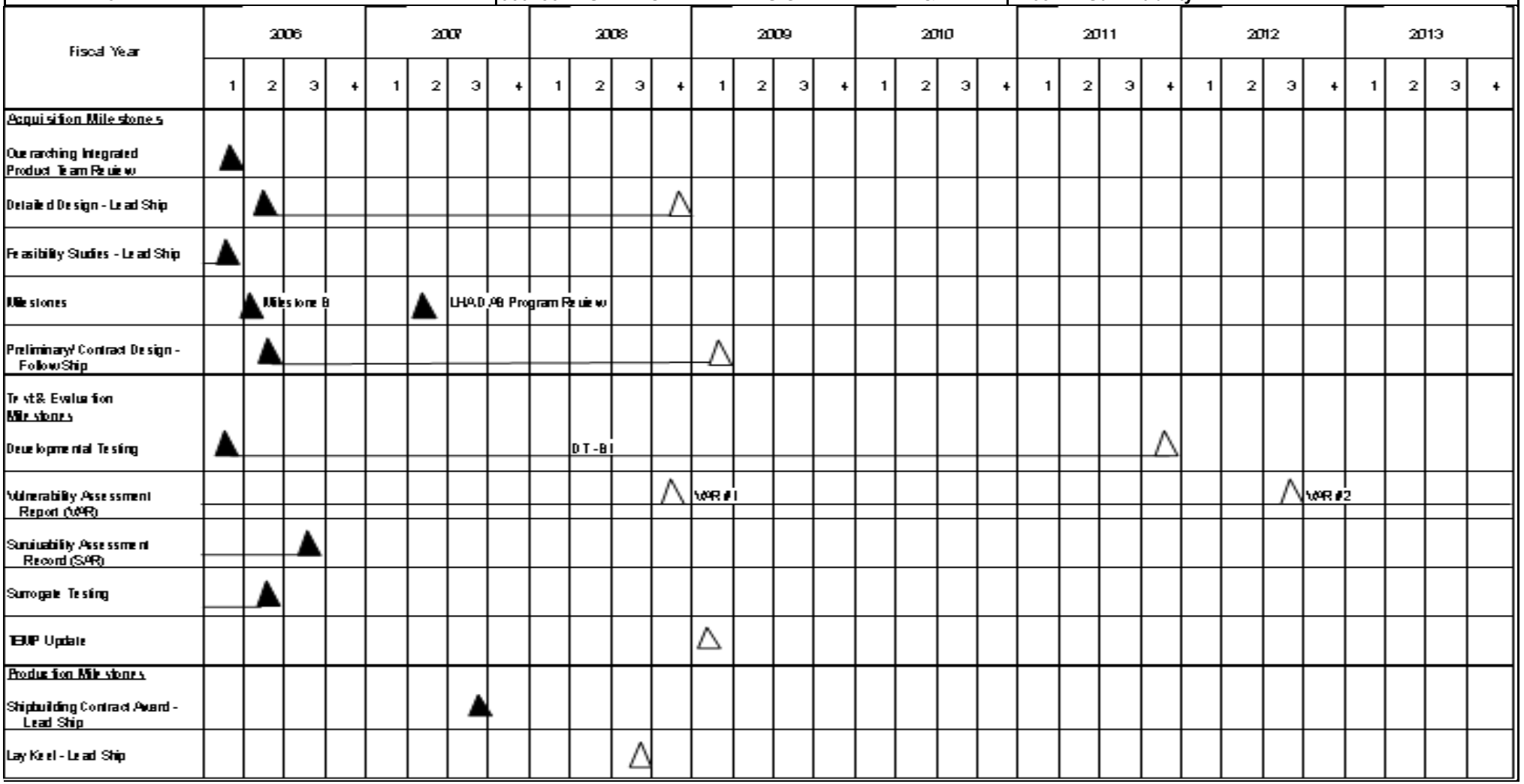
NGSS - Funds have been provided for preliminary and contract design including ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design.

CSC Corp. - Funds have been provided for preliminary and contract design. Specific efforts include ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design.

NSWC, Carderock (Bethesda, MD) - Funds have been provided for preliminary and contract design. Specific efforts include ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design. Additionally, the activity will function as Live Fire Test and Evaluation (LFT&E) manager, perform/conduct surrogate tests and develop survivability analysis.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**					PROJECT NUMBER AND NAME **2465/DC/Survivability**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Ship Design	Various	Various	86.559	0.000		0.000		0.000		0.000	86.559	0.000
Subtotal Product Development			**86.559**	**0.000**		**0.000**		**0.000**		**0.000**	**86.559**	**0.000**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Developmental Test & Evaluation	Reimb	Various	1.534	0.200	OCT-06	0.400	OCT-07	0.400	OCT-08	5.135	7.669	0.000
Operational Test & Evaluation	Reimb	COMOPTEVOR	1.120	0.923	OCT-06	1.110	OCT-07	0.648	OCT-08	10.544	14.345	0.000
Live Fire Test & Evaluation	Reimb	Various	24.086	8.800	OCT-06	4.273	OCT-07	1.284	OCT-08	12.217	50.660	0.000
Enterprise Testing	Reimb	Various	0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Test and Evaluation			**26.740**	**9.923**		**5.783**		**2.332**		**27.896**	**72.674**	**0.000**
Remarks:												
Program Management Support			4.261	3.151		0.021		0.089		0.000	7.522	0.000
Travel			0.040	0.075		0.000		0.000		0.000	0.115	0.000
Subtotal Management Services			**4.301**	**3.226**		**0.021**		**0.089**		**0.000**	**7.637**	**0.000**
Remarks:												
Total Cost			**117.600**	**13.149**		**5.804**		**2.421**		**27.896**	**166.870**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **2465/DC/Survivability**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**			PROJECT NUMBER AND NAME **2465/DC/Survivability**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Overarching Integrated Product Team							
Detail Design - Lead Ship	1Q - 4Q	1Q - 4Q					
Feasibility Studies - Lead Ship							
Milestone B / Program Review							
DAB Program Review	2Q						
Preliminary / Contract Design - Follow Ship	1Q - 4Q	1Q - 4Q	1Q				
Developmental Testing (A)							
Developmental Testing (B1)	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q		
Vulnerability Assessment Report (VAR)	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Vulnerability Assessment Report (VAR #1 and #2)		4Q				3Q	
Survivability Assessment Report (SAR)							
Surrogate Testing							
Update TEMP			1Q				
Shipbuilding Contract Award - Lead Ship	3Q						
Lay Keel - Lead Ship		3Q					

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**				PROJECT NUMBER AND NAME **3133/Sea Base to Shore Connectors (Contract Des)**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	14.320	26.154	9.854	1.878	1.942	1.999
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(3133) Sea Base to Shore Connector- This program will meet the requirements of the Navy's Sea Base-to-Shore Connector initiatives and will provide an Over-the-Horizon, ship to objective amphibious lift capability as well as the capability to move across the beach. This project provides for the Systems Development and Demonstration package required for the solicitation for detail design/construction and test of the initial article. Test and evaluation of components and systems will also be completed under this project.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **3133/Sea Base to Shore Connectors (Contract Des)**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	14.320	26.154
RDT&E Articles Quantity	0	0	0

Start Technology Development in FY08: Reduces technology risk and determines the appropriate set of technologies to be integrated into a full system.

Initiate prepartation, in FY08, for start of Preliminary Design in FY09.

Start the contract design package required for solicitation for detail design/construction and test of the initial article.

Perform Test and Evaluation of components and system's initial articles.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
SCN PE 0204411N / Construction	0.000	0.000	0.000	0.000	217.080	0.000	215.881	4,158.000	4,590.961
RDT&EN PE 0603564N / Ship Preliminary Design	12.988	12.900	0.000	0.000	0.000	0.000	0.000	0.000	40.536

D. ACQUISITION STRATEGY:

FY06-07 - AoA, FY06-10 Concept Refinement, FY09-10 Preliminary Design/Contract Design, FY10-11 Systems Development,

FY11-13 Production

E. MAJOR PERFORMERS:

Field Activities & Locations - Work Performed

NSWC Carderock, Bethesda, MD

Systems Engineering

NSWC Panama City, FL

Systems Engineering

Contractors & Locations - Work Performed

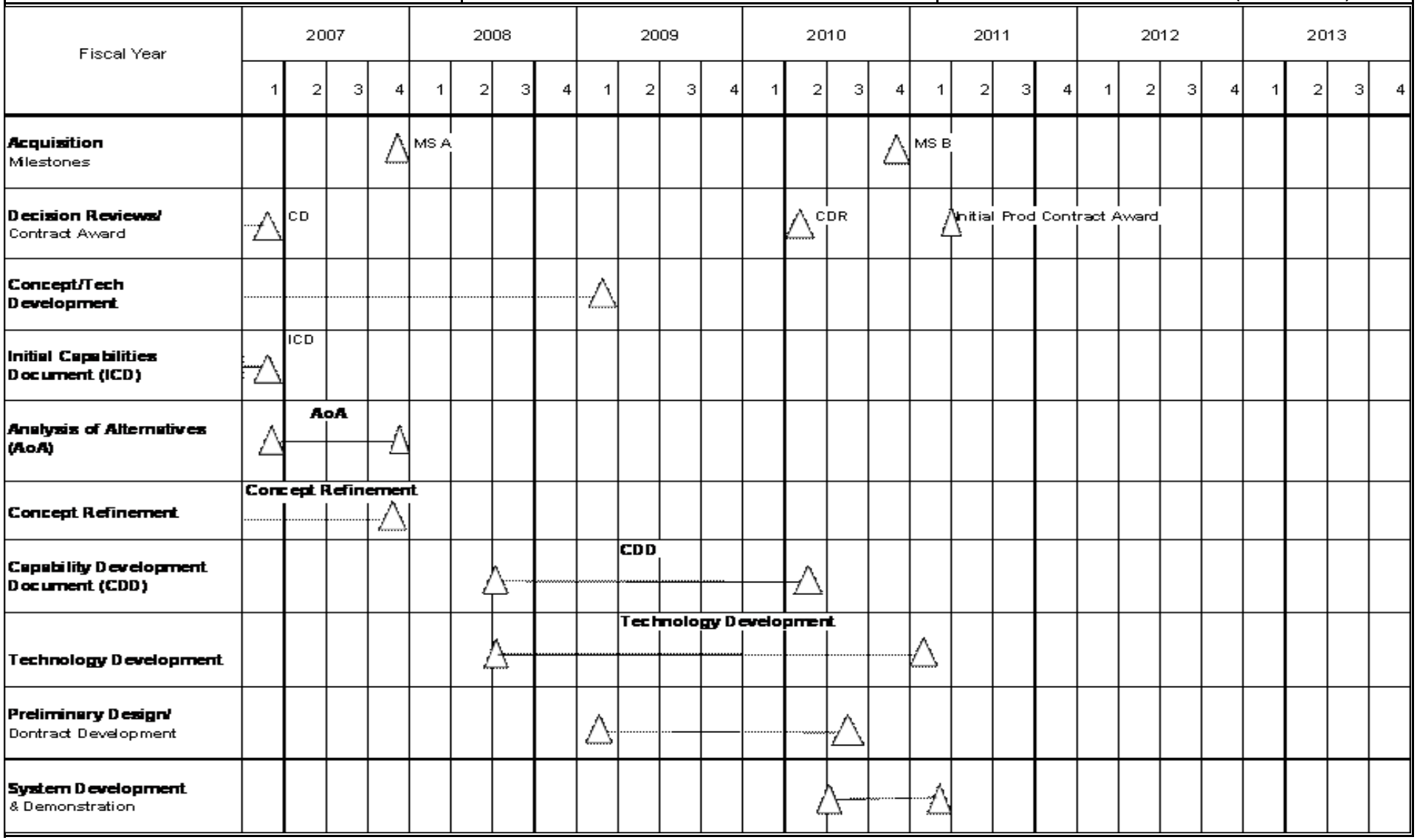
TBD

Universities & Locations - Work Performed

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **3133/Sea Base to Shore Connectors (Contract Des)**

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**					PROJECT NUMBER AND NAME **3133/Sea Base to Shore Connectors (Contract Des)**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Primary Hardware Development	CPFF	Various	0.000	0.000		2.080	JAN-08	3.146	JAN-09	0.800	6.026	0.000
Ancillary Hardware Development	CPFF	Various	0.000	0.000		0.877	JAN-08	3.035	JAN-09	0.250	4.162	0.000
Component Development	CPFF	Various	0.000	0.000		1.320	JAN-08	3.200	JAN-09	0.300	4.820	0.000
Ship Design	CPFF	Various	0.000	0.000		1.785	JAN-08	3.773	JAN-09	1.009	6.567	0.000
Systems Engineering	CPFF	Various	0.000	0.000		1.900	JAN-08	3.200	JAN-09	0.700	5.800	0.000
Subtotal Product Development			**0.000**	**0.000**		**7.962**		**16.354**		**3.059**	**27.375**	**0.000**
Remarks:												
Developmental Support	WX	Various	0.000	0.000		1.300		1.650		1.250	4.200	0.000
Software Development	CPFF	Various	0.000	0.000		0.700	JAN-08	1.750	JAN-09	1.050	3.500	0.000
Integrated Logistics Support	CPFF	Various	0.000	0.000		0.275	JAN-08	0.500	JAN-09	0.500	1.275	0.000
Studies & Analyses	FFP	Various	0.000	0.000		0.769		0.800		0.544	2.113	0.000
Subtotal Support Costs			**0.000**	**0.000**		**3.044**		**4.700**		**3.344**	**11.088**	**0.000**
Remarks:												
Developmental Test & Evaluation	CPFF	Various	0.000	0.000		0.804	JAN-08	1.375	JAN-09	2.500	4.679	0.000
Operational Test & Evaluation	CPFF	Various	0.000	0.000		0.000	JAN-08	0.000	JAN-09	3.100	3.100	0.000
Live Fire Teat & Evaluation	CPFF	Various	0.000	0.000		0.000	JAN-08	0.000	JAN-09	0.970	0.970	0.000
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.804**		**1.375**		**6.570**	**8.749**	**0.000**
Remarks:												
Contractor Engineering Support	CPFF	Various	0.000	0.000		0.900	NOV-07	1.200	JAN-09	0.800	2.900	0.000
Gov't Engineering Support	WX	NSWC	0.000	0.000		0.900		1.250		1.020	3.170	0.000
Program Management Support	CPFF	Various	0.000	0.000		0.650	NOV-07	1.175	JAN-09	0.800	2.625	0.000
Travel	TO	NAVSEA Travel	0.000	0.000		0.060		0.100		0.080	0.240	0.000
Subtotal Management Services			**0.000**	**0.000**		**2.510**		**3.725**		**2.700**	**8.935**	**0.000**
Remarks:												
Total Cost			**0.000**	**0.000**		**14.320**		**26.154**		**15.673**	**56.147**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **3133/Sea Base to Shore Connectors (Contract Des)**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**			PROJECT NUMBER AND NAME **3133/Sea Base to Shore Connectors (Contract Des)**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones	4Q			4Q			
Contract Award (Construction)					1Q		
Concept / Tech development	1Q-4Q	1Q-4Q	1Q				
Initial Capabilities Document	1Q						
Analysis of Alternatives	1Q-3Q						
Concept Refinement	1Q-4Q	1Q-4Q					
Capability Development Document		3Q-4Q	1Q-4Q	1Q-2Q			
Technology Devlopment		3Q-4Q	1Q-4Q	1Q-4Q	1Q		
Preliminary Design/Contract Design		4Q	1Q-4Q	1Q-3Q			
System Development & Demonstration				2Q-4Q	1Q		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**				PROJECT NUMBER AND NAME **3179/CVN-79 Total Ship Integration**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	26.420	37.523	38.084	27.946	16.971	15.990
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Development and related testing of CVN 78 class aircraft carrier specific technologies, the infusion of the ship technology base into existing and future aircraft carriers, and the potential realization of subsystem design capabilities not currently feasible. This project also funds the Contract Design efforts for the CVN 79. This project transitions the minimum sustaining technologies required to address obsolescence, critical survivability shortfalls as identified in CVN 78 class testing, future requirements, and technologies which did not mature in time to support the CVN 78. All systems developed in this project have the potential to support emerging requirements and other promising systems technologies for insertion into new aircraft carrier designs. The emphasis is directed toward developing ship hull, mechanical, propulsion, electrical, aviation, warfare systems, and combat support systems, sub-systems and components to maintain aircraft carrier affordability, manpower requirements, survivability, and operational capabilities and to meet the requirements of existing and pending regulations and statutes critical to the operation of future aircraft carriers. This project also encompasses those tasks required to develop the contract data package necessary to support CVN 79 procurement, including, but not limited to engineering support, programmatic and program support, logistics support, modeling and simulation, manpower and program related studies, and design support systems, such as the Integrated Digital Environment.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **3179/CVN-79 Total Ship Integration**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	26.420	37.523
RDT&E Articles Quantity	0	0	0

(U) CVN 78 Class Follow Ship Total Ship Integration:

The CVN 79 will incorporate advanced technologies to support efforts to address obsolescence, technology refresh, critical survival improvements, as well as continued improvements in manpower reduction and weight savings.

CVN 79 Total Ship Integration (TSI) will be accomplished through an IPPD contract with Northup Grumman Newport News to incorporate technology advancements into the CVN 78 class baseline design. TSI efforts are focused on continued activities that integrate and optimize systems arrangements and design to maintain the Key Performance Parameters (KPPs) for weight and kg/service life allowance to the ORD threshold values. CVN 79 design efforts will provide required program management and logistics support.

(FY08): CVN 79 efforts will continue to reduce the ship acquisition cost through the establishment of the CVN 79 initial cost estimate supported by process initiatives, material selections, and lessons learned from the CVN 78 activities will be studied and analyzed to support the development of the CVN 78 class planning yard and life cycle support plan.

(FY09): Follow on efforts established under CVN 79 IPPD contract will transition for further development under the CVN 79 construction preparation contract. CVN 78 class testing, future requirements and other promising systems which did not mature in time for the CVN 78 will continue to be studied and reviewed.

C. OTHER PROGRAM FUNDING SUMMARY:

*Note: Only a portion of the funding in PE 0603570N is included in the CVN78 Class Program.

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
SCN: 200100 Carrier replacement Program	1,106.950	3,145.026	3,926.439	1,494.646	1,444.373	2,513.230	3,171.707	Cont.	Cont
PE 0603512N Carrier System Development	149.866	86.544	120.511	72.135	44.260	44.097	46.185	Cont.	Cont.
PE 0603570N Adv. Nuclear Power Systems	173.988	165.140	158.270	137.843	123.475	123.265	121.179	Cont.	Cont.

D. ACQUISITION STRATEGY:

The CVN 78 will be the first ship of the CVN 78 Class of aircraft carriers designed to replace USS Enterprise and the ships of the Nimitz Class.The CVN 78 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, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

E. MAJOR PERFORMERS:

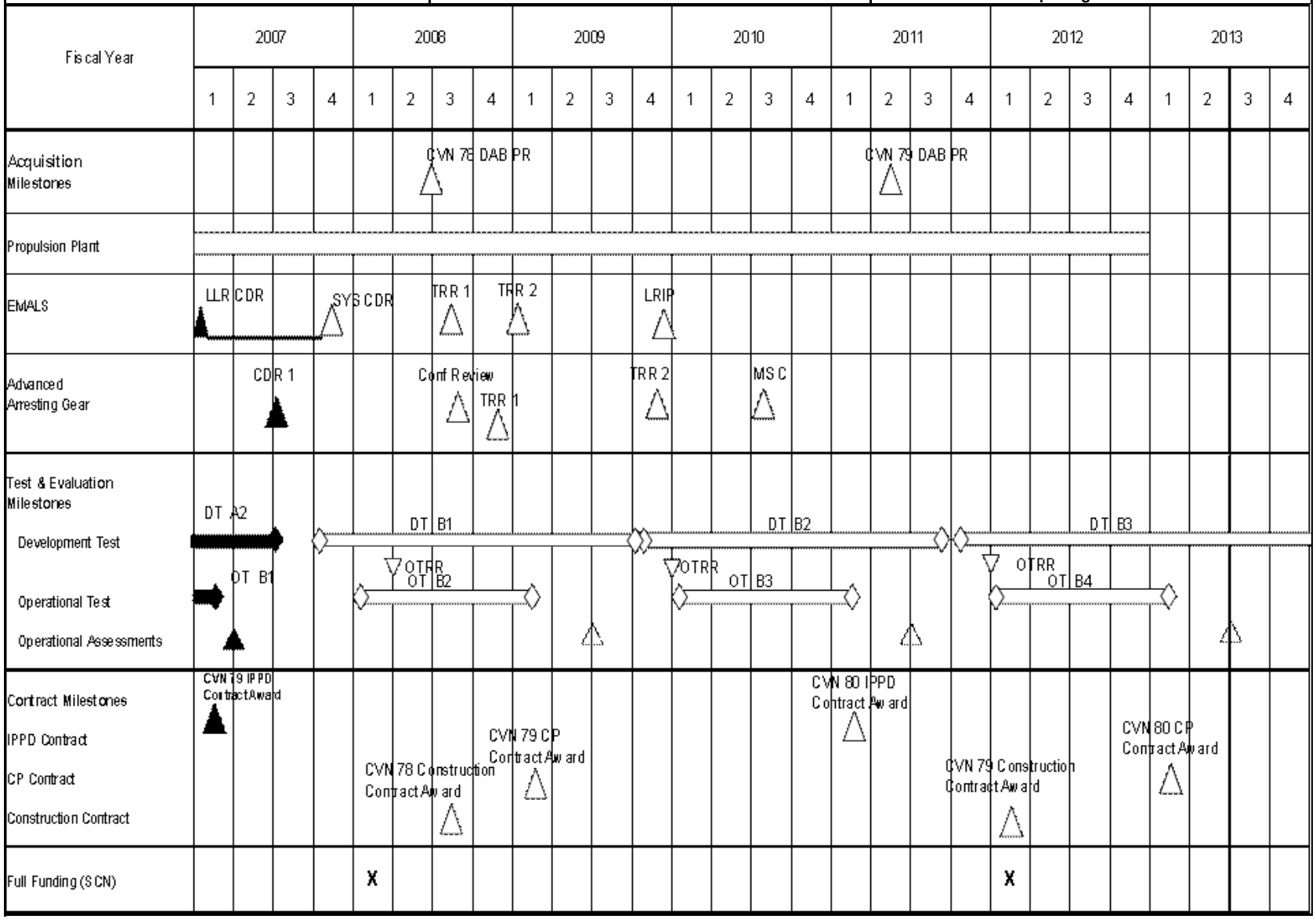
Northrop Grumman Newport News, Newport News, VA, Design/Component Development/Construction

Naval Surface Warfare Center, Carderock, MD, Technology Design & Development

Naval Surface Warfare Center, Dahlgren, Virginia, Technology Design & Development

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**					PROJECT NUMBER AND NAME **3179/CVN-79 Total Ship Integration**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Total Ship Integration	CPAF	NGNN, VA	0.000	0.000		10.600	JAN-08	19.979	DEC-08	CONT	CONT	0.000
	WR	NSWC Carderock	0.000	0.000		2.510	JAN-08	4.642	OCT-08	CONT	CONT	0.000
	WR	NSWC Dahlgren	0.000	0.000		2.510	JAN-08	1.460	OCT-08	CONT	CONT	0.000
	WR	NAWCAD Pax River	0.000	0.000		1.155	JAN-08	0.135	OCT-08	CONT	CONT	0.000
	WR	SPAWAR	0.000	0.000		1.758	JAN-08	0.166	OCT-08	CONT	CONT	0.000
	CPFF	NAVSEA SEAPORT	0.000	0.000		3.690	JAN-08	5.315	DEC-08	CONT	CONT	0.000
	Various	Miscellaneous	0.000	0.000		3.197	JAN-08	5.826	DEC-08	CONT	CONT	0.000
	WR	NAVSEA, PMS 320	0.000	0.000		1.000	JAN-08	0.000		CONT	CONT	0.000
Subtotal Product Development			**0.000**	**0.000**		**26.420**		**37.523**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**0.000**	**0.000**		**26.420**		**37.523**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **3179/CVN-79 Total Ship Integration**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**			PROJECT NUMBER AND NAME **3179/CVN-79 Total Ship Integration**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operational Tests OT-B1	1Q						
EMALSP PDR							
Advanced Arresting Gear CDR 1	3Q						
Developmental Tests DT A-2	1-2Q						
AAG Configuration Review		3Q					
EMALS LLR CDR	1Q						
EMALS System CDR	4Q						
Developmental Tests DT-B1	4Q	1-4Q	1-4Q				
Operational Tests OT-B2		1-4Q	1Q				
EMALS TRR 1(HALT/HCT)		3Q					
CVN 21 DAB PR		2-3Q			2Q		
AAG TRR 1 (IT)		4Q					
CVN 78 Construction Contract Award		3Q					
CVN 78 SCN Full Funding		1Q					
Developmental Tests DT-B2			4Q	1-4Q	1-3Q		
Operational Tests OT-B3				1-4Q	1Q		
EMALS TRR 2 (DT/OA)			1Q				
EMALS LRIP			4Q				
AAG TRR 2 (IT)			4Q				
Developmental Tests DT-B3					4Q	1-4Q	1-4Q
Operational Tests OT-B4						1-4Q	1Q
Developmental Tests DT-B4							
Operational Tests Readiness Reviews		2Q		1Q		1Q	
Operational Assessments	1-2Q		2-3Q		2-3Q		2-3Q
CVN 79 IPPD Contract Award	1Q						
CVN 79 CP Contract Award			1Q				
AAG MS C / LRIP				3Q			
CVN 80 IPPD Contract Award					1Q		
CVN 79 Construction Contract Award						1Q	
CVN 79 SCN Full Funding						1Q	

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**			PROJECT NUMBER AND NAME **3179/CVN-79 Total Ship Integration**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
CVN 80 CP Contract Award							1Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**				PROJECT NUMBER AND NAME **4007/CVN 21 LFT&E**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	7.271	3.130	2.071	2.414	2.951	1.722	1.232
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses LFT&E efforts for the CVN78 class. 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 the CVN78 class and its shipboard systems preclude consideration of destructive testing of a full-up CVN 78 class hull with threats of the type that might be expected in combat. Consequently, the Navy must rely on other means to determine that CVN78 class ships 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 CVN78 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 CVN78 will increase and so will the ability to evaluate its survivability.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **4007/CVN 21 LFT&E**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	7.271	3.130	2.071
RDT&E Articles Quantity	0	0	0

(U) FY07: Completing susceptibility assessment of the CVN 78 class. Continue to resolve low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. This includes the conduct of one test of an underwater protection features (innerbottom structure), the conduct of network recoverability tests on the ex-USS SHADWELL, and deliver the CVN 21 Program Vulnerability Assessment Report #3 . Initiate survivability modeling improvements. Continue with analytical bridge work between scaled model test results and analytical correlations. Update and develop new SVM/ASAP, Dynamic System Mechanics advanced Simulation (DYSMAS) & FSSIM models based on test results. Prepare to test full and scaled surrogate model targets as required by TEMP 1610 and the LFT&E Management Plan.

(U) FY 08: The focus is towards improving the computer models, through the Verification, Validation and Accreditation (VV&A) process, used in susceptibility assessments of the CVN 78 class. Continue to resolve low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. Initiate the CVN 21 Vulnerability Assessment Report #3 UPDATE including any survivability modeling improvements. Continue with analytical bridge work between scaled model test results and analytical correlations. VV&A SVM, DYSMAS & FSSIM models for VAR 3 UPDATE. Investigate feasibility of conducting weapons effect test using a decommissioned aircraft carrier to fulfill the requirements of the full ship shock trial.

(U) FY 09: Continue CVN 21 Vulnerability Assessment Report #3 UPDATE including any survivability modeling improvements. Plan/conduct weapons effect test using a decommissioned aircraft carrier to fulfill the requirements of the full ship shock trial.

C. OTHER PROGRAM FUNDING SUMMARY:

*Note: Only a portion of the funding in PE 0603570N is included in the CVN78 ClassProgram.

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 200100 Carrier Replacement Program	1,106.950	3,145.026	3,926.439	1,494.646	1,444.373	2,513.230	3,171.707	Cont.	Con't
PE 0603512N Carrier System Development	149.866	86.544	120.511	72.135	44.260	44.097	46.185	Cont.	Cont.
PE 0603570N Adv. Nuclear Power Systems	173.988	165.140	158.270	137.843	123.475	123.265	121.179	Cont.	Cont.

D. ACQUISITION STRATEGY:

The CVN 78 will be the first ship of the CVN 78 Class of aircraft carriers designed to replace USS Enterprise and the ships of the Nimitz Class.The CVN 78 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

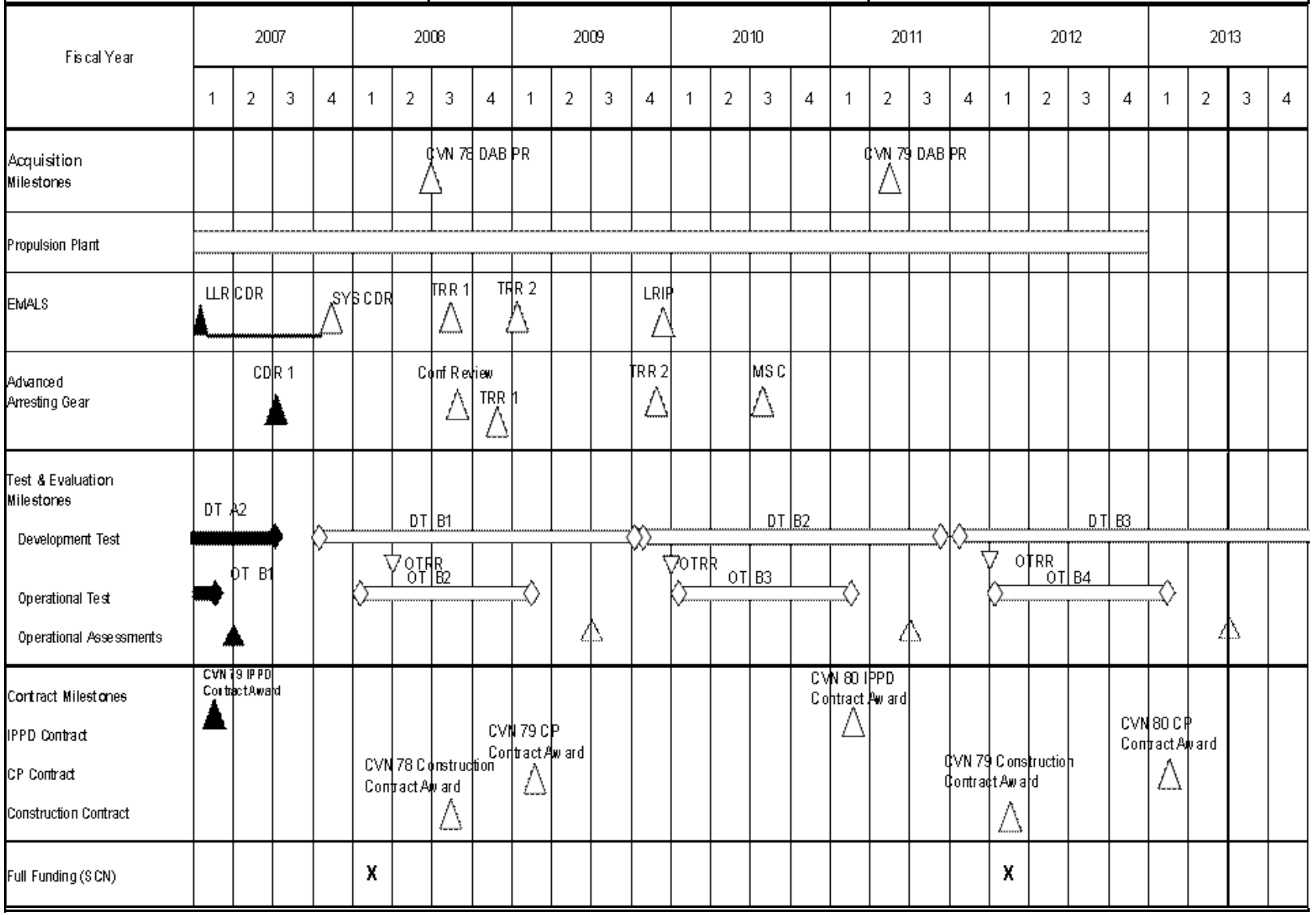
defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

E. MAJOR PERFORMERS:

NSWC Carderock Maryland; NSWC Carderock, Philadelphia Pensylvania; NSWC Indian Head; NSWC Dam Neck Virginia; NSWC Dahlgren Virginia; NSWC Corona; NUWC Newport RI, NAWC Paxtuxent River, Virginia; SPAWARS San Diego California; SPAWARS Charleston SC; NRL; Aberdeen Test Center; OPTEVFOR; NGNN, CSC, MPR; Raytheon

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**					PROJECT NUMBER AND NAME **4007/CVN 21 LFT&E**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Live Fire Test & Evaluation	WR	NSWC Carderock, MD	28.763	5.701	JUL-07	2.685	JAN-08	1.051	DEC-08	CONT	CONT	0.000
	CPAF	NGNN	4.729	1.570	NOV-06	0.285	JAN-08	0.906	DEC-08	CONT	CONT	0.000
	WR	Miscellaneous	0.000	0.000		0.160	JAN-08	0.114	DEC-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**33.492**	**7.271**		**3.130**		**2.071**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**33.492**	**7.271**		**3.130**		**2.071**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **4007/CVN 21 LFT&E**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**			PROJECT NUMBER AND NAME **4007/CVN 21 LFT&E**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operational Tests OT-B1	1Q						
EMALSP PDR							
Advanced Arresting Gear CDR 1	3Q						
Developmental Tests DT A-2	1-2Q						
AAG Configuration Review		3Q					
EMALS LLR CDR	1Q						
EMALS SYSTEM CDR	4Q						
Developmental Tests DT-B1	4Q	1-4Q	1-4Q				
Operational Tests OT-B2		1-4Q	1Q				
EMALS TRR 1(HALT/HCT)		3Q					
CVN 21 DAB PR		2-3Q			2Q		
AAG TRR 1 (IT)		4Q					
CVN 78 Construction Contract Award		3Q					
CVN 78 SCN Full Funding		1Q					
Developmental Tests DT-B2			4Q	1-4Q	1-3Q		
Operational Tests OT-B3				1-4Q	1Q		
EMALS TRR 2 (DT/OA)			1Q				
EMALS LRIP			4Q				
AAG TRR 2 (IT)			4Q				
Developmental Tests DT-B3					4Q	1-4Q	1-4Q
Operational Tests OT-B4						1-4Q	1Q
Operational Test Readiness Reviews		2Q		1Q		1Q	
Operational Assessments	1-2Q		2-3Q		2-3Q		2-3Q
CVN 79 IPPD Contract Award	1Q						
CVN 79 CP Contract Award			1Q				
AAG MS C / LRIP				3Q			
CVN 80 IPPD Contract Award					1Q		
CVN 79 Construction Contract Award						1Q	
CVN 79 SCN Full Funding						1Q	
CVN 80 CP Contract Award							1Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**				PROJECT NUMBER AND NAME **4008/CVN 78 Total Ship Integration**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	21.446	6.743	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses CVN 78 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 78 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. This project also encompasses those tasks required to develop the contract data package necessary to support CVN 78 procurement, including, but not limited to engineering support, programmatic and program support, logistics support, modeling and simulation, manpower and program related studies, and design support systems, such as the Integrated Digital Environment (IDE). The CVN 21 class design approach is part of an acquisition strategy that is based on incorporating best available commercial practices and a phased technical definition.

CVN 78 Total 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; analysis and redesign of survivability systems, and analysis and design of all associated ship hull, mechanical, electrical, propulsion, combat/warfare system, survivability and other related components.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **4008/CVN 78 Total Ship Integration**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	21.446	6.743	0.000
RDT&E Articles Quantity	0	0	0

(U) FY07: Continue to resolve CVN 78 whole ship design issues related to aviation systems, combat and integrated warfare systems, auxiliary systems, and HM&E systems. Provide logistics support and program support leading up to the FY08 Construction Contract Award.

(U) FY08: Continue to resolve CVN 78 whole ship design issues related to aviation systems, combat and integrated warfare systems, auxiliary systems, and HM&E systems. Provide logistics support and program support for the FY08 Construction Contract Award. Closeout the construction preparation contract component development process andcontinue remaining component development under the CVN-78 construction contract.

C. OTHER PROGRAM FUNDING SUMMARY:

*Note: Only a portion of the funding in PE 0603570N is included in the CVN 78 Class Program.

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 200100 Carrier Replacement Program	1,106.950	3,145.026	3,926.439	1,494.646	1,144.373	2,513.230	3,171.707	Cont.	Cont.
PE 0603512N Carrier System Development	149.866	86.544	120.511	72.135	44.260	44.097	46.185	Cont.	Cont.
PE 0603570N Adv. Nuclear Power Systems	173.988	165.140	158.270	137.843	123.475	123.265	121.179	Cont.	Cont.

D. ACQUISITION STRATEGY:

The CVN 78 will be the first ship of the CVN 78 Class of aircraft carriers designed to replace USS Enterprise and the ships of the Nimitz Class.The CVN 78 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, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

E. MAJOR PERFORMERS:

Northrop Grumman Newport News, Newport News, VA, Design/Component Development/Construction

Naval Surface Warfare Center, Carderock, MD, Technology Design & Development

Naval Surface Warfare Center, Dahlgren, Virginia, Technology Design & Development

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604567N/SHIP CONTRACT DESIGN/ LIVE FIRE T&E**	PROJECT NUMBER AND NAME **9999/Congressional Add**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
9578C Integrated Modernization Environment	1.407	0.000	0.000
RDT&E Articles Quantity	0	0	0

This project will develop an NMCI compatible Integrated Modernizaion Environment (IME) with a real time information sharing capability to improve the ability to manage program information and facilitate collaboration engineering. Post implementation planning efforts in developing future system upgrade and maintenance requirements after completion of the initial phase will also be completed. This continues development of the web-based IME initiated in Project 9578 in FY05.

	FY 2007	FY 2008	FY 2009
Automated Fiber Optic Manufacturing Initiative	0.000	0.993	0.000
RDT&E Articles Quantity	0	0	0

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604601N/MINE DEVELOPMENT**						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	5.410	2.048	2.008	2.277	2.414	2.472	2.519
0267 / MINE IMPROVEMENTS	5.410	2.048	2.008	2.277	2.414	2.472	2.519

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: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; and (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous Presidents Budget	5.610	2.092	2.016
Current President's Budget	5.410	2.048	2.008
Total Adjustments	(0.200)	(0.044)	(0.008)
Summary of Adjustments:			
Miscellaneous Adjustments	(0.007)	(0.031)	0.000
Economic Assumptions	0.000	0.000	(0.008)
SBIR/Federal Technology Transfer Tax	(0.193)	0.000	0.000
Congressional Undistributed Reductions	0.000	(0.013)	0.000
Subtotal	(0.200)	(0.044)	(0.008)
(U) Schedule: Not Applicable			
(U) Technical: Not Applicable			

C. OTHER PROGRAM FUNDING SUMMARY:

To Total

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Line 323100, WPN	3.091	3.214	3.506	9.588	14.874	15.245	0.646		
QS Mod 3									

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604601N/MINE DEVELOPMENT**	

D. ACQUISITION STRATEGY:

In FY 07, NSWC Panama City held an open competition for a follow-on FFP production contract for the TDD Mk 71 covering FY 2007-2011.

In FY 06, NSWC Panama City held an open competition for a production contract contract for the TDD Adapter Mk 157 used in Quickstrike Mk 65 Mod 3 kits - for FY 2007-2008.

In FY 08, NSWC Panama City will hold open competitions to produce the Safe and Arming Device Mk 75, TDD Adapter Mk 163, and Lithium Battery Mk 176 used in the Quickstrike Mk 62/63 Mod 3 kits.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604601N/MINE DEVELOPMENT**				PROJECT NUMBER AND NAME **0267/MINE IMPROVEMENTS**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	5.410	2.048	2.008	2.277	2.414	2.472	2.519
RDT&E Articles Qty	0	0	0	0	0	0	0

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: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; and (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604601N/MINE DEVELOPMENT**	PROJECT NUMBER AND NAME **0267/MINE IMPROVEMENTS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.698	1.508	1.457
RDT&E Articles Quantity	0	0	0

Development Support:

FY 2007 PLANS:
Software Development: Completed initial development of the Diesel Electric Submarine/Mini-Submarine and Air Cushioned Vehicle algorithms for the Quickstrike Mod 3 (Target Detecting Device Mk 71 Mod 1). Began initial development of an algorithm optimized against High Speed Vessels/Shallow Water Twin Hull (HSV/SWATH) targets. Conducted in-water testing of the D/E Sub/Mini-sub, Fast Patrol Boat, and large ship algorithms against representative targets. Began generating operational data for tested algorithms for minefield planning. Completed initial development of a ForceNet-compliant Tactical Decision Aid for minefield planning in MEDAL/GCCS-M. Integrated Logistic Support (ILS).

FY 2008 PLANS:
Software Development: Continue initial development of the High Speed Vessels/Shallow Water Twin Hull (HSV/SWATH) algorithm for the Quickstrike Mod 3 (Target Detecting Device Mk 71 Mod 1). Conduct in-water testing of the Air Cushioned Vehicle algorithm. Complete generating operational data (OPDATA) for the Fast Patrol Boat and large ship algorithms for minefield planning, and begin generating OPDATA for the Air Cushioned Vehicle algorithm. Begin the second phase of development for the ForceNet-compliant Tactical Decision Aid for minefield planning in MEDAL/GCCS-M, to pass minefield plans directly to Forcenet target and aircraft-mission planning software. Integrated Logistic Support (ILS).

FY 2009 PLANS:
Software Development: Complete initial development of the High Speed Vessels/Shallow Water Twin Hull (HSV/SWATH) algorithm for the Quickstrike Mod 3 (Target Detecting Device Mk 71 Mod 1). Conduct in-water testing of the HSV/SWATH algorithm. Generate operational data for the Air Cushioned Vehicle algorithm for minefield planning. Continue the second phase of development for the ForceNet-compliant Tactical Decision Aid for minefield planning in MEDAL/GCCS-M, to pass minefield plans directly to Forcenet target and aircraft-mission planning software. Integrated Logistic Support (ILS).

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.456	0.470	0.484
RDT&E Articles Quantity	0	0	0

Product Development:

FY 2007 PLANS:
System Engineering: Began flight testing leading to flight certification of the Quickstrike Mk 62/63 Mod 3 on B-52 aircraft.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604601N/MINE DEVELOPMENT**	PROJECT NUMBER AND NAME **0267/MINE IMPROVEMENTS**

FY 2008 PLANS:
System Engineering: Complete flight testing leading to flight certification of the Quickstrike Mk 62/63 Mod 3 on B-52 aircraft. Begin flight certification testing for the P-3 aircraft.

FY 2009 PLANS:
System Engineering: Complete flight testing leading to flight certification of the Quickstrike Mk 62/63 Mod 3 on P-3 aircraft. Begin flight certification testing for the B-1 aircraft.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.089	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY 2007 PLANS:
Development Test & Evaluation: Completed Test and Evaluation of Mine Mk 56 to to determine whether upgrade of replacement is appropriate, and gather data on the performance characteristics needed to defeat today's high priority threats.

FY 2008 PLANS:
N/A

FY 2009 PLANS:
N/A

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.167	0.070	0.067
RDT&E Articles Quantity	0	0	0

Management:
FY 2007 PLANS:
Program Management Support and Travel

FY 2008 PLANS:
Program Management Support and Travel

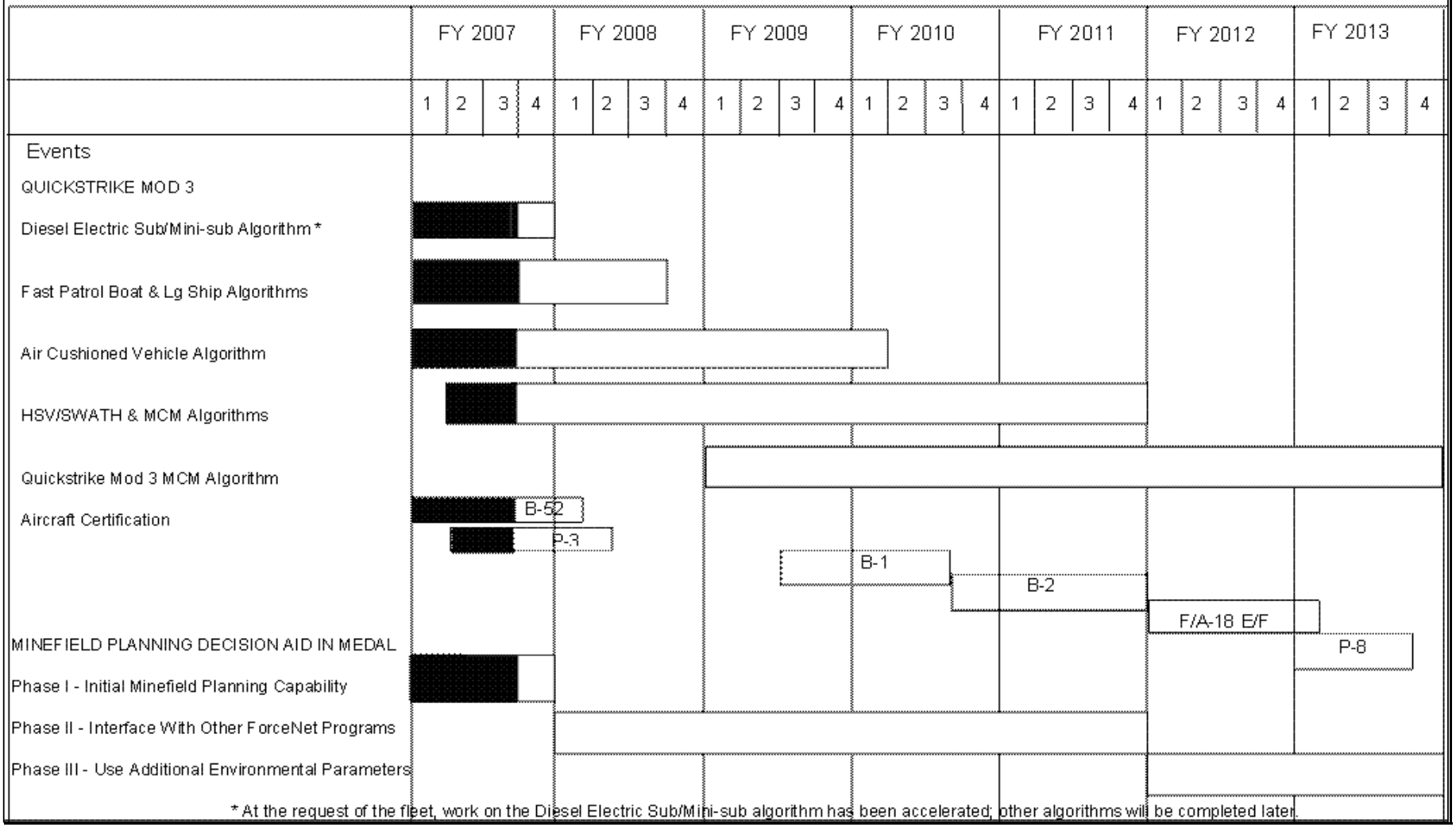
FY 2009 PLANS:
Program Management Support and Travel

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604601N/MINE DEVELOPMENT**					PROJECT NUMBER AND NAME **0267/MINE IMPROVEMENTS**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	NSWC PC	110.173	0.456	OCT-06	0.470	OCT-07	0.484	OCT-08	CONT	CONT	0.000
Ancillary Hardware Development			2.158	0.000		0.000		0.000		CONT	CONT	0.000
Ship Suitability	WX	NSWC PC	2.467	0.000		0.000		0.000		CONT	CONT	0.000
GFE			4.790	0.000		0.000		0.000		CONT	CONT	0.000
Subtotal Product Development			**119.588**	**0.456**		**0.470**		**0.484**		**CONT**	**CONT**	**0.000**
Remarks:												
Software Development	WX	Various	7.730	3.648	DEC-06	1.488	OCT-07	1.437	OCT-08	CONT	CONT	0.000
Integrated Logistics Support	WX	NSWC PC	0.469	0.050	OCT-06	0.020	OCT-07	0.020	OCT-08	CONT	CONT	0.000
Subtotal Support Costs			**8.199**	**3.698**		**1.508**		**1.457**		**CONT**	**CONT**	**0.000**
Remarks:												
Development Test & Evaluation	WX	NSWC PC	16.827	1.089	OCT-06	0.000		0.000		0.000	17.916	0.000
Subtotal Test and Evaluation			**16.827**	**1.089**		**0.000**		**0.000**		**0.000**	**17.916**	**0.000**
Remarks:												
Government Engineering Support			35.599	0.000		0.000		0.000		0.000	35.599	0.000
Program Management Support	Various	Various	1.439	0.162	OCT-06	0.065	OCT-07	0.062	OCT-08	CONT	CONT	0.000
Travel	PD	NAVSEA	0.028	0.005	OCT-06	0.005	OCT-07	0.005	OCT-08	CONT	CONT	0.000
Subtotal Management Services			**37.066**	**0.167**		**0.070**		**0.067**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**181.680**	**5.410**		**2.048**		**2.008**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604601N/MINE DEVELOPMENT**	PROJECT NUMBER AND NAME **0267/MINE IMPROVEMENTS**

E. Schedule Profile

MINE DEVELOPMENTS PROGRAM SCHEDULE



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604601N/MINE DEVELOPMENT**			PROJECT NUMBER AND NAME **0267/MINE IMPROVEMENTS**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Quickstrike Mod 3 Diesel Electric Sub/Mini Sub Algorithm	1Q-4Q						
Quickstrike Mod 3 Fast Patrol Boat & Lg Ship Algorithms	1Q-4Q	1Q-3Q					
Quickstrike Mod 3 Air Cushioned Vehicle Algorithm	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
Quickstrike Mod 3 HSV/SWATH & MCM Algorothms	2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Quickstrike Mod 3 MCM Algorithm			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Quickstrike Mod 3 Aircraft Certification B-52	1Q-4Q	1Q					
Quickstrike Mod 3 Aircraft Certification P-3	2Q-4Q	1Q-2Q					
Quickstrike Mod 3 Aircraft Certification B-1			3Q-4Q	1Q-3Q			
Quickstrike Mod 3 Aircraft Certification B-2				4Q	1Q-4Q		
Quickstrike Mod 3 Aircraft Certification F/A-18 E/F						1Q-4Q	1Q
Quickstrike Mod 3 Aircraft Certification P-8							1Q-3Q
Initial Minefield Planning Capability in MEDAL	1Q-4Q						
Phase II - Interface with other ForceNet Programs		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Phase II - Use Additional Enviromental Parameters						1Q-4Q	1Q-4Q

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: FEBRUARY 2008	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**				R-1 ITEM NOMENCLATURE 0604603N Unguided Conventional Air-Launched Weapons			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**44.146**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
2183 Improved SLAM	**44.146**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program funds the development of a modification to the SLAM-ER missile and the AN/AWW-13 Data Link Pod to comply with the data link frequency selloff mandated by the Commercial Spectrum Enhancement Act (CSEA). The development wiil establish a retrofit kit for the missile and pod. All of the SLAM-ER missiles, projected at approximately 490, will be retrofit to the new configuration with the installation occurring at the recertification interval. The number of Pods to be converted will be determined by the fleet and is expected to be between 180 and 200.

$44.146M was transferred in from the Spectrum Relocation Fund.

R-1 Line Item No. 114

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **FEBRUARY 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0604603N Unguided Conventional Air-Launched Weapons

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 06	FY 07	FY 08	FY 09
Previous President's Budget:	0.000	44.146	0.000	0.000
Current President's Budget:	0.000	44.146	0.000	0.000
Total Adjustments	0.000	0.000	0.000	0.000
Summary of Adjustments				
Congressional Reductions				
Congressional Rescissions				
Congressional Undistributed Reductions				
Congressional Increases				
Economic Assumptions				
Miscellaneous Adjustments				
Subtotal	0.000	0.000	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 Line Item No. 114

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604610N/LIGHTWEIGHT TORPEDO DEVELOPMENT**						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	33.047	26.502	50.732	35.311	20.766	21.899	22.330
2234 / Lightweight Hybrid Torpedo	33.047	26.502	50.732	35.311	20.766	21.899	22.330

A. MISSION DESCRIPTION:

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. Initial Operating Capability (IOC) achieved in 2004.

FY2007: Continued development of hardware/software improvements for Pre-Planned Product Improvement (P31) program. Completed Mk54High Altitude ASW Weapons Concept (HAAWC) Demo. FY08: Continue development of hardware/software improvements for P3I program. Initiate development of MK54 high altitude launch capability from Maritime Patrol Aircraft (MPA). FY09:Continuedevelopment of hardware/software improvements for P3I program. Continue development of MK54 high altitude launch capability from Maritime Patrol Aircraft (MPA).

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604610N/LIGHTWEIGHT TORPEDO DEVELOPMENT**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget	40.387	27.056	41.277
FY2009 President's Budget	33.047	26.502	50.732
Total Adjustments	-7.340	-0.554	9.455
Summary of Adjustments:			
Program Adjustments		0.000	9.700
Pricing Adjustment			0.042
Small Business Innovation Research (SBIR)	-1.022		
Undistributed General Reductions	-6.318	-0.554	-0.287
Subtotal:	-7.340	-0.554	9.455
Schedule:			
P5 Upgrade/Array moved to FY10 to align testing program with			
the Nose Array efforts to reduce testing costs. APB/			
Spiral 5 added to FY13 to align with Heavyweight Torpedo			
commonality efforts.			
Technical:			
FY07: Loss of funds impacts the High Altitude Anti-Submarine			
Weapons Capability (HAAWC) development program by causing			
a delay of 1 year. FY09: Additional funding will fund new			
array development.			

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Torpedo MK 46 MODS / MK54 MODS 0	85.560	84.942	77.782	165.006	167.159	177.338	175.697		
(WPN / PE 0204228N / BA3 / BLI 321500)									

D. ACQUISITION STRATEGY:

The EDM contract is 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. Sole Source Production Contract awarded in FY 2004 for MK48 ADCAP MODS/CBASS and MK54 Lightweight Torpedoes.

P3I spiral acquisition strategy is to award EDM contract's among qualified producers.

E. MAJOR PERFORMERS:

NUWC, Newport: MK54 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. VLA: System Engineering and Integration.

NSWC Indian Head: Warhead Development for torpedoes and VLA rocket motors.

PEO-IWS 3, Dahlgren: VLA Integration: MK41 Vertical Launching System (VLS) Systems Integration and software development.

PEO-IWS 5, Dahlgren: VLA Integration: ASW Fire Control system integration and software development.

PMA 290: Development of MK54 high altitude launch capability.

Lockheed Martin - Orlando: Development of MK54 high altitude launch capability.

Progeny Systems: MK54 Hardware Development for array technology.

Lockheed Martin - Akron: System Engineering for VLA integration.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604610N/LIGHTWEIGHT TORPEDO DEVELOPMENT**				PROJECT NUMBER AND NAME **2234/Lightweight Hybrid Torpedo**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	33.047	26.502	50.732	35.311	20.766	21.899	22.330
RDT&E Articles Qty	0	1	0	2	0	0	2

A. 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. Initial Operating Capability (IOC) achieved in 2004.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604610N/LIGHTWEIGHT TORPEDO DEVELOPMENT**	PROJECT NUMBER AND NAME **2234/Lightweight Hybrid Torpedo**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
MK54 Pre-Planned Product Improvement (incl.MK54 VLA Integr & HAAWC prog)	33.047	26.502	50.732
RDT&E Articles Quantity	0	1	0

FY 2007 Accomplishments:

Continued MK54 Pre-Planned Product Improvement (P3I) hardware spiral development for the MK54 torpedo and Vertical Launch Anti-Submarine Rocket (ASROC) (VLA). The VLA efforts included hardware design, developed prototypes, hardware/software integration, and launched system integration. The MK54 torpedo effort included Torpedo Downloader System (TDS), Insensitive Munitions (IM) capability improvement, and MK54 Array replacement.

Continued software upgrades development efforts; software development to include coding, and modeling and simulation.

Completed High Altitude ASW Weapons Concept (HAAWC) Demo.

FY 2008 Plan:

Continue development of hardware/software improvements for P3I program.

Initiate development of MK54 high altitude launch capability from Maritime Patrol Aircraft (MPA).

Conduct DT/OT of VLA.

Complete development of VLA Kit Integration.

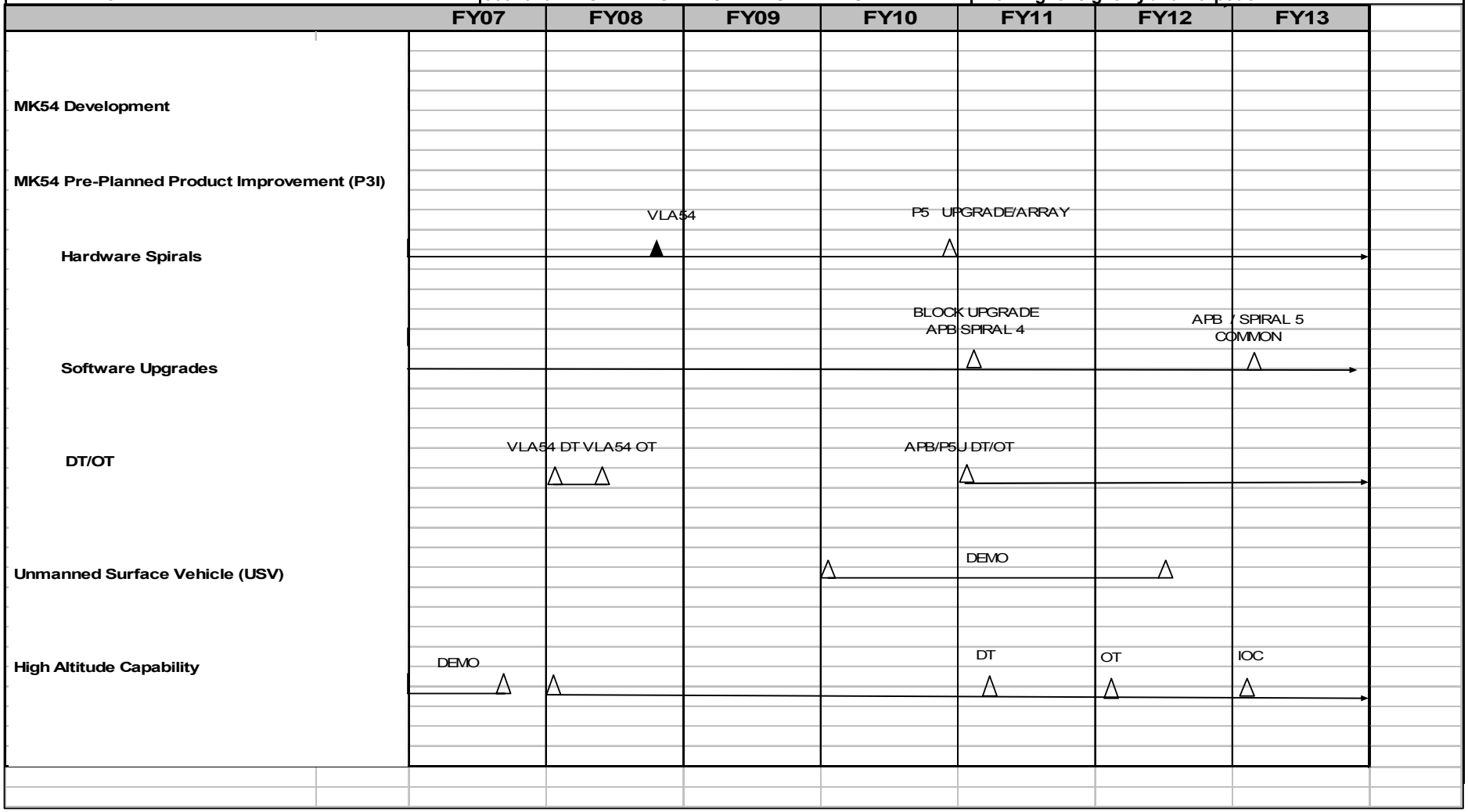
FY 2009 Plan:

Continue development of hardware/software improvements for P3I program.

Continue development of MK54 high altitude launch capability from Maritime Patrol Aircraft (MPA).

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604610N/LIGHTWEIGHT TORPEDO DEVELOPMENT**					PROJECT NUMBER AND NAME **2234/Lightweight Hybrid Torpedo**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Hardware Development	WR	NUWC Newport/Keyport	2.818	11.522	OCT-06	11.608	OCT-07	21.985	OCT-08	CONT	CONT	0.000
Hardware Development	C/CPAF	Raytheon	1.412	2.118	JUN-07	0.000		0.000		CONT	CONT	0.000
Hardware Development	WR	NSWC Indian Head	0.062	0.050	OCT-06	0.000		0.000		CONT	CONT	0.000
Systems Engineering	WR	NUWC Newport/Keyport	9.175	2.590	OCT-06	3.664	OCT-07	12.746	OCT-08	CONT	CONT	0.000
Systems Engineering	SS/FP	Lockheed Martin - Akron - VLA	1.201	1.300	OCT-06	0.100	OCT-07	0.000		CONT	CONT	0.000
Systems Engineering	WR	PEO-IWS 3, Dahlgren	2.407	0.475	OCT-06	0.100	OCT-07	0.000		CONT	CONT	0.000
Systems Engineering	WR	PEO-IWS 5, Dahlgren	0.902	0.881	OCT-06	0.100	OCT-07	0.000		CONT	CONT	0.000
Systems Engineering	WR	NSWC PMA 290	0.000	0.600	OCT-06	0.675	OCT-07	3.361	OCT-08	CONT	CONT	0.000
Systems Engineering	WR	NAWCWD China Lake	0.379	0.000		0.000		0.000		0.000	211.379	0.000
Systems Engineering	WR	N0LSC	0.000	0.025	OCT-06	0.000		0.000		0.000	0.025	0.000
Hardware Development	SS/FP	Progeny Systems	0.000	8.912	AUG-07	1.820	JUN-08	7.130	JUN-09	CONT	CONT	0.000
Subtotal Product Development			**18.356**	**28.473**		**18.067**		**45.222**		**CONT**	**CONT**	**0.000**
Remarks:												
System Test & Evaluation	WR	NUWC Newport/Keyport	6.690	3.180	OCT-06	7.299	OCT-07	4.085	OCT-08	CONT	CONT	0.000
Subtotal Support Costs			**6.690**	**3.180**		**7.299**		**4.085**		**CONT**	**CONT**	**0.000**
Remarks:												
System Test and Evaluation	WR	Operational Test Support	0.290	0.226	OCT-06	0.687	OCT-07	0.700	OCT-08	CONT	CONT	0.000
System Test and Evaluation	WR	NUWC Newport/Keyport	1.947	0.833	OCT-06	0.000		0.266	OCT-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**2.237**	**1.059**		**0.687**		**0.966**		**CONT**	**CONT**	**0.000**
Remarks:												
Program Management Support	Various	Alion Science	0.397	0.285	MAY-07	0.399	OCT-07	0.409	OCT-07	CONT	CONT	0.000
Travel	WR	NAVSEA	0.033	0.050		0.050		0.050		CONT	CONT	0.000
Subtotal Management Services			**0.430**	**0.335**		**0.449**		**0.459**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**27.713**	**33.047**		**26.502**		**50.732**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604610N/LIGHTWEIGHT TORPEDO DEVELOPMENT**	PROJECT NUMBER AND NAME **2234/Lightweight Hybrid Torpedo**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604610N/LIGHTWEIGHT TORPEDO DEVELOPMENT**			PROJECT NUMBER AND NAME **2234/Lightweight Hybrid Torpedo**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MK54 Development & Upgrades							
MK 54 FOT&E							
MK54 Pre-Planned Product Improvement (P3I)							
Hardware Spirals	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Software Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
DT/OT		1Q-2Q			1Q-4Q	1Q-4Q	1Q-4Q
Unmanned Surface Vehicle (USV) Demo				1Q-4Q	1Q-4Q	1Q-2Q	
High Altitude Capability Demo	1Q-3Q						
High Altitude Capability		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604654N/JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT**						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	9.849	10.165	10.858	10.431	10.573	10.669	10.842
1829 / EXPL ORD DISP PROC	9.849	10.165	10.858	10.431	10.573	10.669	10.842

A. MISSION DESCRIPTION:

(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.

This program is a non-acquisition program (without traditional acquisition milestones) with on-going, continuous delivery of urgent and periodic documented procedures and identification guides.

B. PROGRAM CHANGE SUMMARY:

	FY 2007	FY 2008	FY 2009
Previous President's Budget	9.988	10.382	10.913
Current President's Budget	9.849	10.165	10.858
Total Adjustments	-0.139	-0.217	-0.055
Summary of Adjustments:			
Misc Adjustments	-0.013	-0.151	
Congressional Undistributed Reductions		-0.066	
Economic Assumptions			-0.055
SBIR Adjustment	-0.126		
Subtotal	- 0.139	-0.217	-0.055

C. OTHER PROGRAM FUNDING SUMMARY:
Not Applicable.

D. ACQUISITION STRATEGY:
This is a non-acquisition program.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604654N/JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT**				PROJECT NUMBER AND NAME **1829/EXPL ORD DISP PROC**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	9.849	10.165	10.858	10.431	10.573	10.669	10.842
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(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.

This program is a non-acquisition program (without traditional acquisition milestones) with on-going, continuous delivery of urgent and periodic documented procedures and identification guides.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDTEN/BA 5	**0604654N/JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOI**	**1829/EXPL ORD DISP PROC**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.991	3.946	4.043
RDT&E Articles Quantity	0	0	0

FY07 Analyzed and exploited foreign ordnance items, and developed render-safe procedures for new domestic and foreign ordnance.
FY08 Analyze and exploit foreign ordnance items, and develop render-safe procedures for new domestic and foreign ordnance.
FY09 Continue to analyze, exploit, and develop render-safe procedures for foreign ordnance items, and continue to develop render-safe procedures for new domestic ordnance items.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.222	2.990	3.400
RDT&E Articles Quantity	0	0	0

FY07 Developed specialized procedures and prototypical tools for primary response elements in preparation for response to IND and WMD incidents.
FY08 Develop specialized procedures and prototypical tools for primary response elements in preparation for response to IND and WMD incidents.
FY09 Continue to develop IND and WMD information, countermeasures and procedures for the EOD community.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	5.636	3.229	3.415
RDT&E Articles Quantity	0	0	0

FY07 Acquired high priority foreign threat naval mines, for exploitation of these mines and development of countermeasures procedures.
FY08 Acquire high priority foreign threat naval mines, for exploitation of these mines and development of countermeasures procedures.
FY09 Continue to acquire highest priority foreign sea mines for analysis and exploitation, and development of countermeasures procedures.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604654N/JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT**					PROJECT NUMBER AND NAME **1829/EXPL ORD DISP PROC**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
RSP Development	WX	EODTD, Indian Head, MD	161.397	0.698	OCT-06	3.336	OCT-07	3.463	OCT-08	0.000	168.894	0.000
IND Countermeasures	WX	EODTD, Indian Head, MD	28.995	2.673	OCT-06	2.505	OCT-07	2.870	OCT-08	0.000	37.043	0.000
Foreign Mine Acquisiton	WX	ONI, Suitland, MD	10.211	4.890	OCT-06	2.701	OCT-07	2.826	OCT-08	0.000	20.628	0.000
Program Management Personnel	WX	EODTD, Indian Head, MD	2.470	0.225	OCT-06	0.250	OCT-07	0.250	OCT-08	0.000	3.195	0.000
Miscellaneous	Various	Various	10.234	1.363	OCT-06	1.373	OCT-07	1.449	OCT-08	0.000	14.419	0.000
Subtotal Product Development			**213.307**	**9.849**		**10.165**		**10.858**		**0.000**	**244.179**	**0.000**
Remarks:												
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Subtotal Management Services			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Total Cost			**213.307**	**9.849**		**10.165**		**10.858**		**0.000**	**244.179**	**0.000**

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: Feb-08	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUAT BA-5**				R-1 ITEM NOMENCLATURE 0604703N, Manpower, Personnel, Training, Simulation, & Human Fact			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**19.754**	**8.631**	**5.263**	**5.070**	**8.487**	**8.665**	**8.844**
1822/Manpower, Personnel, Training, Sim, and HF	**2.634**	**8.631**	**5.263**	**5.070**	**8.487**	**8.665**	**8.844**
9323C/SEAPRINT	**2.912**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
2905 PRIDE	**8.339**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
3089 Science and Technology Training Transition	**5.869**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

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, human systems integration, learning management, content management & delivery, learning and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new services oriented architectures to include applications, databases and communications configuration.

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 Commercial off the Shelf/Government of the Shelf (COTS/GOTS) technologies into operation use.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: Feb-08
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604703N, Manpower, Personnel, Training, Simulation, and Human Fact	PROJECT NUMBER AND NAME

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	9.717	8.830	8.866
Current President's Budget	19.754	8.631	5.263
Total Adjustments	10.037	-0.199	-3.603
Summary of Adjustments			
Small Business Innovation Research (SBIR)	-0.455		
Congressional Adjustment	-0.008	-0.042	-3.500
Contract Efficiencies and Management Improvement		-0.014	
FFRDC Reduction		-0.011	
Congressional Add	2.000		
Program Adjustment	8.500	-0.132	
Navy Working Capital Fund Rate Adjustment			-0.103
Subtotal	10.037	-0.199	-3.603

Schedule: Not Applicable
Technical: Not Applicable

C. (U) OTHER PROGRAM FUNDING SUMMARY: None

(U) RELATED RDT&E:

(U) PE 0601152N, In-House Independent Lab Research
(U) PE 0601153N, Defense Research Sciences
(U) PE 0602236N, Mission Support Technology
(U) PE 0602722A, Personnel and Training
(U) PE 0603236N, 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **Feb-08**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604703N Personnel Training Simulation and Human Fact			PROJECT NUMBER AND NAME L1822/Manpower, Personnel, Training, Sim, and HF			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**2.634**	**8.631**	**5.263**	**5.070**	**8.487**	**8.665**	**8.844**
RDT&E Articles Qty	**9**	**19**	**14**	**13**	**13**	**13**	**14**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

L1822/Manpower, Personnel, Training, Sim, and Human Factors 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 and the upgrading and enhancement of existing MPTE decision support systems, tools and models.

1. (U) FY 2007 ACCOMPLISHMENTS:
   - (U) Completed prototype development of RIDE.
   - (U) Completed prototype development of EMPIPS.
   - (U) Continued prototype development of Enterprise Management System.
   - (U) Continued prototype development of Non-Cognitive Measures.
   - (U) Continued prototype development of Attrition Reduction Technologies.
   - (U) Began prototype development of Career Case Manager Technologies.
   - (U) Began prototype development of Distribution Incentives System (DIS).
   - (U) Began updates, upgrades and enhancements to Force Structure and Strength Planning Models
   - (U) Began updates, upgrades and enhancements to Reserve Force Structure and Strength Planning Models

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **Jan-08**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604703N, Manpower, Personnel, Training, Simulation, and Human Fa	L1822/Manpower, Personnel, Training, Sim, and HF

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

2. (U) FY 2008 PLAN:

- (U) Complete prototype development of Non-Cognitive Measures.
- (U) Complete prototype development of Attrition Reduction Technologies.
- (U) Complete prototype development of Enterprise Management System.
- (U) Complete Phases II for downloadable disconnected operations delivery prototype
- (U) Complete Phases I, and II of prototype development for Integrated Skills and Training Data Aggregation and Display (ISTDAS) Prototype
- (U) Continue Training and Supply Chain Management Decision Support Systems integration and transition
- (U) Continue updates, upgrades and enhancements to Force Structure and Strength Planning Models
- (U) Continue prototype development of Career Case Manager Technologies.
- (U) Continue prototype development of Distribution Incentives System (DIS).
- (U) Begin prototype development of Cultures and Values Selection
- (U) Begin Transition of Web-based Marketplace for Sailor / Marine Jobs
- (U) Begin Transition of Integrated Whole Person Assessment System
- (U) Begin Transition of Integrated Career Management System
- (U) Begin Transition of Integrated Comprehensive Optimal Manpower Personnel Analysis Simulation System (COMPASS)
- (U) Begin Improved Manpower and Personnel Integration Tool - Navy (IMPRINT-N) and Requirements Determination Tool Set Transition
- (U) Begin development of Integrated Human Factors and Flight Deck Sortie Rate Model
- (U) Begin development of School House/Learning Center Cost Trade-off and Optimization Decision Support System and Tool Set
- (U) Begin development and integration of Integrated Operating Picture Decision Support System and Tool Set
- (U) Begin Transitioning of Future Naval Warfighter Capabilities (NWC) Capable Manpower (CM) Refresh early prototypes

R-1 SHOPPING LIST - Item No. 117

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **Feb-08**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604703N, Manpower, Personnel, Training, Simulation, and Human Fa	L1822/Manpower, Personnel, Training, Sim, and HF

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

4. (U) FY 2009 PLAN:
- (U) Complete prototype development of Career Case Manager Technologies.
- (U) Complete prototype development of Distribution Incentives System (DIS).
- (U) Continue prototype development of Cultures and Values Selection
- (U) Continue Transition of Web-based Marketplace for Sailor / Marine Jobs
- (U) Continue Transition of Integrated Whole Person Assessment System
- (U) Continue Transition of Integrated Career Management System
- (U) Continue Transition of Integrated Comprehensive Optimal Manpower Personnel Analysis Simulation System (COMPASS)
- (U) Continue updates, upgrades and enhancements to Force Structure and Strength Planning Models
- (U) Continue Training and Supply Chain Management Decision Support Systems integration and transition
- (U) Continue Improved Manpower and Personnel Integration Tool - Navy (IMPRINT-N) and Requirements Determination Tool Set Transition
- (U) Continue development of Integrated Human Factors and Flight Deck Sortie Rate Model
- (U) Continue development of School House/Learning Center Cost Trade-off and Optimization Decision Support System and Tool Set
- (U) Continue development and integration of Integrated Operating Picture Decision Support System and Tool Set
- (U) Continue Transitioning of Future Naval Warfighter Capabilities (FNWC) Capable Manpower (CM) Refresh early prototypes

R-1 SHOPPING LIST - Item No. 117

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE: Feb-08				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT NUMBER AND NAME PE0604703N, Manpower,Personnel,Training, Simulation, and Human Fact			PROJECT NUMBER AND NAME L1822/Manpower, Personnel, Training, Simulation and Human Factors						
Cost Categories	Contract Method & Type	Performing Activity & Location	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development										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		Continuing	Continuing	
Remarks:											
Development Support	WR	NPRST Millington, TN	10.745		3.631		5.263		Continuing	19.639	
Development Support	WR	CNP Washington DC	2.836		4.000		0.000			6.836	
Development Support	WR	NETPDTC Pensacola FL			1.000		0.000			1.000	
Development Support		NAVAIR	5.718							5.718	
Development Support										0.000	
Software Development										0.000	
Software Development										0.000	
Studies & Analyses										0.000	
Studies & Analyses										0.000	
Award Fees										0.000	
Subtotal Support			19.299		8.631		5.263		Continuing	33.193	
Remarks: FY08 increases due to merging of projects W3089 and L1822 into single project L1822											

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **Feb-08**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE0604703N, Manpower,Personnel,Training, Simulation, and Human Fact	L1822/Manpower, Personnel, Training, Simulation and Human Factors

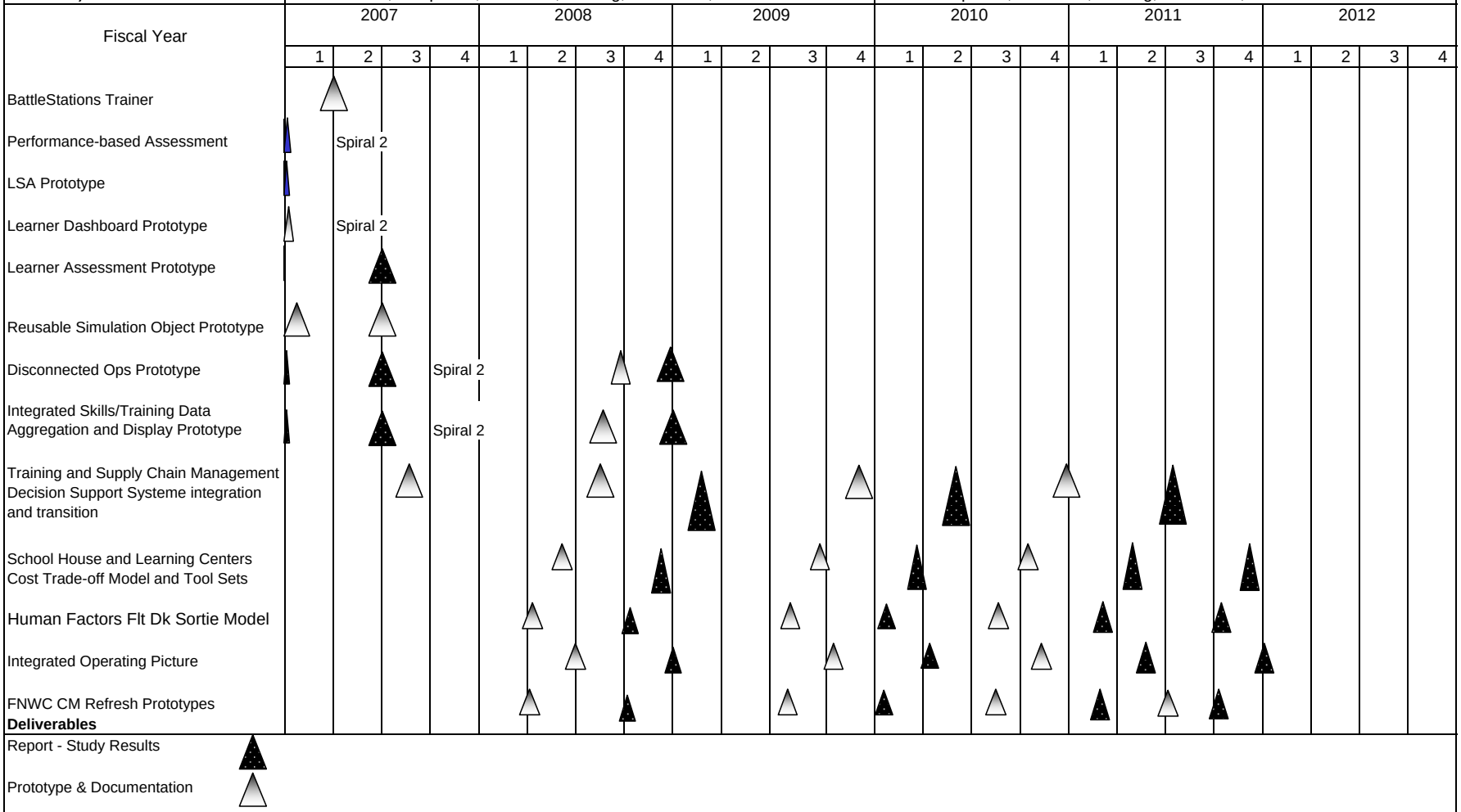
Cost Categories	Contract Method & Type	Performing Activity & Location	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation										0.000	
Operational Test & Evaluation										0.000	
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	
Remarks:											
Contractor Engineering Support										0.000	
Government Engineering Support										0.000	
Program Management Support										0.000	
Travel										0.000	
Transportation										0.000	
SBIR Assessment			0.455		0.000		0.000			0.455	
Subtotal Management			0.455		0.000		0.000		Continuting	0.455	
Remarks:											
Total Cost			19.754		8.631		5.263		Continuting	33.648	
Remarks:											

R-1 SHOPPING LIST - Item No. 117

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **Feb-08**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	PE0604703N, Manpower,Personnel,Training, Simulation, and Human Fact	L1822/Manpower,Personnel,Training, Simulation, and Human Factors



Footnote: Under Proj. W3089,Transferred to L1822 starting in FY2008

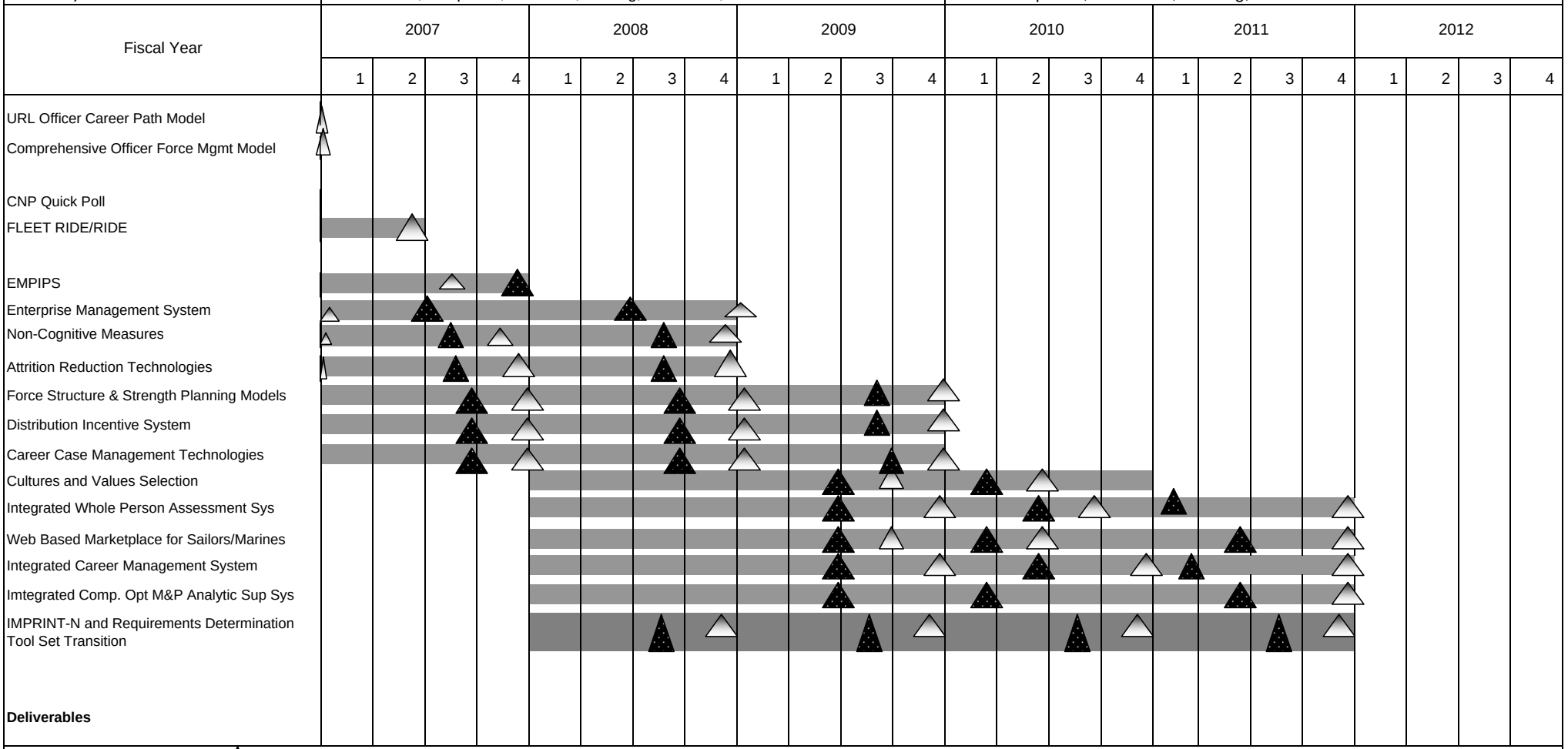
Exhibit R-2, RDTEN Budget Item Justification

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **Feb-08**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	PE0604703N, Manpower,Personnel,Training, Simulation, and Human Fact	L1822/Manpower, Personnel, Training, Simulation and Human Factors



CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: Feb-08		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PE0604703N, Manpower,Personnel,Training, Simulation, and Human Fact		PROJECT NUMBER AND NAME L1822/Manpower,Personnel,Training, Sim, and HF			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
URL Officer Career Path Model						
CNP Quick Poll						
FLEET RIDE/RIDE	Q2					
Force Structure & Strength Planning Tools	Q3-Q4	Q3-Q4	Q3-Q4			
EMPIPS	3Q					
Enterprise Management System	Q2	Q2-Q4				
Non-Cognitive Measures	Q3-Q4	Q3-Q4				
Attrition Reduction Technologies	Q3-Q4	Q3-Q4				
Distribution Incentive System	Q3-Q4	Q3-Q4	Q3-Q4			
Career Case Management Technologies	Q3-Q4	Q3-Q4	Q3-Q4			
Cultures and Values Selection		Q4	Q1-Q3-Q4			
Integrated Whole Person Assessment Sys		Q4	Q2-Q4	Q1-Q3	Q2	
Web Based Marketplace for Sailors/Marines		Q4	Q1-Q3-Q4	Q4	Q2	
Integrated Career Management System		Q4	Q2-Q4	Q2-Q3	Q2	
Imtegrated Comp. Opt M&P Analytic Sup Sys		Q4	Q3	Q4	Q2	
IMPRINT-N and Requirements Determination Tool Set Transition		Q4	Q4	Q2	Q2-Q4	
Footnote: Under Project W3089, Transferred to L1822 starting in FY2008						

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: Feb-08		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PE0604703N, Manpower,Personnel,Training, Simulation, and Human Fact		PROJECT NUMBER AND NAME L1822/Manpower,Personnel,Training, Sim, and HF			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
BattleStations Trainer	2Q					
Performance-based Assessment	3Q					
LSA Prototype						
Learner Dashboard Prototype	4Q					
Learner Assessment Prototype	2Q					
Reusable Simulation Object Prototype	2Q					
Disconnected Ops Prototype	2Q	Q2-Q4				
and Display Prototype	2Q	Q2-Q4				
Training and Supply Chain Management Decision Support Systeme integration and transition	4Q	Q1-Q4	Q1-Q4	Q2-Q4	Q1-Q4	
off and Optimization Decision Support System and Tool Set		Q1-Q4	Q1-Q4	Q2-Q4		
Integrated Operating Picture Decision Support System and Tool Set		Q1-Q4	Q1-Q4	Q2-Q4		
FNWC CM Refresh early prototypes		Q1-Q4	Q1-Q4	Q2-Q4	Q1-Q4	

Footnote: Under Proj. W3089, Transferred to L1822 starting in FY2008

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **Feb-08**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME PE0604703N, Manpower,Personnel,Training, Simulation, and Human Fact			PROJECT NUMBER AND NAME 9323C/Systems Engineering Acquisition and Personnel Integration			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**2.912**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty	2	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

U) This non-acquisition category congressional plus-up provides funds for continued R&D for Advanced Technology Engineering and Manufacturing Development funded efforts to optimize warfighting performance by developing and demonstrating SEAPRINT in the systems acquisition process and ensuring fielded Acquisition Category (ACAT) I-IV capabilities are linked to requirements that optimize total operating costs and resources. The initial effort was funded in FY03-05 as Applied Research (6.2) and Advanced Technology Development (6.3) funds to provide a systematic study of the Human System Integration (HSI) processes and architecture requirements for development of a DoD Architectural Framework (DoDAF) and System Engineering, Acquisition and PeRsonnel INTegration (SEAPRINT) policy and integration for field experiments and tests.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **Feb-08**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604703N, Manpower, Personnel, Training, Simulation, and Human Fact	9323C/Systems Engineering Acquisition and Personnel Integration

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This non-acquisition category congressional plus-up provides funds for continued R&D for Advanced Technology Engineering and Manufacturing Development funded efforts to optimize warfighting performance by developing and demonstrating SEAPRINT in the systems acquisition process and ensuring fielded Acquisition Category (ACAT) I-IV capabilities are linked to requirements that optimize total operating costs and resources. The initial effort was funded in FY03-05 as Applied Research (6.2) and Advanced Technology Development (6.3) funds to provide a systematic study of the Human System Integration (HSI) processes and architecture requirements for development of a DoD Architectural Framework (DoDAF) and System Engineering, Acquisition and PeRsonnel INTegration (SEAPRINT) policy and integration for field experiments and tests.

1. (U) FY 2007 ACCOMPLISHMENTS:
   - (U) Developed N125 Dashboard Analysis and Data Assimilation Support Tool
   - (U) Develop Human Analysis Requirements Planning System (HARPS)

R-1 SHOPPING LIST - Item No. 117

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: Feb-08	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604703N Personnel Training Simulation and Human Fact			PROJECT NUMBER AND NAME 2905 BUPERS IT			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**8.339**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty	**0**	**0**	**0**	**0**	**0**	**0**	**0**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Personalized Recruiting for Immediate and Delayed Enlistment (PRIDE): Navy's personnel classification and reservation system for accessed sailors and is critical to CNRC in accomplishing its mission. PRIDE was field in the late 1970's and is reaching the end of its servicable life. The broad objectives of this project is to replicate existing PRIDE functionality and integrate the PRIDE algorithm using current technology that is stable, reliable, maintainable, and scalable. The solution will include a unidirectional interface to the MEPCOM Integrated Resource System (MIRS) and a bi-directional interface to the Corporate Enterprise Training Activity Resource System (CETARS).

R-1SHOPPING LIST - Item No. 117

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: Feb-08
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604703N Personnel Training Simulation and Human Fact	2905 BUPERS IT

B. Accomplishments/Planned Program

PRIDE	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	8.339	0.000	0.000
RDT&E Articles Quantity	1		

PRIDE: Navy's personnel classification and reservation system for accessed sailors and is critical to CNRC in accomplishing its mission. PRIDE was field in the late 1970's and is reaching the end of its servicable life. The broad objectives of this project is to replicate existing PRIDE functionality and integrate the PRIDE algorithm using current technology that is stable, reliable, maintainable, and scalable. The solution will include a unidirectional interface to the MEPCOM Integrated Resource System (MIRS) and a bi-directional interface to the Corporate Enterprise Training Activity Resource System (CETARS).

R-1SHOPPING LIST - Item No. 117

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **FEBRUARY 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME Factors				PROJECT NUMBER AND NAME W3089/Science and Technology Training Transition		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	5.869	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	8	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

U) 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, human systems integration, learning management, content management & delivery, learning and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new services oriented architectures to include applications, databases and communications configuration.

(U) FY 2007 ACCOMPLISHMENTS:

(U) Completed reusable simulation object prototype
(U) Completed Phase I and began Phase II for downloadable disconnected operations delivery prototype
(U) Continued Phase I and began Phase II of Performance-based assessment prototype
(U) Continued Phase I and began Phases II and III of prototype development for Integrated Skills and Training Data Aggregation and Display (ISTDAS) Prototype
(U) Began Phase II and Phase III for learner dashboard development for blended learning resource scheduling and analytics/forecasting
(U) Began Phases I and II for learner gap assessment prototype (proficiency-based/competency-based)
(U) Began Training and Supply Chain Management Decision Support Systems integration and transition

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **Feb-08**

APPROPRIATION/BUDGET ACTIVI	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	PE0604703N, Manpower,Personnel,Training, Simulation, and Human Factors	W3089/Science and Technology Training Transition

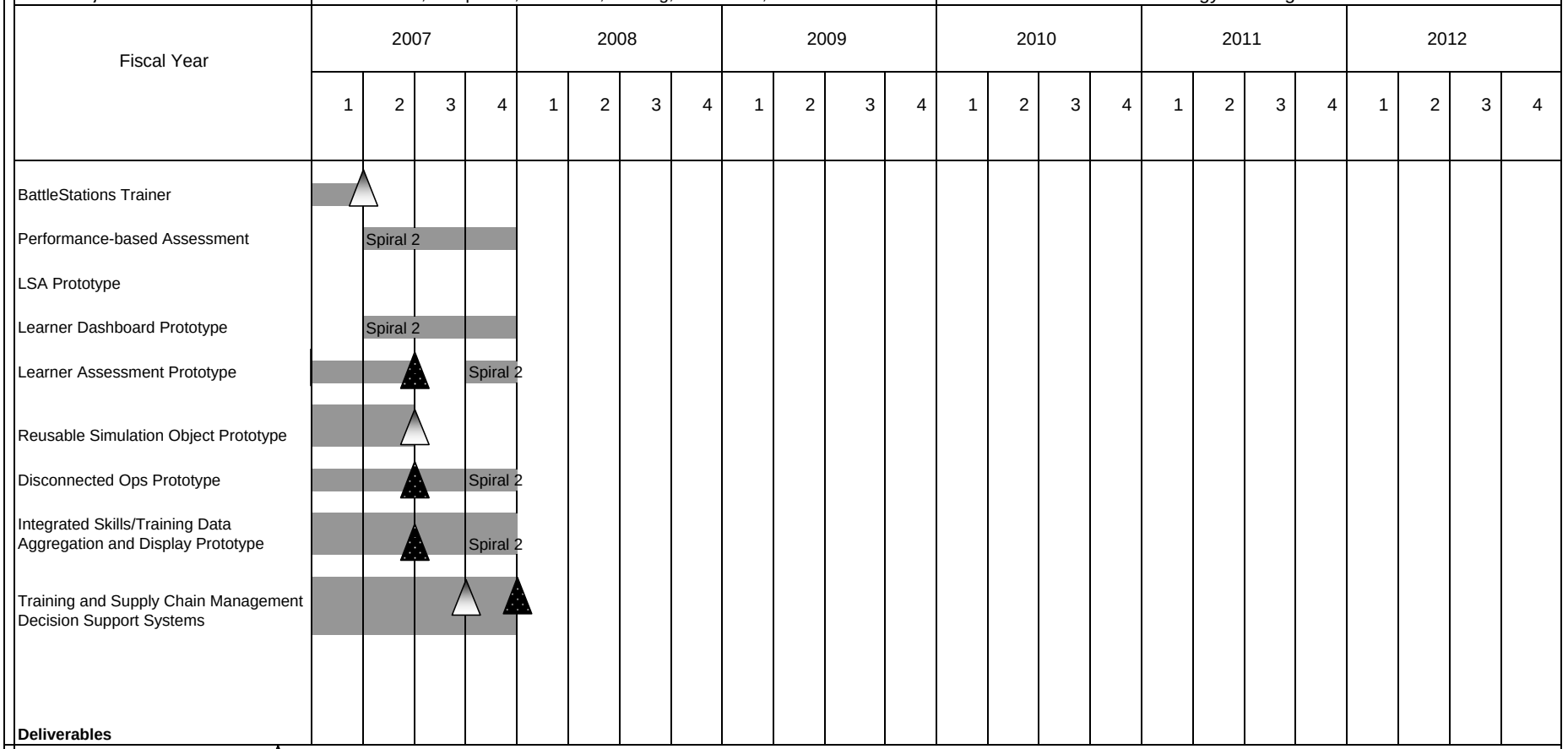


Exhibit R-2, RDTEN Budget Item Justification

Footnote: Resources transferred to L1822. Continuation reflected in Project [illegible]

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **Feb-08**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PE0604703N, Manpower,Personnel,Training, Sim,		PROJECT NUMBER AND NAME W3089/Science and Technology Training Transition			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
BattleStations Trainer	2Q					
Performance-based Assessment	3Q					
LSA Prototype						
Learner Dashboard Prototype	4Q					
Learner Assessment Prototype	2Q					
Reusable Simulation Object Prototype	2Q					
Disconnected Ops Prototype	2Q					
Aggregation and Display Prototype	2Q					
Training and Supply Chain Management Decision Support Systems	4Q					

R-1SHOPPING LIST - Item No. 117

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604727N, JOINT STANDOFF WEAPON SYSTEMS		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	26.768	29.112	22.510	.466	.527	.562	.592	
2068 JSOW	26.768	24.343	22.510	.466	.527	.562	.592	
9999 Congressional Add		4.769						

(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 or BLU-111 payload. This weapon was designed up front for pre-planned product improvements. Procurement of JSOW-A in the FYDP is deferred pending a fix to the Unexploded Ordnance (UXO) issue or a change in the inventory levels. 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 pending a change in the threat. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition (ATA) capability, and a Broach lethal package to enable the attack of blast/fragmentation and penetration type targets. The JSOW Unitary provides increased accuracy and lethality and the capability for aimpoint selection. Operational Testing of the JSOW-C was successfully completed in December 2004. Approval for Milestone-III/Full Rate Production was granted on 20 December 2004. JSOW-C Initial Operational Capability (IOC) was achieved in February 2005.

FY 2007 included 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 was integrated to replace the existing obsolete 486 processor. The effort focused on concurrent cost reduction opportunities (termed Block II). FY 2008 included funding to complete Follow-on Test & Evaluation of AGM-154C Block II. FY 2007-2013 includes funding to integrate new functionality into the Joint Mission Planning Systems (JMPS) and Common Unique Planning Component (CUPC). FY 2007-2010 also includes funding for development, integration, qualification and follow-on developmental/operational test and evaluation of a Network Enabled Weapon moving target capability into the JSOW Unitary weapon (termed Block III/AGM-154C-1). The moving target capability will be inserted as an engineering change proposal beginning with FY 2009 procured JSOW-C weapons. The new AGM-154C-1 capability will enable the weapon to attack sea moving targets via real-time pre-and post-launch targeting updates. FY 2008 includes funding to conduct demonstration of a JSOW extended range capability.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces, weight, and dimension considerations, JSOW is compatible with Air Force and NATO aircraft.

Congressional Add: FY 2008 includes funding to conduct a user demonstration to evaluate the feasibility of the JSOW Extended Range (ER) concept. A secondary goal of the demonstration program is to serve as risk reduction and proof of concept for potential future Navy initiatives in Next Generation Standoff Outside Theater Defense (SOTD) weapons. JSOW ER is an upgrade and modification to the existing JSOW weapon system. This upgrade provides JSOW with an extended range capability of 150-300 nautical miles for precision attacks through/under weather against pre-planned fixed targets, stationary targets of opportunity and moving or relocatable targets. The FY08 funds will enable the integration of a turbo jet engine into a JSOW Block II AGM-154A-1 weapon, ground testing of the ER configuration, and a captive and free flight test program.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604727N, JOINT STANDOFF WEAPON SYSTEMS

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	27.410	24.851	5.708
Current President's Budget :	26.768	29.112	22.510
Total Adjustments	-0.642	4.261	16.802

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.642	-0.188	
Congressional Increases		4.800	
Economic Assumptions			-0.153
Miscellaneous Adjustments		-0.351	16.955
Subtotal	-0.642	4.261	16.802

Schedule:

1) JSOW-C Block II OT-IIIA start/completion dates were revised due to range/aircraft unavailability that delayed the completion of DT-IIIB. This change resulted in an adjustment to the OT test program from 3Q FY2007 through 1Q FY 2008 to 4Q FY 2007 through 2Q FY 2008.

2) The Network Enabled Weapon (NEW) Design/Integration/Qual program was revised to reflect later than planned deliveries of datalink hardware recently negotiated on a supplier subcontract. This change resulted in an adjustment in the completion of this effort from 4Q FY2008 to 1Q FY2009.

3) The NEW OT-III period was split into two test phases with the first phase titled Integrated Test & Evaluation (combined DT/OT) and scheduled for 2Q FY 2009 through 3Q FY 2009. The second phase was renamed OT-IIIB and changed from 2Q FY 2009 through 3Q FY 2009 to 4Q FY2009 through 2Q FY 2010 to reflect two distinct phases of OT.

Technical:

Congressional Increases reflect an add of $4.8M in FY 2008 to support a a JSOW Extended Range demonstration. Miscellaneous adjustments in FY09 include the addition of funding to incorporate a Sea Strike data link anti-jam capability in an electronic attack environment.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604727N, JOINT STANDOFF WEAPON SYSTEMS	PROJECT NUMBER AND NAME 2068, JSOW	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2068 JSOW	26.768	24.343	22.510	.466	.527	.562	.592	
RDT&E Articles Qty								

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 or BLU-111 payload. This weapon was designed up front for pre-planned product improvements. Procurement of JSOW-A in the FYDP is deferred pending a fix to the Unexploded Ordnance (UXO) issue or a change in the inventory levels. 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 pending a change in the threat. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition (ATA) capability, and a Broach lethal package to enable the attack of blast/fragmentation and penetration type targets. The JSOW Unitary provides increased accuracy and lethality and the capability for aimpoint selection. Operational Testing of the JSOW-C was successfully completed in December 2004. Approval for Milestone-III/Full Rate Production was granted on 20 December 2004. JSOW-C Initial Operational Capability (IOC) was achieved in February 2005.

FY 2007 included 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 was integrated to replace the existing obsolete 486 processor. The effort focused on concurrent cost reduction opportunities (termed Block II). FY 2008 included funding to complete Follow-on Test & Evaluation of AGM-154C Block II. FY 2007-2013 includes funding to integrate new functionality into the Joint Mission Planning Systems (JMPS) and Common Unique Planning Component (CUPC). FY 2007-2010 also includes funding for development, integration, qualification and follow-on developmental/operational test and evaluation of a Network Enabled Weapon moving target capability into the JSOW Unitary weapon (termed Block III/AGM-154C-1). The moving target capability will be inserted as an engineering change proposal beginning with FY 2009 procured JSOW-C weapons. The new AGM-154C-1 capability will enable the weapon to attack sea moving targets via real-time pre-and post-launch targeting updates.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces, weight, and dimension considerations, JSOW is compatible with Air Force and NATO aircraft.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604727N, JOINT STANDOFF WEAPON SYSTEMS	PROJECT NUMBER AND NAME 2068, JSOW

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

SAASM	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.394	1.442	
RDT&E Articles Qty			

Complete Follow-on Operational Test and Evaluation (FOT&E) of a Selective Availability Anti-Spoofing Module (SAASM) based Guidance Electronic Unit (GEU) weapon and demonstrate compatibility with currently integrated aircraft. Efforts will complete with FY2008 funding for the Operational Test program.

JSOW Common Unique Planning Component (CUPC)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.242	.341	.688
RDT&E Articles Qty			

Plan new functions into the JSOW Common Unique Planning Component (CUPC) and develop new software releases of CUPC. The FY2007-2009 effort will address new mission planning functionality related to the incorporation of the Network Enabled Weapon moving target capability into the JSOW-C-1 weapons. The FY2008-2009 efforts will also address follow-on mission planning updates to incorporate new imagery architectures and formats.

Network Enabled Weapon	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	24.132	22.560	21.822
RDT&E Articles Qty			

Develop and integrate the Network Enabled Weapon moving target capability into JSOW-C, termed AGM-154C-1. The FY2007-2009 efforts will involve seeker software updates to enable receipt of revised target coordinates after missile launch, the integration of a weapon datalink, and the update of the F/A-18 Operational Flight Program (OFP) to incorporate the AGM-154C-1 changes. The FY2008-2009 budget includes funding to complete weapon qualification and follow-on developmental test/operational test efforts. FY09 includes funding to incorporate a Sea Strike Data Link Anti-Jam capability in an Electronic Attack (EA) environment.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604727N, JOINT STANDOFF WEAPON SYSTEMS	PROJECT NUMBER AND NAME 2068, JSOW	

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
USN WP,N BLI 223000 JSOW*	124.051	130.436	149.144	158.049	162.121	166.348	169.623	1,145.9	3,319.4
Qtys	388	416	496	515	535	524	546	3,649	9,800

* Does not include Spares

D. ACQUISITION STRATEGY:

The contracting strategy for JSOW is planned to be sole source for the life of the program. Cost type contracts are utilized for the Engineering and Manufacturing Development and follow-on modification program (i.e., Block II (AGM-154C), Block III (AGM-154C-1) efforts.

Fixed price type contracts are utilized for production.

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604727N, JOINT STANDOFF WEAPON SYSTEMS				PROJECT NUMBER AND NAME 2068, JSOW							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development-NEW	SS-CPFF	RAYTHEON SYSTEMS, TUCSON, AZ		18.670	Mar 2007	16.177	Dec 2007	17.743	Dec 2008		52.590	59.117
Primary Hdw Development-NEW Studie	SS-CPFF	RAYTHEON SYSTEMS, TUCSON, AZ	1.567								1.567	1.567
Primary Hdw Development-SAASM	SS-CPFF	RAYTHEON SYSTEMS, TUCSON, AZ	20.182								20.182	16.347
Systems Eng	WX	NAWCWD, CHINA LAKE CA	107.823	.904	Nov 2006	.230	Nov 2007	.322	Nov 2008		109.279	
All Management costs from program implementation through FY06 not reflected above.	Various	Various	579.188								579.188	
SUBTOTAL PRODUCT DEVELOPMENT			708.760	19.574		16.407		18.065			762.806	

Remarks: SAASM - The budgeted amount exceeds the target value of the contract due to increased contractor costs for Selective Availablity Anti-Spoofing Module (SAASM) Guidance Electronic Unit (GEU) hardware/software integration and flight testing.
NEW - The target value of the contract exceeds the JSOW funding due to Harpoon Block III program sharing a portion of the common weapon data link development costs.

SUPPORT												
Software Development - JMPS	SS-CPFF	RAYTHEON SYSTEMS, TUCSON, AZ	4.536	1.242	Mar 2007	.341	Nov 2007	.688	Nov 2008	1.742	8.549	8.549
Software Development - NEW	SS-CPFF	BOEING, ST LOUIS, MO	.712	4.008	Nov 2006	4.683	Nov 2007	.697	Nov 2008		10.100	10.100
SUBTOTAL SUPPORT			5.248	5.250		5.024		1.385		1.742	18.649	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCWD, CHINA LAKE CA	27.510	.400	Nov 2006	1.450	Nov 2007	.550	Nov 2008		29.910	
Oper Test & Eval	WX	OPER T & E FOR CD, NORFOLK VA	7.699	1.394	Jan 2007	1.442	Oct 2007	2.490	Nov 2008	.405	13.430	
SUBTOTAL TEST & EVALUATION			35.209	1.794		2.892		3.040		.405	43.340	

Remarks:

MANAGEMENT												
Travel	Various	NAVAIR, Patuxent River, MD	7.242	.150	Nov 2006	.020	Nov 2007	.020	Nov 2008		7.432	
All Management costs from program implementation through FY06 not reflected above.	Various	Various	18.156								18.156	
SUBTOTAL MANAGEMENT			25.398	.150		.020		.020			25.588	

Remarks:

Total Cost			774.615	26.768		24.343		22.510		2.147	850.383	

Remarks:

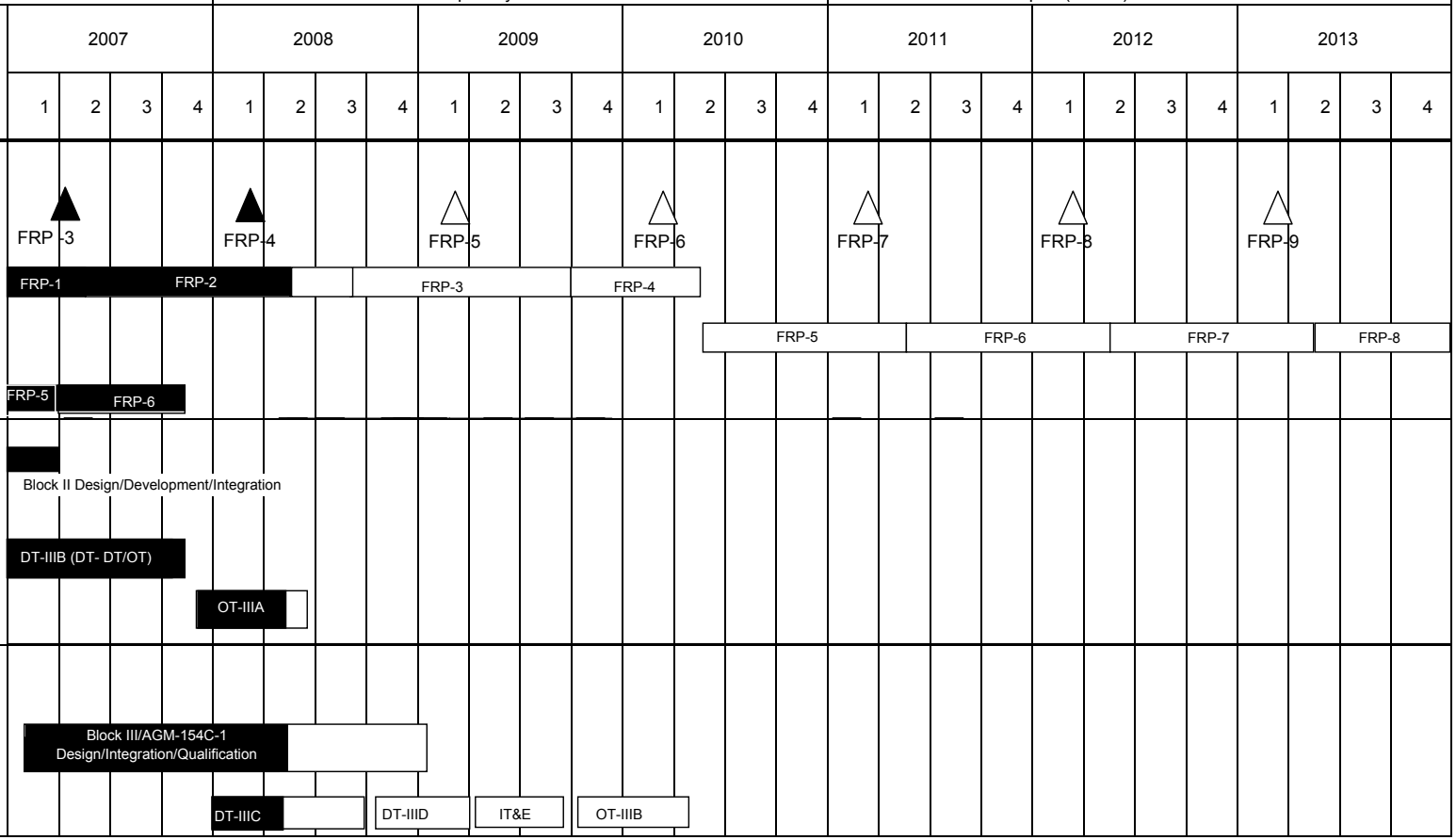
CLASSIFICATION:

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

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

PROGRAM ELEMENT NUMBER AND NAME: 0604727N Joint Standoff Weapon System

PROJECT NUMBER AND NAME: 2068 Joint Standoff Weapon (JSOW)



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604727N Joint Standoff Weapon System				PROJECT NUMBER AND NAME 2068 Joint Standoff Weapon (JSOW)		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Full Rate Production (FRP)/AGM-154C	2Q	1Q	1Q	1Q	1Q	1Q	1Q
FRP-1 Deliveries-AGM-154C	1Q-2Q						
FRP-2 Deliveries-AGM-154C	2Q-4Q	1Q-3Q					
FRP-3 Deliveries-AGM-154C		3Q-4Q	1Q-3Q				
FRP-4 Deliveries-AGM-154C			4Q	1Q-2Q			
FRP-5 Deliveries-AGM-154C-1				2Q-4Q	1Q-2Q		
FRP-6 Deliveries-AGM-154C-1					2Q-4Q	1Q-2Q	
FRP-7 Deliveries-AGM-154C-1						2Q-4Q	1Q-2Q
FRP-8 Deliveries-AGM-154C-1							2Q-4Q
FRP-5 Deliveries-AGM-154A	1Q						
FRP-6 Deliveries-AGM-154A	2Q-4Q						
SAASM							
Design/Development/Integration	1Q						
Development Test (DT)	1Q-3Q						
Development Test/Operational Test (DT/OT)	3Q-4Q						
Operational Test (OT)	4Q	1Q-2Q					
Network Enabled Weapon / Moving Target / AGM-154C-1							
Design/Integration/Qual	1Q-4Q	1Q-4Q	1Q				
Development Test (DT-IIIC)		1Q-3Q					
Development Test (DT-IIID)		4Q	1Q				
Integrated Test (IT&E)			2Q-3Q				
Operational Test (OT-IIIB)			4Q	1Q-2Q			

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604727N, JOINT STANDOFF WEAPON SYSTEMS	PROJECT NUMBER AND NAME 9999, Congressional Add	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
9999 Congressional Add		4.769						
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.

FY 2008 includes funding to conduct a user demonstration to evaluate the feasibility of the JSOW Extended Range (ER) concept. A secondary goal of the demonstration program is to serve as risk reduction and proof of concept for potential future Navy initiatives in Next Generation Standoff Outside Theater Defense (SOTD) weapons. JSOW ER is an upgrade and modification to the existing JSOW weapon system. This upgrade provides JSOW with an extended range capability of 150-300 nautical miles for precision attacks through/under weather against pre-planned fixed targets, stationary targets of opportunity and moving or relocatable targets. The FY08 funds will enable the integration of a turbo jet engine into a JSOW Block II AGM-154A-1 weapon, ground testing of the ER configuration, and a captive and free flight test program.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604727N, JOINT STANDOFF WEAPON SYSTEMS	PROJECT NUMBER AND NAME 9999, Congressional Add

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Extended Range Demonstraton	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		4.769	
RDT&E Articles Qty			

The FY08 funds will enable the integration of a turbo jet engine into a JSOW Block II AGM-154A-1 weapon and allow for the completion of ground, captive carry and free flight testing.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	33.948	34.941	35.999	26.584	32.372	36.639	36.406
0166 / SPS Improvement Program	5.043	1.929	1.711	0.000	0.000	0.000	0.000
2178 / QRCC	12.626	26.200	30.554	24.718	30.243	33.207	33.945
3172 / Joint Non-Lethal Weapons	0.000	4.228	3.734	1.866	2.129	3.432	2.461
9999 / CONGRESSIONAL ADD	16.279	2.584	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

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.

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: Improvements in 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). 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.

Shipboard Protection System (SPS) develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric surface threats.

Joint Non-lethal Weapons scope is to provide the fleet (Ashore, Afloat and Expeditionary) with capabilities of a portable marine integrated swimmer defense system (ISDS) to

engage combat swimmers/divers or unknown individuals underwater once they have been detected.

FY07 Congressional Adds: 9589C Integrated Display Enhanced Architecture; 9852C Shipboard Swimmer Defense System; and 9A52C Reusable Unambiguous Warning Vehicle

FY08 Congressional Adds: 9999: Expeditionary Swimmer Defense and Autonomous Unmanned Surface Vessel

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget	26.649	33.064	36.522
FY 2009 President's Budget	33.948	34.941	35.999
Total Adjustments	7.299	1.877	- 0.523
Summary of Adjustments			
- Undistributed General Reductions	-0.601	-0.723	0.000
- Program Adjustment	7.900	0.000	- 0.523
- Congressional Action	0.000	2.600	0.000
Subtotal	7.299	1.877	- 0.523

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	5.043	1.929	1.711	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Shipboard Protection System (SPS) develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric surface threats. Capabilities include: Surface Surveillance System, MK 49 stabilized gun mounts and Non-lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, and radar into a common tactical surveillance system. Stabilized guns: provide integrated lethal engagement capability against asymetric threats. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in blocks through evolutionary acquisition. The block approach facilitates the early delivery of enhanced situational awareness capability. Future blocks will introduce lethal and non-lethal effectors with total detect to engage capability integration. The SPS "End State System" will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric surface threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**	PROJECT NUMBER AND NAME **0166/SPS Improvement Program**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.929	1.711
RDT&E Articles Quantity	0	0	0

FY08/09 - Shipboard Protection System - System design, development, integrate, analyze and evaluate the SPS system.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.043	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 - Test the SPS system, to include WESERB Testing, Development Testing (DT), ground based testing, live fire testing, Ship integration test, Ship underway testing and Operational Testing (OT).

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.000	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 - Periscope Detection: This program modifies and improves a search radar to provide automatic periscope detection and discrimination while conducting surface search functions, such as navigation and piloting, surface target detection (ships, buoys, etc). The concept is to field a new capability without having to procure and qualify a new radar.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN LINE 812800 (SPS Program)	11.574	2.752	23.272					CONT.	CONT.

D. ACQUISITION STRATEGY:

Revised acquisition strategy is to provide capability to the fleet in blocks. (Block 1 - Enhanced Situational Awareness and Block 3 - Total System Integration including Lethal and Non-Lethal Engagement). All work is being led and performed by the Warfare Centers.

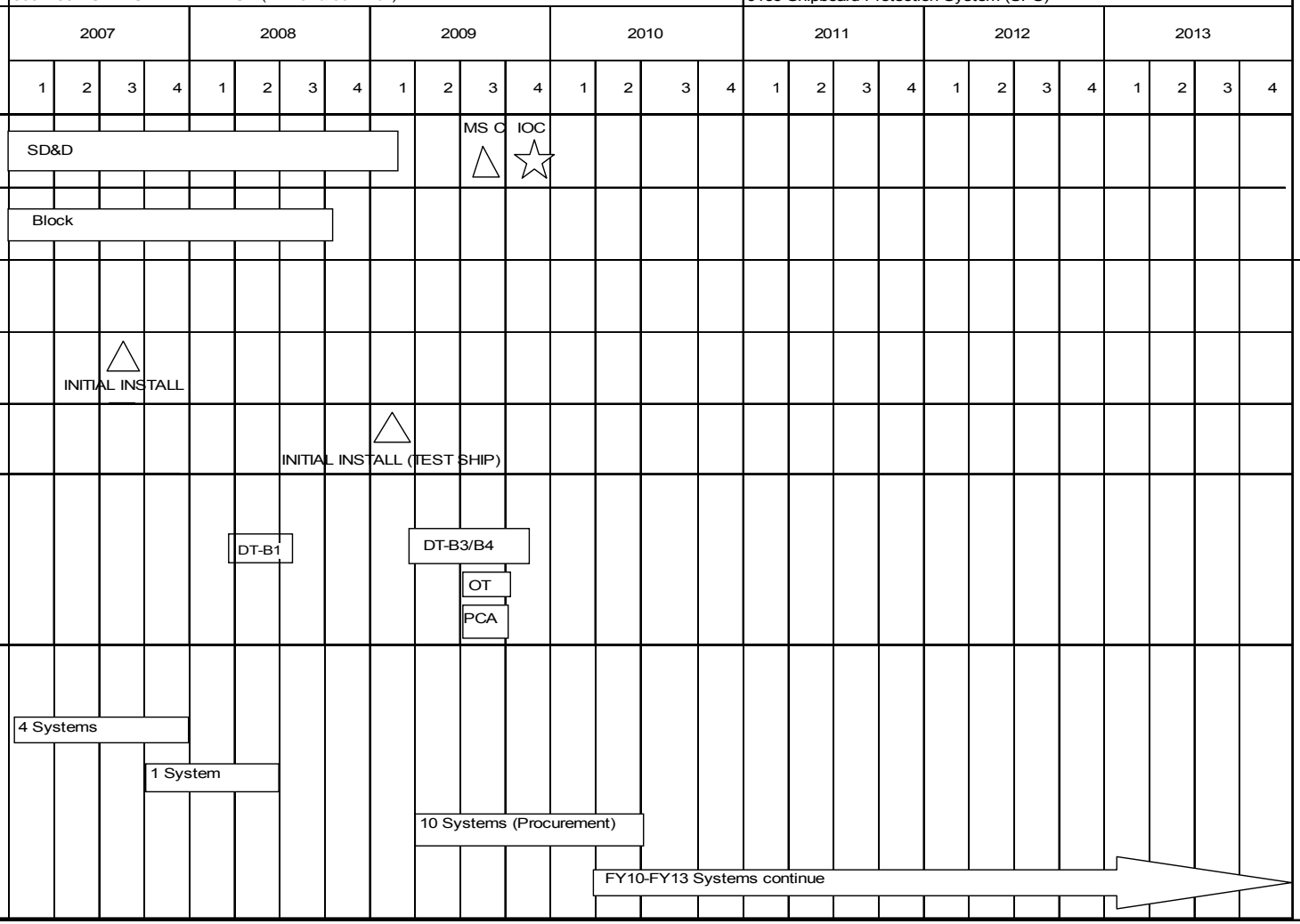
CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**					PROJECT NUMBER AND NAME **0166/SPS Improvement Program**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Hardware/Software Development	WR	NSWC Crane	1.100	0.000		0.552	MAR-08	0.277	NOV-08	0.000	1.929	0.000
Hardware/Software Development	WR	NSWC Dahlgren	1.235	0.000		0.553	JAN-08	0.326	NOV-08	0.000	2.114	0.000
Hardware/Software Development	FFP	NORTHROP GRUMMAN	0.236	0.000		0.000		0.000		0.000	0.236	0.000
Hardware/Software Development	WR	NAVAIR/KDH	0.200	0.000		0.000		0.000		0.000	0.200	0.000
Subtotal Product Development			**2.771**	**0.000**		**1.105**		**0.603**		**0.000**	**4.479**	**0.000**
Remarks:												
Engineering Services	WR	NSWC CRANE	0.337	0.400	NOV-07	0.098	MAR-08	0.075	NOV-08	0.000	0.910	0.000
Engineering Services	WR	NSWC DAHLGREN	0.358	0.000		0.098	MAR-08	0.099	NOV-08	0.000	0.555	0.000
Engineering Services	XFER	IWS PERISCOPE DETECT	1.193	3.000	NOV-06	0.000		0.000		0.000	4.193	0.000
ILS FUNCTIONS	WR	NSWC DAHLGREN	0.200	0.480	FEB-07	0.000		0.000		0.000	0.680	0.000
Subtotal Support Costs			**2.088**	**3.880**		**0.196**		**0.174**		**0.000**	**6.338**	**0.000**
Remarks:												
T&E FUNCTIONS	WR	COMOPTEVFOR	0.008	0.000		0.289	MAR-08	0.600	NOV-08	0.000	0.897	0.000
T&E FUNCTIONS	WR	NSWC DAHLGREN	0.065	0.673	FEB-07	0.256	MAR-08	0.260	NOV-08	0.000	1.254	0.000
T&E FUNCTIONS	WR	NSWC CRANE	0.000	0.440	FEB-07	0.000		0.000		0.000	0.440	0.000
Subtotal Test and Evaluation			**0.073**	**1.113**		**0.545**		**0.860**		**0.000**	**2.591**	**0.000**
Remarks:												
MANAGEMENT SUPPORT	VARIOUS	VARIOUS	0.250	0.000		0.049	JAN-08	0.049	NOV-08	0.000	0.348	0.000
TRAVEL			0.073	0.050	NOV-06	0.034	JAN-08	0.025	NOV-08	0.000	0.182	0.000
Subtotal Management Services			**0.323**	**0.050**		**0.083**		**0.074**		**0.000**	**0.530**	**0.000**
Remarks:												
Total Cost			**5.255**	**5.043**		**1.929**		**1.711**		**0.000**	**13.938**	**0.000**

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	0166 Shipboard Protection System (SPS)



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**			PROJECT NUMBER AND NAME **0166/SPS Improvement Program**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
PCA			3RD QTR				
SD&D	1ST - 4TH QTR	1ST - 4TH QTR	1ST QTR				
DT-B1		2ND QTR					
OT			3RD QTR				
MILESTONE C/FRP			3RD QTR				
IOC			4TH QTR				
DT-B3/B4			2ND - 4TH QTR				

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**				PROJECT NUMBER AND NAME **2178/QRCC**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	12.626	26.200	30.554	24.718	30.243	33.207	33.945
RDT&E Articles Qty	0	0	0	0	0	0	0

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, Commercial Processors, computer program reuse and open system architecture. SSDS is a physically distributed, open system architecture computer network consisting of commercially available or previously developed hardware. It includes the Navy's AN/UYQ-70 standard display and command tablefor human-system 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 integrates other ship self defense elements, such as CEC, AN/SPQ-9B radar, NATO Sea-sparrow system and Tactical Data Links for joint interoperability. SSDS MK2 provides enhanced capabilities for Self Defense against air, and surface threats using both ownship and remote data to address 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 Strike Group/Expeditionary Strike Group Interoperability; and promote standardization. It also introduces new shipboard tactical displays and support equipment, and integrates advanced systems such as Evolved NATO Sea-sparrow missile system and SLQ-32 SEWIP.

In order to meet the Navy's warfighting capabilities and modernization concepts described in SEA POWER 21, Navy Open Architecture (NOA) is being introduced. This is the first step in unifying a set of warfighting functions into a single architecture shared among many ship classes. This principle of commonality is a major mechanism for cost control and avoidances in the Navy's future warfighting systems. SSDS MK 2 would rehost existing tactical computer program applications to the Open Architecture Computing Environment

(OACE) specifications/ equipment suite in conjunction with P3I Commercial off the Shelf (COTs) Tech Refresh cycles, prior to full migration and integration with other OA applications for implementation on future classes of ships. Tech Refresh cycles are driven by COTs obsolescence.

Follow on Operational Test and Evaluation of SSDS MK 2 has been conducted on the CVN Class and is being conducted on the LPD Class SSDS Combat Systems in FY07/08. Follow on Operational Test and Evaluation of the ESSM Integration with SSDS MK 2 is also being conducted on the CVN Class in FY08. Live Fire, Combat System end-to-end testing is being conducted on the Self Defense Test Ship in FY07/08. The SSDS MK 2 Self Defense Combat System is being tested on the Self Defense Test Ship against Anti Ship Cruise Missile threats in the LPD 17 and CVN/LHD Class configurations to support this effort. These tests will serve as a transition phase to the Ship Self Defense Capstone Air Warfare T&E Enterprise. Additional Self Defense Test Ship Live Fire tests against Anti Ship Cruise Missile threats are planned in FY10/11 in the CVN/ESSM and LHA 6 configurations, per the Ship Self Defense Capstone Air Warfare T&E Enterprise and DOT&E direction. Follow on Operational Test and Evaluation of SSDS MK 2 will also be conducted on the LHD 7/8 in FY09, CVN Class (P3I) in FY09 and LHA 6 Class in FY12/13. These tests will provide statistical information for Open Architecture Migration and Probability of Raid Annihilation (Pra) calculations.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**	PROJECT NUMBER AND NAME **2178/QRCC**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	11.396	13.200	16.554
RDT&E Articles Quantity	0	0	0

Prepare and conduct comprehensive Land Based combat system tests on SSDS MK 2 CVN, LPD 17, LHD 7/8, LHA 6 and P3I COTs Tech Refresh OACE configurations at Wallops Island, including test preparation, integration, engineering and development tests, data collection and analysis, correction and verification of deficiencies in FY06 through FY13 in support of SSDS Combat System Certification, TEMP and Ship Self Defense Air Warfare Capstone Enterprise at-sea test events.

Prepare, conduct and analyze At-Sea combat system tests for SSDS MK2 in LPD 17 and 18 and live fire testing on the Self Defense Test Ship in FY07/08. Prepare, conduct and analyse At-Sea combat system tests in support of the Ship Self Defense Air Warfare Capstone Enterprise for the ESSM integration in FY07/08, P3I COTs Tech Refresh OACE integration in FY07/08/09, SSDS MK2 LHD 7/8 configuration in FY08/09, LHA 6 configuration in FY 10/11/12 and live fire testing on the Self Defense Test Ship in FY 10/11. Design Agent test, analyze, and fix for the computer software program in support of testing and Operation of the Ship Self Defense Facility Wallops Island will also be done as required to successfully complete MK 2 development.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.230	0.000	0.000
RDT&E Articles Quantity	0	0	0

Analysis, correction and test of deficiencies in SSDS MK2 MOD 1 and 2 software identified during Developmental/Operational Test and Evaluation and Certification. This also includes migration of SSDS MK 2 to OA Computing Environment (OACE), in conjunction with P3I Commercial off the Shelf (COTs) Tech Refresh cycles with conduct of Factory Qualification Testing and Environmental Qualification Testing, before delivery to combat system facilities for System Integration Test, Initial Verification & Validation, and Combat System integration and certification testing.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	13.000	14.000
RDT&E Articles Quantity	0	0	0

Conduct System Engineering, Design, Development, Software Rehost, Hardware/Software integration and Factory and Environmental Qualification of P3I COTs Tech Refresh cycle for SSDS MK1 and MK2 upgrades to MOD 1C/2C/3C/4C/( )C configurations. This Tech Refresh cycle includes the first major refresh of SSDS MK1 (designated as MOD C) and migration to OACE. After FQT/EQT completion, system will be delivered for Test and Evaluation.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**	PROJECT NUMBER AND NAME **2178/QRCC**	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
SSDS OPN/523900,523905,523906	56.186	31.380	46.687					CONT	CONT
PE 0603382N / 0324 (Advanced Combat System Technology)	18.988	9.130	4.367					CONT	CONT
PE 0603658N / 2039 (Cooperative Engagement Capibility (CEC))	41.816	32.538	38.316					CONT	CONT
PE 0604307N / K1447 (Aegis Surf Combatant Combat Sys Imp)	140.812	139.686	188.500					CONT	CONT
PE 0603582N / 0164 (Common Network Interface (CNI))	57.447	52.282	54.401					CONT	CONT

D. ACQUISITION STRATEGY:

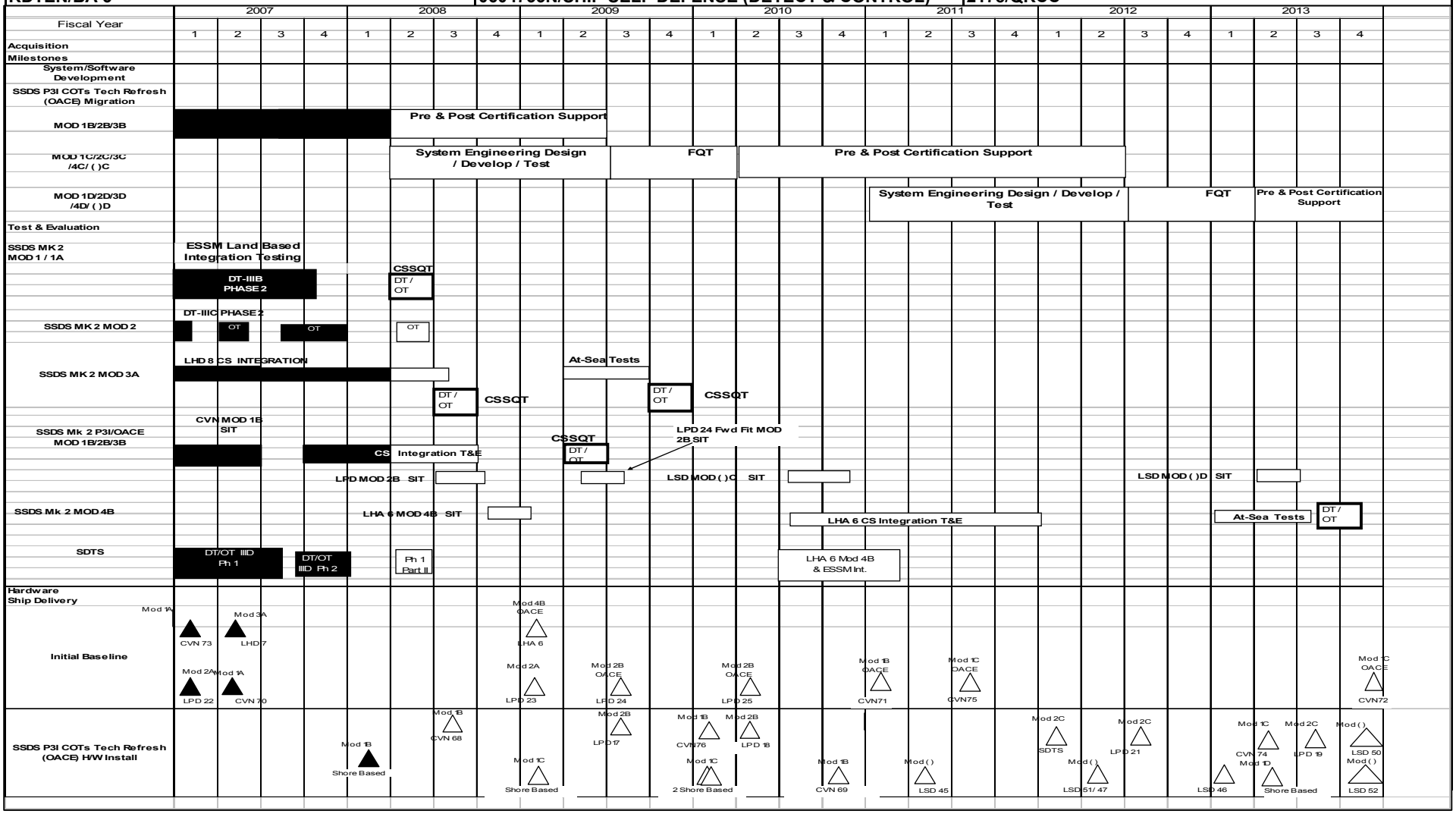
The first SSDS MK 2 system procurements took place under a Cost Plus Award Fee contract in FY99 for the CVN 76, LPD 17, LPD 18 and CVN 69. Follow-on procurements for additional ships of the CV(N), LPD and LHD classes are awarded on FFP contracts with the exception of those ships that will be receiving P3I COTS Tech Refresh hardware suites, where the initial system Tech Refresh Development will occur under a CPFF type contract with ship COTs conversion equipment/kits procured on FFP contracts.

A new design agent and Life Cycle Maintenance CPFF contract was awarded in FY05 to support future SSDS MK 2 system/software maintenance and systems corrections.

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**					PROJECT NUMBER AND NAME **2178/QRCC**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Systems Engineering	WR/WX	NSWC DD-Dalhgren, VA	40.474	0.000		1.099	OCT-07	1.052	OCT-08	CONT	CONT	0.000
Systems Engineering	SS/FP	JHU/APL - Laurel MD	37.813	0.000		2.500	OCT-07	2.500	OCT-08	CONT	CONT	0.000
Systems Engineering	WR/WX	NSWC PHD Pt Hueneme CA	18.903	0.000		0.000		0.000		CONT	CONT	0.000
Systems Engineering	WR/WX	CDSA DN Dam Neck VA	9.222	0.000		0.900	OCT-07	0.950	OCT-08	CONT	CONT	0.000
Systems Engineering	WR/WX	NSWC IH-Indian Head, MD	3.056	0.000		0.000		0.000		CONT	CONT	0.000
Display Development Kits	SS/FP	Lockheed Martin St Paul MN	3.958	0.000		0.400	OCT-07	0.400	OCT-08	CONT	CONT	0.000
Systems Eng/Dev/Integrate	SS/CPFF	RSC (5110) San Diego CA	12.463	0.000		7.500	OCT-07	8.500	OCT-08	CONT	CONT	0.000
Systems Eng/Dev/Integrate	SS/CPAF	RSC (5132) San Diego CA	20.576	0.000		0.000		0.000		CONT	CONT	0.000
Award Fees	SS/CPAF	RSC (5132) San Diego CA	3.603	0.000		0.000		0.000		CONT	CONT	0.000
Systems Eng/Dev/Integrate	SS/CPAF	RSC (5108) San Diego CA	98.130	0.000		0.000		0.000		CONT	CONT	0.000
Systems Eng/Dev/Integrate	SS/CPAF	RSC (5466) San Diego CA	20.353	0.000		0.000		0.000		CONT	CONT	0.000
Systems Eng/Dev/Integrate	SS/CPFF	RSC (5104) San Diego CA	23.685	0.000		0.000		0.000		CONT	CONT	0.000
Award Fees	SS/CPAF	RSC (5108) San Diego CA	11.208	0.000		0.000		0.000		CONT	CONT	0.000
Award Fees	SS/CPAF	RSC (5466) San Diego CA	2.163	0.000		0.000		0.000		CONT	CONT	0.000
RisK Reduction/EMD	Various	Various	76.366	0.000		0.000		0.000		CONT	CONT	0.000
Misc.	Various	Various	2.456	0.000		0.000		0.000		CONT	CONT	0.000
Subtotal Product Development			**384.429**	**0.000**		**12.399**		**13.402**		**CONT**	**CONT**	**0.000**
Remarks:												
QA/RMA	WR/WX	NWAS Corona	9.954	0.000		0.000		0.000		CONT	CONT	0.000
Subtotal Support Costs			**9.954**	**0.000**		**0.000**		**0.000**		**CONT**	**CONT**	**0.000**
Remarks:												
Development Test & Evaluation	WR/WX	NSWC PHD Pt Hueneme CA	50.854	5.194	OCT-06	5.326	OCT-07	7.652	OCT-08	CONT	CONT	0.000
Development Test & Evaluation	WR/WX	NSWC DD-Dalhgren, VA	3.370	1.241	OCT-06	0.225	OCT-07	0.270	OCT-08	CONT	CONT	0.000
Development Test & Evaluation	WR/WX	NSWC DD-Wallops Is, VA	25.152	0.700	OCT-06	2.500	OCT-07	2.700	OCT-08	CONT	CONT	0.000
Development Test & Evaluation	SS/FP	JHU/APL - Laurel MD	7.835	1.941	APR-07	1.970	OCT-07	2.400	OCT-08	CONT	CONT	0.000
Development Test & Evaluation	WR/WX	NSWC Corona - Corona, CA	0.998	0.140	OCT-06	0.220	OCT-07	0.235	OCT-08	CONT	CONT	0.000
Development Test & Evaluation	WR/WX	OPTEVFOR - Norfolk, VA	1.736	0.144	OCT-06	0.260	OCT-07	0.270	OCT-08	CONT	CONT	0.000

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**					PROJECT NUMBER AND NAME **2178/QRCC**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Development Test & Evaluation	SS/CPFF	RSC(5110)-San Diego, CA	4.125	2.030	MAY-07	1.200	OCT-07	1.525	OCT-08	CONT	CONT	0.000
Development Test & Evaluation	SS/CPFF	RSC(5466)-Tucson, AZ	2.180	0.000		0.000		0.000		CONT	CONT	0.000
Development Test & Evaluation	WR/WX	CDSA DN Dam Neck VA	0.000	0.280	JAN-07	0.600		0.600	OCT-08	CONT	CONT	0.000
Miscellaneous	Various	Various	5.354	0.192		0.000		0.000		CONT	CONT	0.000
Subtotal Test and Evaluation			**101.604**	**11.862**		**12.301**		**15.652**		**CONT**	**CONT**	**0.000**
Remarks:												
Program Management Support			13.531	0.764		1.500		1.500		CONT	CONT	0.000
Subtotal Management Services			**13.531**	**0.764**		**1.500**		**1.500**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**509.518**	**12.626**		**26.200**		**30.554**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**	PROJECT NUMBER AND NAME **2178/QRCC**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**			PROJECT NUMBER AND NAME **2178/QRCC**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SSDS MK1/MK2 MOD 1B/2B/3B/4B TECH REFRESH DEVELOPMENT							
- ENVIRONMENTAL QUALIFICATION TEST	1Q						
- FACTORY SYSTEM INTEGRATION TEST							
- FACTORY QUALIFICATION TEST							
SSDS T&E LAND BASED TESTING							
- SYSTEM INTEGRATION TESTING	1Q-4Q	1Q-3Q					
- FINAL CERTIFICATION READINESS REVIEW			2Q				
- CERTIFICATION TESTING			1Q-3Q				
SSDS MK1/MK2 MOD 1C/2C/3C/4C TECH REFRESH DEVELOPMENT							
- SRR		2Q					
- PDR		4Q	1Q				
- CRITICAL DESIGN REVIEW			2Q				
- TEST READINESS REVIEW				1Q			
- ENVIRONMENTAL QUALIFICATION TEST			3Q-4Q	1Q-3Q			
- SOFTWARE/HARDWARE INTEGRATION TEST		4Q	1Q-3Q				
- FACTORY SYSTEM INTEGRATION TEST			3Q-4Q				
- FACTORY QUALIFICATION TEST			3Q-4Q	1Q			
SSDS T&E LAND BASED TESTING							
- SYSTEM INTEGRATION TESTING				2Q			
- FINAL CERTIFICATION READINESS REVIEW				2Q			
- CERTIFICATION TESTING				3Q-4Q	1Q-2Q		
SSDS MK1/MK2 MOD 1D/2D/3D/4D TECH REFRESH DEVELOPMENT							
- SRR					2Q		
- PDR					4Q	1Q	
- CRITICAL DESIGN REVIEW						2Q	
- TEST READINESS REVIEW							1Q
- ENVIRONMENTAL QUALIFICATION TEST						3Q-4Q	1Q-3Q
- SOFTWARE/HARDWARE INTEGRATION TEST					4Q	1Q-3Q	
- FACTORY SYSTEM INTEGRATION TEST						3Q-4Q	
- FACTORY QUALIFICATION TEST							1Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**			PROJECT NUMBER AND NAME **2178/QRCC**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SSDS T&E LAND BASED TESTING							
- SYSTEM INTEGRATION TESTING							2Q
- FINAL CERTIFICATION READINESS REVIEW							2Q
- CERTIFICATION TESTING							3Q-4Q
SSDS MK2 MOD1 (CV/CVNs)-CVN76 Lead Ship (Legacy + ESSM)							
- FORMAL QUALIFICATION TEST (ESSM Integration)							
- ESSM INTEGRATION/DEVELOPMENTAL TESTS	1Q-2Q						
- COMBAT SYSTEM CERTIFICATION TESTING	1Q-4Q						
- SHIPBOARD TEST EVENTS		1Q-2Q					
-CSSQT		2Q					
SSDS MK2 MOD 2 (LPDs)							
- FORMAL QUALIFICATION TEST (FQT)				1Q			
- INTEGRATION/DEVELOPMENTAL TEST	4Q	1Q		2Q-3Q			
- COMBAT SYSTEM CERTIFICATION TESTING	1Q		4Q	4Q			
- SHIPBOARD TEST EVENTS	3Q-4Q	1Q-2Q			2Q		
- CSSQT	4Q				3Q		
SSDS MK 2 MOD 3A (LHDs) LHD 8-Leadh Ship (SCN)							
- ENGINEERING TESTING	1Q-4Q	1Q-4Q					
- LHD 7 Backfit TEST READINESS REVIEW (TRR)							
- LHD 7 Backfit CS CERTIFICATION TESTING			1Q				
- LHD 8 CS CERTIFICATION TESTING			1Q-3Q				
- SHIPBOARD TEST EVENTS			2Q-4Q				
CSSQT LHD 7		3Q					
CSSQT LHD 8			4Q				
SSDS MK2 MOD 4B LHA 6-Lead Ship (SCN)							
- SYS ENGINEERING/SYSTEM DEVELOPMENT	4Q	1Q-4Q	1Q-4Q				

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL (CONTINUATION)					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**			PROJECT NUMBER AND NAME **2178/QRCC**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
- INTEGRATION TESTING				3Q-4Q	1Q-4Q	1Q	
- ENGINEERING TESTING					1Q-4Q	1Q-3Q	
- COMBAT SYSTEM CERTIFICATION TESTING							2Q-3Q
- SHIPBOARD TEST EVENTS							1Q-3Q
- CSSQT LHA 6							3Q-4Q
SSDS OA Cat 3 Migration - CVN 68 Lead Ship							
- FORMAL QUALIFICATION TEST (FQT)							
- INTEGRATION TESTING	1Q-2Q						
- ENGINEERING TESTING	1Q-4Q	1Q-4Q		3Q-4Q	1Q		
- COMBAT SYSTEM CERTIFICATION TESTING	4Q	3Q-4Q					
- SHIPBOARD TEST EVENTS			2Q-3Q				
- CSSQT			3Q				
SDTS							
- DT/OT - IIID Ph 1 and 2	1Q-4Q	2Q					
- ESSM Integration with Mod 1				3Q-4Q	1Q-2Q		
- LHA 6 (SSDS MK 2 Mod 4B)				3Q-4Q	1Q-2Q		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**				PROJECT NUMBER AND NAME **3172/Joint Non-Lethal Weapons**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	4.228	3.734	1.866	2.129	3.432	2.461
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The scope of this project is to provide the fleet Expeditionary (specifically the Maritime Expeditionary Security Force) units with the capability of a portable maritime Integrated Swimmer Defense System (ISDS) system to engage combat swimmers/divers or unknown individuals underwater once they have been detected. The ISDS program combines the detection and engagement operations in order to complete the swimmer defense picture for the fleet. The objective of the integrated swimmer defense system (ISDS) is the development and deployment of an integrated system capable of being deployed by the expeditionary harbor security units (primarily the Maritime Expeditionary Security Force). ISDS will be designed to detect, track, classify, warn, deter and neutralize divers and swimmers threats. ISDS is important to protecting high value assets within harbors from the increasing threat of waterborne terrorist or combatants' attacks.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**	PROJECT NUMBER AND NAME **3172/Joint Non-Lethal Weapons**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	3.721	2.219
RDT&E Articles Quantity	0	0	0

FY08/09 - Design, development, analyze and evaluate a portable Maritime Swimmer Engagement System and integrate into the swimmer detection system to complete the end to end swimmer defense program.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.507	1.515
RDT&E Articles Quantity	0	0	0

FY08/09 - Test the swimmer engagement system, to include Development Testing (DT), ship integration test, ship underway testing, expeditionary testing, facilities testing and Operational Testing (OT).

C. OTHER PROGRAM FUNDING SUMMARY:

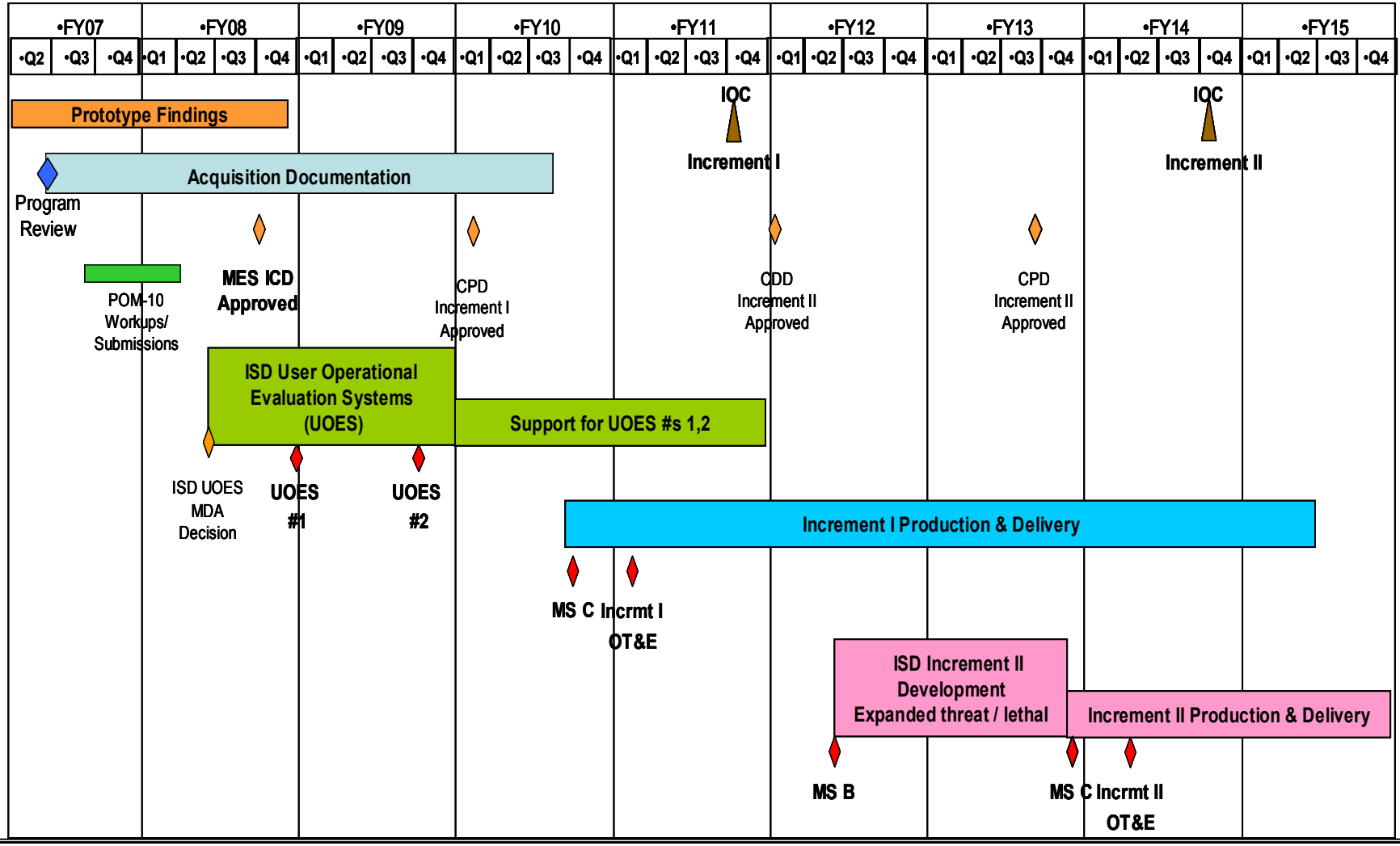
Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN 8120 Naval Coastal Warfare	0.000	0.000	0.000					Cont.	Cont.

D. ACQUISITION STRATEGY:

The acquisition strategy includes the integration of swimmer/diver detection sensors and using software to fuse the sensor track data thereby creating an end to end combat system capability for swimmer/diver defense. A Navy technical team will complete the concept refinement and technology development phase through the release of User Operational Evaluation Systems (UOES) and they will partner with industry for each UOES. In order to further refine the ISDS requirements for a validated ISDS Capability Production Document, two ISDS User Operational Evaluation Systems (UOES) will be developed and evaluated. UOES 1 will be developed during FY-08 and will be delivered to designated MESF units in September 2008. A mature near production ready UOES 2 will be delivered in September 2009. The ISDS program of record system configuration will be produced through an Acquisition Category (ACAT) program commencing at the start of FY10 to procure systems that meet the requirements of the validated ISDS CPD.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**					PROJECT NUMBER AND NAME **3172/Joint Non-Lethal Weapons**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Hardware/Software Development	WR	NUWC Newport	0.000	0.000		3.000	FEB-08	2.450	FEB-09	0.000	5.450	0.000
Subtotal Product Development			**0.000**	**0.000**		**3.000**		**2.450**		**0.000**	**5.450**	**0.000**
Remarks:												
Engineering Services	WR	NUWC Newport	0.000	0.000		0.828	FEB-08	0.807	FEB-09	0.000	1.635	0.000
Subtotal Support Costs			**0.000**	**0.000**		**0.828**		**0.807**		**0.000**	**1.635**	**0.000**
Remarks:												
Test and Evaluation	WR	NUWC Newport	0.000	0.000		0.200	FEB-08	0.277	FEB-09	0.000	0.477	0.000
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.200**		**0.277**		**0.000**	**0.477**	**0.000**
Remarks:												
Progam Management	WR	NUWC Newport	0.000	0.000		0.200	FEB-08	0.200	FEB-09	0.000	0.400	0.000
Subtotal Management Services			**0.000**	**0.000**		**0.200**		**0.200**		**0.000**	**0.400**	**0.000**
Remarks:												
Total Cost			**0.000**	**0.000**		**4.228**		**3.734**		**0.000**	**7.962**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**	PROJECT NUMBER AND NAME **3172/Joint Non-Lethal Weapons**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**			PROJECT NUMBER AND NAME **3172/Joint Non-Lethal Weapons**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Increment I CR/TD Phase User Operational Eval Systems (UOES)		2ND QTR					
ISDS INCREMENT I CPD				1ST QTR			
INCREMENT I - MS C				4TH QTR			
DT/OT					1ST QTR		
ISDS INCREMENT I IOC					4TH QTR		
ISDS INCREMENT II CDD						1ST QTR	
ISDS INCREMENT II MS B SD&D						2ND QTR	
INCREMENT II - MS C							4TH QTR

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604755N/SHIP SELF DEFENSE (DETECT & CONTROL)**	PROJECT NUMBER AND NAME **9999/Congressional Add**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
9589C Integrated Display Enhanced Architecture	9.855	0.000	0.000
RDT&E Articles Quantity	0	0	0
Congressional Add: Architecture for SSDS/ACDS to be utilized for the development of a software-based capability in accordance with Navy OA standards to share displays across Naval subsystems and provide SSDS/ACDS System Information Assurance improvements.			

	FY 2007	FY 2008	FY 2009
9852C Shipboard Swimmer Defense System	2.332	0.000	0.000
RDT&E Articles Quantity	0	0	0
Congressional Add: Evaluate commercial swimmer detection systems to further provide risk reduction in support of the Navy's GWOT.			

	FY 2007	FY 2008	FY 2009
9999 Expeditionary Swimmer Defense	0.000	1.590	0.000
RDT&E Articles Quantity	0	0	0
Congressional Add: FY08 $1.590: Develop a system to protect critical infrastructure and military assets from surprise maritime terrorist attacks against surface and subsurface threats.			

	FY 2007	FY 2008	FY 2009
9999 Autonomous Unmanned Surface	0.000	0.994	0.000
RDT&E Articles Quantity	0	0	0
Congressional Add: FY08 $.994: Develop/analyze concept demonstrator to support ATFP missions; protect harbors, coastal facilities (airports, nuclear power plants, inland waterways).			

	FY 2007	FY 2008	FY 2009
9A52N Reusable Unambiguous Warning Vehicle	4.092	0.000	0.000
RDT&E Articles Quantity	0	0	0
Congressional Add: The RUSWV will provide US naval forces with an unambiguous warning to unidentified swimmer and vehicle threats documented in existence today and those currently emerging.			

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	49.337	72.670	36.238	34.709	8.617	9.414	6.849
0167 / 5in Rolling Airframe Missile	40.394	39.864	26.585	27.438	1.650	1.648	1.692
0173 / NATO Sea Sparrow	4.574	19.847	9.653	7.271	6.967	7.766	5.157
9081 / Phalanx CIWS SEARAM	0.000	6.202	0.000	0.000	0.000	0.000	0.000
9999 / Congressional Add	4.369	6.757	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

This program element provides funding for the development of systems that fulfill a portion of the third phase of the Ship Self Defense: Engage Hard Kill. Development in this line will focus on hard kill capabilities in which missiles are used to intercept incoming Anti-Ship Cruise Missiles (ASCM). 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 (9081/9853/9854/9999). Missile improvements include improved kinematic performance plus advanced seeker and low elevation fusing/warhead capability improvements. System improvements include incorporation of Phalanx detection capability into RAM system (SeaRAM), future concepts studies and self-destructing ammunition, and Future Phalanx Next Generation Improvements. FY07/08 Congressional Add provides funding for Future Phalanx Next Generation Improvements.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget	50.693	67.366	36.490
FY2009 President's Budget	49.337	72.670	36.238
Total Adjustments	-1.356	5.304	-0.252
Summary of Adjustments			
Undistributed General Reductions	-1.356	-1.496	-0.252
Congressional Add	0.000	6.800	0.000

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**				PROJECT NUMBER AND NAME **0167/5in Rolling Airframe Missile**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	40.394	39.864	26.585	27.438	1.650	1.648	1.692
RDT&E Articles Qty	0	0	0	0	0	0	0

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 fuse. 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. FY07-10 funding continues development and testing of a Block 2 upgrade to the RAM. This upgrade will allow RAM to regain battlespace lost to emerging, more maneuverable 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:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDTEN/BA 5	**0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**	**0167/5in Rolling Airframe Missile**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
RAM Block 1 Engineering/Interface Support	0.507	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 funds on-going efforts in RAM engineering for emergent issues/obsolescence issues including EDS interface transition.

	FY 2007	FY 2008	FY 2009
Improvement for Missile Deficiency	1.851	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 funds improvements of emergent RAM missile/launcher deficiencies.

	FY 2007	FY 2008	FY 2009
Block 2	37.870	39.695	26.412
RDT&E Articles Quantity	0	0	0

FY07-09 funds development of RAM Block 2 upgrade.

	FY 2007	FY 2008	FY 2009
Travel	0.166	0.169	0.173
RDT&E Articles Quantity	0	0	0

FY07-09 funds travel.

C. OTHER PROGRAM FUNDING SUMMARY:

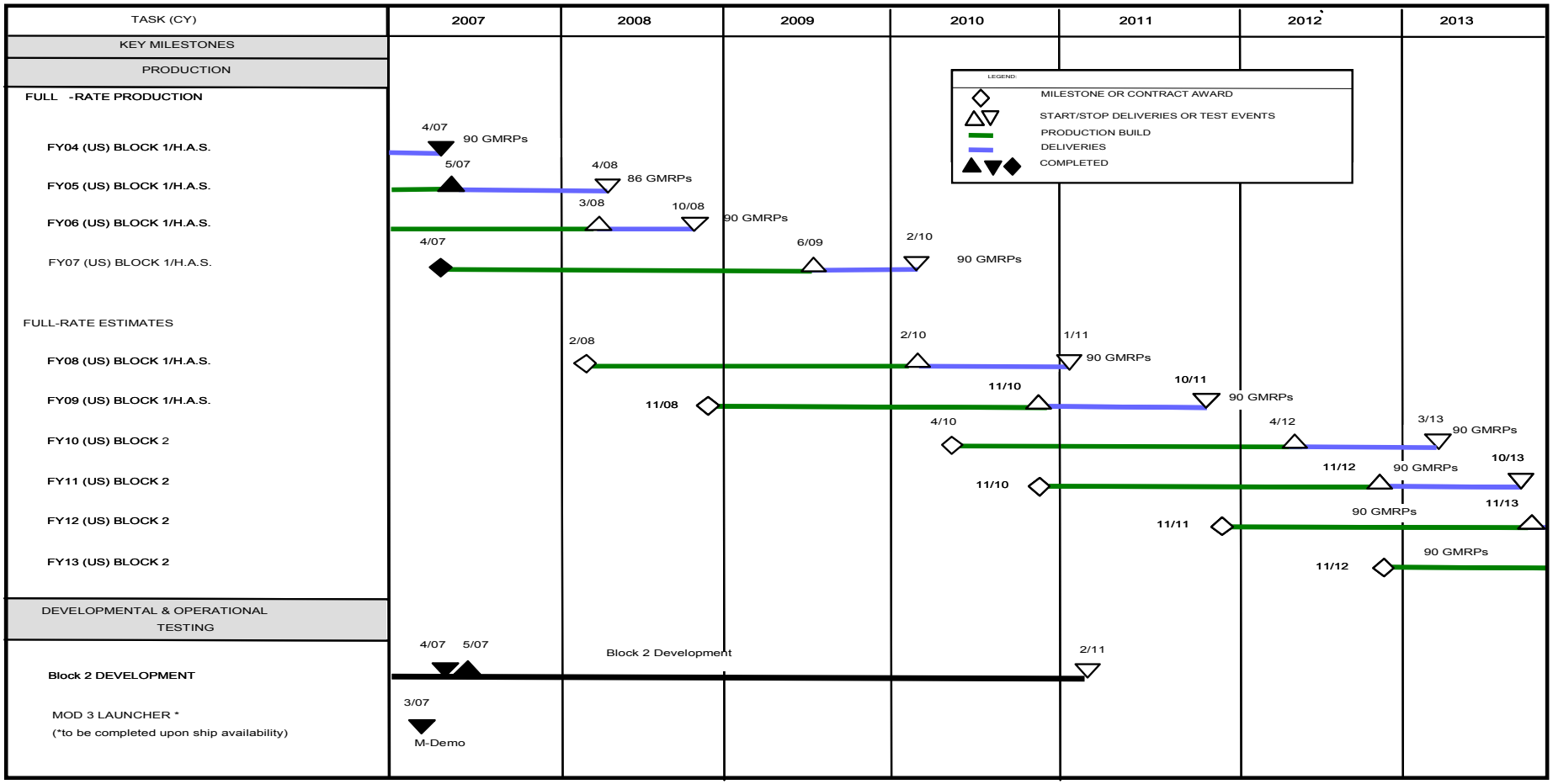
Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN LINE 5238 (RAM)	10.934	3.958	23.492				
WPN LINE 2242 (RAM)	56.630	75.526	74.287				

D. ACQUISITION STRATEGY:

The RAM Program uses directed sole source contracts with Raytheon Systems Company, Tucson, AZ.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**					PROJECT NUMBER AND NAME **0167/5in Rolling Airframe Missile**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Primary Hardware Development	SS/CPFF	Raytheon/Tucson, Louisville	6.223	1.211	JAN-07	0.000		0.000		0.000	7.434	0.000
Primary Hardware Dev Support	WR	China Lake/CA	0.626	0.640	NOV-06	0.000		0.000		0.000	1.266	0.000
Block 1 Eng/Interface Support	SS/CPFF	Raytheon/Tucson, Louisville	0.000	0.400	JAN-07	0.000		0.000		0.000	0.400	0.000
Block 1 MOD 3 Interface Support	CPFF	JHU/APL	0.874	0.107	NOV-06	0.000		0.000		0.000	0.981	0.000
Block 2 Upgrade	SS/CPAF	Raytheon/Tucson, Louisville	29.595	21.988	APR-07	19.923	JAN-08	14.305	NOV-08	CONT	CONT	0.000
Block 2 Upgrade	WR	China Lake/NRL/Dahlgren	6.241	6.952	NOV-06	6.352	JAN-08	4.787	NOV-08	CONT	CONT	0.000
Block 2 Upgrade	CPFF	JHU/APL	0.700	0.400	NOV-06	0.400	JAN-08	0.200	NOV-08	CONT	CONT	0.000
Subtotal Product Development			**44.259**	**31.698**		**26.675**		**19.292**		**CONT**	**CONT**	**0.000**
Remarks:												
Studies and Analyses			0.000	0.600	JAN-07	0.610	JAN-08	0.630	NOV-08	CONT	CONT	0.000
Subtotal Support Costs			**0.000**	**0.600**		**0.610**		**0.630**		**CONT**	**CONT**	**0.000**
Remarks:												
DT&E/OT&E/FOT&E/	SS/CPAF	Raytheon/Tucson, Louisville	2.284	0.000		0.000		0.000		0.000	2.284	0.000
FOT&E	WR	China Lake/CA, PHD/CA	4.674	0.000		0.000		0.000		0.000	4.674	0.000
Test Support	WR	China Lake/CA, PHD/CA	0.734	7.930	NOV-06	12.410	JAN-08	6.490	NOV-08	CONT	CONT	0.000
Miscellaneous		various	1.421	0.000		0.000		0.000		0.000	1.421	0.000
Subtotal Test and Evaluation			**9.113**	**7.930**		**12.410**		**6.490**		**CONT**	**CONT**	**0.000**
Remarks:												
Travel			0.318	0.166	JAN-07	0.169	JAN-08	0.173	JAN-09	CONT	CONT	0.000
Subtotal Management Services			**0.318**	**0.166**		**0.169**		**0.173**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**53.690**	**40.394**		**39.864**		**26.585**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**	PROJECT NUMBER AND NAME **0167/5in Rolling Airframe Missile**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**			PROJECT NUMBER AND NAME **0167/5in Rolling Airframe Missile**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FY04 FRP DELIVERIES	1Q-3Q						
FY05 FRP DELIVERIES	3Q-4Q	1Q-3Q					
FY06 FRP DELIVERIES		2Q-4Q	1Q				
FY07 FRP CONTRACT AWARD	3Q						
FY07 FRP DELIVERIES			3Q-4Q	1Q-2Q			
FY08 FRP CONTRACT AWARD		2Q					
FY08 FRP DELIVERIES				2Q-4Q	1Q-2Q		
FY09 FRP CONTRACT AWARD			1Q				
FY09 FRP DELIVERIES					1Q-4Q	1Q	
FY10 FRP CONTRACT AWARD				3Q			
FY10 FRP DELIVERIES						3Q-4Q	1Q-2Q
FY11 FRP CONTRACT AWARD					1Q		
FY11 FRP DELIVERIES							1Q-4Q
FY12 FRP CONTRACT AWARD						1Q	
FY13 FRP CONTRACT AWARD							1Q
BLOCK 2 DEVELOPMENT	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		
M-DEMO	2Q						

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**				PROJECT NUMBER AND NAME **0173/NATO Sea Sparrow**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	4.574	19.847	9.653	7.271	6.967	7.766	5.157
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses three (3) primary efforts to enhance ship self defense:

1. (U) EVOLVED SEASPARROW MISSILE (ESSM): A cooperative effort among 10 NATO SEASPARROW Nations and 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.

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.

3. (U) Amphibious Self-Defense AAW Probability of Raid Annihilation (PRA) Improvement- The Amphibious Self-Defense AAW PRA Improvement program provides the L-Class Amphibious ships (LHA, LHD, LSD) with an improved PRA through full integration of the weapons and sensors of the combat system. This improvement introduces the Multi-Sensor Integration (MSI) unit that receives fire control and sensor data from ship radars, fuses them into an integrated radar picture and provides composite track reports to the combat system. Mk 15 CIWS is upgraded to a Block 2 configuration with a much improved search and track radar. No longer stand-alone, CIWS will be integrated into the sensor suite and provide fire control quality search and track data to the combat system via the MSI unit. As a fallback measure, CIWS Blk 2 can also report directly to the MK 23 Target Acquisition Radar Threat Evaluation Weapons Assignment (TEWA) providing fire control quality track data at a very fast update rate for targets to the horizon. Target Acquisition System (TAS) itself will receive an upgrade of its OSM unit to accommodate direct inputs from both the MSI and CIWS units. This improvement program provides full integration of the combat system and will meet or exceed threat detection and designation requirements through 2020. Use of the MSI will provide stable track data through a composite track picture reported to the combat system. Without this improvement, PRA of the L-Class ships would continue to degrade to an unsatisfactory point in the mid term.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**	PROJECT NUMBER AND NAME **0173/NATO Sea Sparrow**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.105	8.084	8.655
RDT&E Articles Quantity	0	0	0

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. Provides funding for the ESSM Surface to Surface /Home on Helo (S2S/HOH) firings and firings associated with DT/OT on Aegis/DDG platforms.
This provides for the U.S. share of Cooperative efforts associated with ESSM engineering studies and other development Initiatives.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.500	0.000	0.000
RDT&E Articles Quantity	0	0	0

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.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	10.767	0.000
RDT&E Articles Quantity	0	0	0

FY08 Amphibious Self-Defense AAW improvement for LHD 1-6 and LHA class ships Leveraging the MK 15 CIWS Blk 2 upgrade program, the MSIT unit developed for the Self-Defense Test Ship and the RAM MOD 3 Launcher upgrade program, L-Class PRA will be greatly enhanced. Improvements to the MK 23 TAS made to support and integrate the RAM Mod 3 Launcher will be leveraged to integrate the MSI unit and the CIWS Blk 2 GFCS. The MSI will have the greatest positive impact on PRA as composite track data will be developed and provided to the combat system. The short range air radar picture will be significantly improved through the use of the CIWS upgraded search and track radar providing track data at a very fast update rate.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.969	0.996	0.998
RDT&E Articles Quantity	0	0	0

FY07-09 Provides funding for the Combat System Integration Technical Direction Agent (TDA) who will provide engineering support for combat system performance and risk mitigation. The TDA will leverage it's technical expertise & leadership to cover a broad range of activities such as defining near-term and future requirements for current systems and future upgrades, maintain system performance models to evaluate system improvements, threat changes and operational environment conditions, verify models and simulations to promote program success through application of rigorous and disciplined systems engineering principles and practices in a consistent manner across system elements over the program life cycle, make prudent use of authoritative technical expertise for advice and independent review, identify a range of technically acceptable alternatives to resolve engineering issues, assist in development of T&E planning, and continue to maintain NSPO essential research and engineering capabilities and corporate

memory.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
WPN Line 2307 (ESSM)	99.143	82.712	85.061				
OPN Line 5237 (NATO SEA SPARROW)	6.560	28.528	12.270				

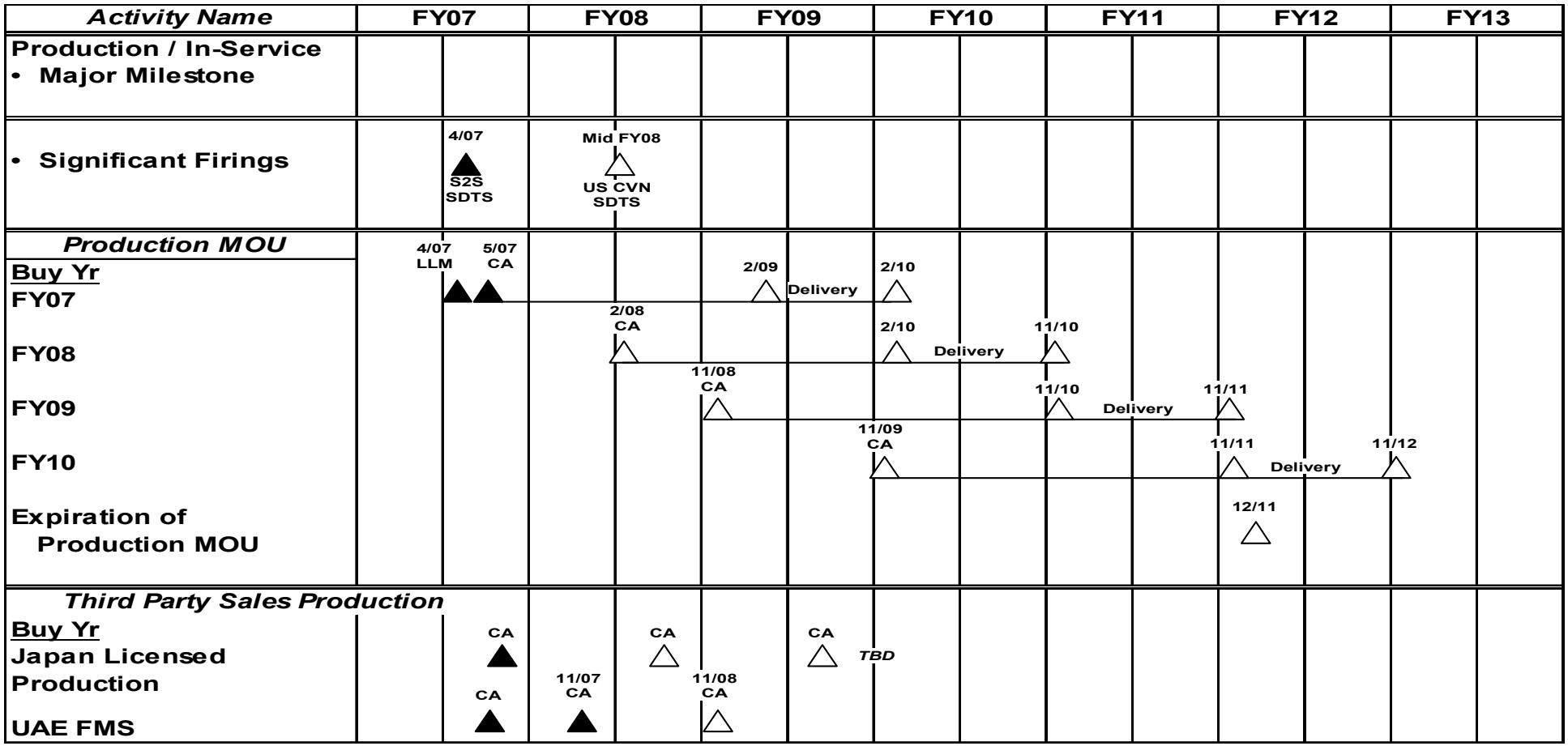
D. ACQUISITION STRATEGY:

ESSM is a directed sole source contract to Raytheon Missile Systems Company. The MK 29 ESSM Launcher Upgrade and REARC/SSDS Intergration effort was a directed sole source contract to Raytheon Company (IDS).

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**					PROJECT NUMBER AND NAME **0173/NATO Sea Sparrow**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
ESSM-Primary Hardware Development	LC/CPAF	Raytheon	143.356	0.000		0.000		0.000			143.356	0.000
	Allot	TDW	3.746	0.000		0.000		0.000		0.000	3.746	3.746
Amphin Self-defense PRA Imp		Various	0.000	0.000		10.767	JAN-08	0.000		0.000	10.767	11.200
Ancillary Hardware Development	CPAF	Lockheed/UDLP	46.706	0.000		0.000		0.000		0.000	46.706	46.706
Systems Engineering	Various	Various	22.622	0.000		0.000		0.000		0.000	22.622	22.622
MK 29/ESSM Launcher upgrade	LC/CPAF	Raytheon SYS	8.521	0.000		0.000		0.000		0.000	8.521	8.521
NATO-Primary Hdwe Dev	CPFF	Raytheon SYS	30.627	0.000		0.000		0.000		0.000	30.627	30.627
Software development/Test	CPFF	Raytheon SYS	6.270	1.421	JAN-07	1.418	JAN-08	1.439	OCT-09	CONT	CONT	0.000
Systems Engineering/Firing Spt		Various	5.306	0.000		0.000		0.000		0.000	5.306	0.000
SSDS Integrtion	CPFF	Raytheon SYS	12.985	0.000		0.000		0.000		0.000	12.985	12.985
Subtotal Product Development			**280.139**	**1.421**		**12.185**		**1.439**		**CONT**	**CONT**	**136.407**
Remarks:												
Integrated Logistics Support	WR	NSWC PHD	3.568	0.000		0.000		0.000		0.000	3.568	0.000
Engr Support	WR	Various	4.207	0.000		0.000		0.000		0.000	4.207	0.000
MK 29/ESSM Launcher Support	WR	Dahlgren/PHD	0.375	0.000		0.000		0.000		0.000	0.375	0.000
Engr Support	WR	Various	0.195	0.000		0.000		0.000		0.000	0.195	0.195
NATO-MK 91/SSDS Integ	WR	Dahlgren/PHD	0.834	0.000		0.000		0.000		0.000	0.834	0.000
Engr Support	WR	Various	6.364	0.000		0.000		0.000		0.000	6.364	0.000
Engr Support	WR	NSWC PHD	0.380	0.185	OCT-06	0.285	OCT-07	0.285	OCT-08	CONT	CONT	0.000
Subtotal Support Costs			**15.923**	**0.185**		**0.285**		**0.285**		**CONT**	**CONT**	**0.195**
Remarks:												
Developmental Test & Evaluation	WR	NAWC CL	13.653	0.000		0.000		0.000		0.000	13.653	0.000
OPEVAL/TECHEVAL/Test Firings	WR	Various (Corona, IHD, Dalhgren, NSWC, PHD)	10.271	1.607	JAN-07	1.728	JAN-08	1.718	JAN-09	CONT	CONT	0.000
Developmental Test & Evaluation	CPFF	APL	1.743	0.261	DEC-06	0.000		0.000		0.000	2.004	2.010
ESSM Carrier T&E	Various	Various	0.000	0.000		4.179	JAN-08	4.722	DEC-08	CONT	CONT	0.000
Developmentall Test & Evaluation	WR	Dalhgren	0.418	0.000		0.000		0.000		0.418	0.836	0.836
Subtotal Test and Evaluation			**26.085**	**1.868**		**5.907**		**6.440**		**CONT**	**CONT**	**2.846**

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**					PROJECT NUMBER AND NAME **0173/NATO Sea Sparrow**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Remarks:												
ESSM-ENGR SPT	WR	Various	4.913	0.000		0.000		0.000		0.000	4.913	0.000
ESSM-PM SPT	WR	Various	0.498	0.000		0.000		0.000		0.000	0.498	0.498
ESSM-Labor	Allot/WR		8.442	0.870	OCT-06	1.100	NOV-07	1.119	OCT-08	CONT	CONT	0.000
ESSM-Travel	Allot/WR		2.022	0.160	OCT-06	0.200	NOV-07	0.200	OCT-08	CONT	CONT	0.000
ESSM-Misc	Various	Various	2.065	0.000		0.000		0.000		0.000	2.065	2.065
NATO Travel/Misc	0	Various	1.761	0.070	OCT-06	0.170	NOV-07	0.170	OCT-08	CONT	CONT	0.000
Subtotal Management Services			**19.701**	**1.100**		**1.470**		**1.489**		**CONT**	**CONT**	**2.563**
Remarks:												
Total Cost			**341.848**	**4.574**		**19.847**		**9.653**		**CONT**	**CONT**	**142.011**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**	PROJECT NUMBER AND NAME **0173/NATO Sea Sparrow**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**			PROJECT NUMBER AND NAME **0173/NATO Sea Sparrow**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MK 29/ESSM Launcher SDTS	1Q						
Essm S2S/HOH Firing	2Q						
Test Firing	2Q						
MK 29/ESSM Launcher CVN Test Event	2Q						
MK 29/ESSM Launcher SDTS		2Q					
AEGIS CG DT/OT		2Q	2Q				
SDTS Firings				2Q			
DDX Test Support					2Q		
FY 07 Procurement	1Q						
FY 08 Procurement		2Q					
FY 09 Procurement			1Q				
FY 03/04 Delivery							
FY 05 Delivery	1Q-4Q						
FY 06 Delivery		1Q-4Q					
FY 07 Delivery			1Q-4Q				
FY 08 Delivery				1Q-4Q			
FY 09 Delivery					1Q-4Q		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**				PROJECT NUMBER AND NAME **9081/Phalanx CIWS SEARAM**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	6.202	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

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 1/2 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. FY08 funding is for combat system integration and testing of the Block 1B Baseline 2 (radar upgrade) into the L-Class CS suite.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**	PROJECT NUMBER AND NAME **9081/Phalanx CIWS SEARAM**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
SeaRAM Development/Phalanx Improvements	0.000	6.202	0.000
RDT&E Articles Quantity	0	0	0

FY08 funding is for combat system integration and testing of the Phalanx CIWS Block 1B Baseline 2 (radar upgrade) into the L-Class CS suite.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN LINE 5238 (RAM)	10.934	3.958	23.492				
WPN LINE 4205 (CIWS)	150.547	181.082	167.967				

D. ACQUISITION STRATEGY:

Phalanx CIWS programs use directed sole source contracts with Raytheon Systems Company, Tucson, AZ.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604756N/SHIP SELF DEFENSE (ENGAGE: HARD KILL)**	PROJECT NUMBER AND NAME **9999/Congressional Add**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
9853C/Future Phalanx Next Generation Improvements	4.369	6.757	0.000
RDT&E Articles Quantity	0	0	0

FY07/FY08 Congressional Adds provide funding for Future Phalanx Next Generation Improvements.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**			R-1 ITEM NOMENCLATURE **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	26.627	38.365	57.574	21.842	20.704	20.493	20.884
0954 / Shipboard EW Improvement Program	13.229	27.714	54.546	19.799	18.150	18.508	18.871
2190 / NULKA Decoy	3.949	5.868	3.028	2.043	2.554	1.985	2.013
9999 / CONGRESSIONAL ADD	9.449	4.783	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

0954 - 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. 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 will be in progress, potential alternate element and component surveys performed, and ongoing Cost As an Independent Variable (CAIV) efforts will be employed throughout to aid decision-making. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources. The capabilities and subsystems included in Blocks can change as technology matures for integration.

2190 - 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 (ASMs) 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 program to integrate the Mk 53 Decoy Launching System with Ship Self Defense System (SSDS) and an upgrade to counter emerging threats.

FY07 Congressional Adds: NULKA Decoy System, Advanced Radar Absorbing Tile for Surface Ships, Shipboard Electronic Warfare Improvement Program, SLQ-32 ESM System Interference Cancellation.

FY08 Congressional Adds: 9999 EW Concept Demonstrator for LCS of $.797; 9999 Advanced Radar Absorbing Tile for Surface Ships for $ 1.993; Congressional adjustment for $1.993

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget	21.133	34.323	37.869
FY 2009 President's Budget	26.627	38.365	57.574
Total Adjustments	5.494	4.042	19.705
Summary of Adjustments			
Program Adjustments	6.000	0.000	20.015
Congressional Adds	0.000	4.783	0.000
Undistributed General Increases	0.000	0.000	0.006
Undistributed General Reductions	-0.506	-0.741	-0.316
Subtotal	5.494	4.042	19.705

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**				PROJECT NUMBER AND NAME **0954/Shipboard EW Improvement Program**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	13.229	27.714	54.546	19.799	18.150	18.508	18.871
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition program of incremental upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems. SEWIP will provide necessary EW capabilities and will incorporate technology advances as they become available to provide incremental capability upgrades and improvements in performance. Continuous technology in progress reviews, potential alternate element and component surveys, and ongoing Cost As an Independent Variable (CAIV) efforts will be performed and employed throughout the program to aid decision-making. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources. The capabilities and subsystems can change as technology matures for integration.

SEWIP Block 1 is segmented into Block 1A, and Block 1B. Block 1A upgrades the SLQ-32 display console and pulse-processing computers, allowing the system to more quickly identify threats and better display the information to the operator. The new Improved Control and Display (ICAD)Human System Interface (HSI) console, and the new Electronic Surveillance Enhancements (ESE) pulse processing computers will partially open the electronic warfare system architecture to support subsequent EW capability upgrades. Block 1A is in production with the FRP decision provided August 2006. Block 1B adds Specific Emitter Identification (SEI) in a stand-alone configuration (1B1), and as a fully ICAD-integrated configuration (1B2). Block 1B also adds High Gain High Sensitivity (HGHS) (1B3) to improve threat correlation and situational awareness. Block 1B SEI (1B1 and 1B2) is scheduled to begin at-sea DT/OT testing in FY08. Block 1B HGHS (1B3) is scheduled to begin at-sea DT/OT testing in FY11.

Through efforts formerly reported as Block 1C, ESE and ICAD development will be extended to ships with active variants of SLQ-32 (that is, (V)3 and (V)4). AN/SLQ-32V(4) Electronic Surveillance Enhancements upgrades (V(4) ESE)provides proven Block 1A (V)3 ESE processing adapted to the aircraft carrier variant of SLQ-32.Improved Control and Display (ICAD) for AN/SLQ-32 V(3/4) provides ICAD for both active EW system variants.

SEWIP Block 2 is expected to be a separate ACAT II program to develop an upgraded antenna and receiver for SLQ-32. The upgrades are necessary in order to pace the threat, improving detection and accuracy as well as improving mitigation of Electromagnetic Interference (EMI).

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDTEN/BA 5	**0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**	**0954/Shipboard EW Improvement Program**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	10.308	9.909	4.785
RDT&E Articles Quantity	0	0	0

Block 1B1/1B2 SEI. Transitions stand alone Specific Emitter Identification (SEI) RDC under formal acquisition as directed and adds 1B1 ECPs configuration updates. Provides integrated SEI improvements to the Improved Control and Display (ICAD) with display upgrades and Network Centric Warfare Electronic Support (NCWES) - all added capability to the AN/SLQ-32B(V) System. System enhancements notably increase Anti-Ship Missile Defense (ASMD), by increasing the confidence of the situational awareness of the Electronic Warfare (EW) environment for a ship or strikegroup. ICAD improvments provide reduced workload for the operator with Human Systems Interface (HSI) enhancements, Mission Planning capability, and Embedded Training to improve operator proficiency. SEI provides a high confidence means of identifying contacts of interest within the operating area. NCWES provides a direct link to off-board information to enhance the awareness of the AN/SLQ-32 operator. The final upgraded system has completed Factory Qualification Testing, land based developmental testing, and is scheduled to begin combined developmental and operational test and evaulation (TECHEVAL and OPEVAL) at-sea in FY08 to support a Full Rate Production decision for SEI (1B1/1B2).

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.921	8.218	17.245
RDT&E Articles Quantity	0	0	0

Block 1B3 builds off the foundation of the 1B2-enhanced AN/SLQ-32B(V) system and significantly increases warfighting capability with the addition of the High Gain High Sensitivity (HGHS)). HGHS provides improved situational awareness and early warning capability against Anti-Ship Missiles. HGHS technology will be matured through System Development and Demonstration (SDD) and integrated with SLQ-32 through ICAD, culminating in planned at-sea operational testing in 2011.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	4.758	4.586
RDT&E Articles Quantity	0	0	0

Through efforts formerly reported as Block 1C, ESE and ICAD development will be extended to ships with active variants of SLQ-32 (that is, (V)3 and (V)4). AN/SLQ-32 V(4) Electronic Surveillance Enhancements upgrades (V(4) ESE) provides proven Block 1A (V)3 ESE processing adapted to the aircraft carrier variant of SLQ-32. Improved Control and Display (ICAD) for AN/SLQ-32 V(3/4) provides ICAD for both active EW system variants.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	4.829	27.930
RDT&E Articles Quantity	0	0	0

SEWIP Block 2 provides an upgraded receiver, antenna, and combat system interface for SLQ-32. This upgrade is applicable to both forward fit (e.g., DDG-1000 and CVN 78) and back-fit ships. This upgrade will greatly improve the Navy's Surface Electronic Warfare (EW) capabilities against emerging threats, as well as better integrate EW capabilities into the combat direction/management system. This effort consists of transitioning technology developed by the Office of Naval Research into SDD. At-sea testing is planned to be coincident with that for DDG-1000. Effort in FY08 will lead to contract award in early FY09 for a base Engineering Development Model (EDM) design effort.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**	PROJECT NUMBER AND NAME **0954/Shipboard EW Improvement Program**	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN BA-2 AN/SLQ-32(V)2312)	25.682	29.656	29.280					CONT	CONT
O&M,N AN/SLQ032 (12CR0/1C2C)	6.206	5.147	5.697					CONT	CONT

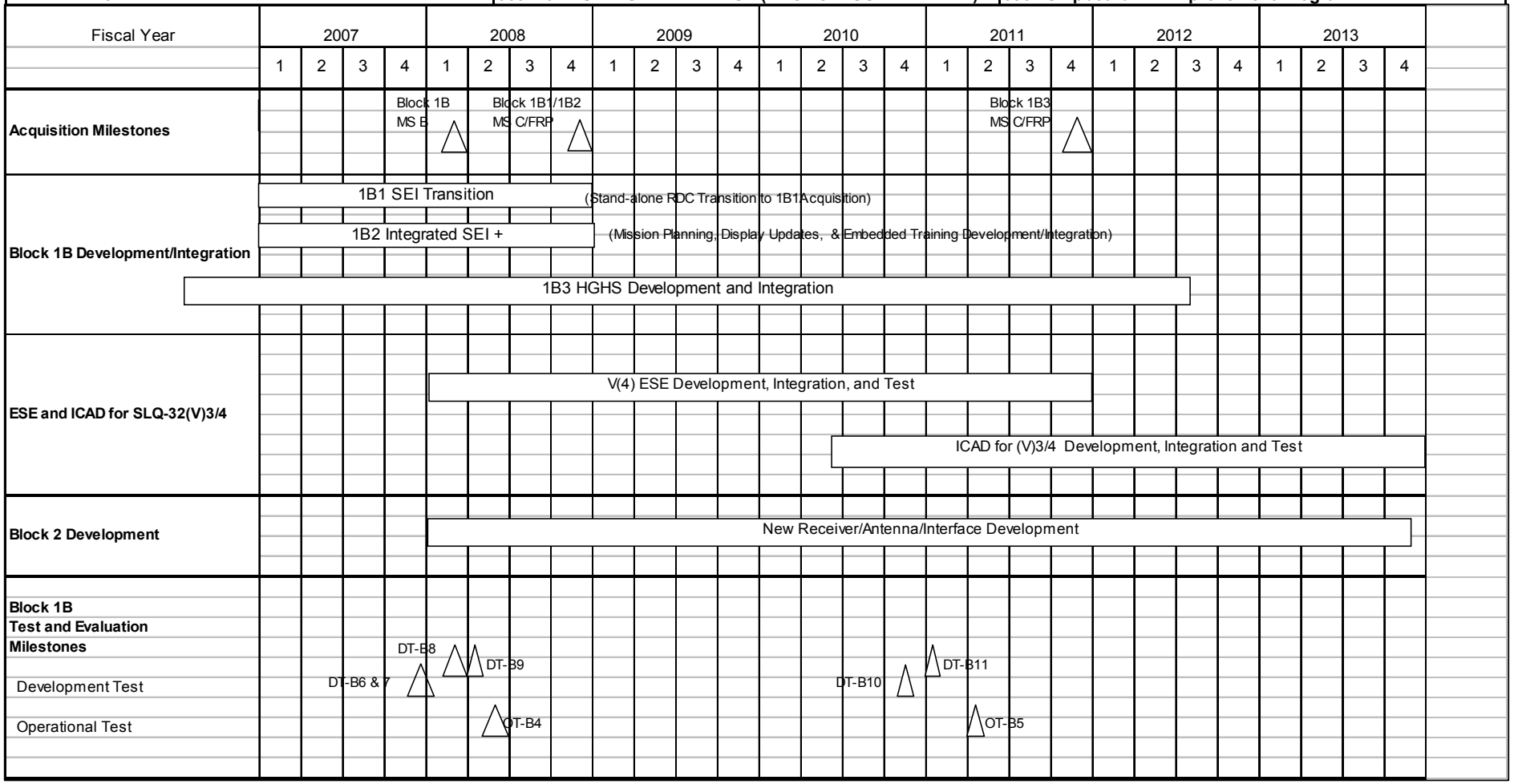
D. ACQUISITION STRATEGY:

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 meetstrike group schedule requirements and make best use of available improvements and resources.

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**					PROJECT NUMBER AND NAME **0954/Shipboard EW Improvement Program**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Ancillary Hardware Development			151.420	0.000		0.000		0.000		0.000	151.420	0.000
ESE Development (Block 1A)	SS / FFP	Northrop Grumman	5.001	0.000		0.000		0.000		TBD	5.001	0.000
ICAD Development-SBIR Phase III (Block 1A)	SS / CPFF	GD-AIS	11.747	0.000		0.000		0.000		TBD	11.747	0.000
ESE Development (Block 1A)	SS / CPFF	Northrop Grumman	0.471	0.000		0.000		0.000		TBD	0.471	0.000
System Integrator	SS / CPAF	GD-AIS	10.427	1.126	JAN-07	1.722	NOV-07	2.612	NOV-08	TBD	CONT	0.000
1B Development	SS / CPAF	GD-AIS	39.627	4.423	NOV-06	10.021	NOV-07	12.651	NOV-08	TBD	CONT	0.000
1C Development	TBD	Northrop Grumman	0.000	0.000		2.275	NOV-07	1.988	NOV-08	TBD	CONT	0.000
Q-70 Mods	SS / CPFF	LM-EAGAN	3.491	0.000		0.000		0.000		TBD	CONT	0.000
Block 2 Study/Development	MIPR/CPIF	BAE & Others	0.336	0.000		2.560	NOV-07	20.198	NOV-08	TBD	CONT	0.000
Subtotal Product Development			**222.520**	**5.549**		**16.578**		**37.449**		**CONT**	**CONT**	**0.000**
Remarks:												
Integrated Logistics Support	WR	NSWC Crane, DD, NRL	7.893	0.927	JAN-07	1.091	NOV-07	1.237	NOV-08	TBD	CONT	0.000
Government Engineering Support	WR	NSWC Crane, DD, NRL	27.985	1.756	NOV-06	3.448	NOV-07	5.297	NOV-08	TBD	CONT	0.000
Integration and Test	WR	NSWC Crane, DD, NRL	0.605	0.248	JAN-07	0.854	NOV-07	1.090	NOV-08	TBD	CONT	0.000
TTP & Producibility	WR	NSWC Crane, DD, NRL	0.000	0.000		0.177	NOV-07	0.000		TBD	CONT	0.000
Subtotal Support Costs			**36.483**	**2.931**		**5.570**		**7.624**		**CONT**	**CONT**	**0.000**
Remarks:												
Developmental Test & Evaluation	Various	Various	8.958	0.000		0.000		0.000		0.000	8.958	0.000
Block 1A Test Planning/T&E Events	WR	NSWC Crane, DD, NRL	11.036	0.000		0.000		0.000		0.000	11.036	0.000
Block 1B Test Planning/T&E Events	WR	NSWC Crane, DD, NRL, NAVAIR, OPTEVFOR, NSWC PHD	4.112	2.586	JAN-07	2.947	NOV-07	2.761	NOV-08	TBD	CONT	0.000
Block 1C Test Planning/T&E Events	WR	NSWC Crane, DD, NRL	0.000	0.000		0.000		1.489	NOV-08	TBD	CONT	0.000
Block 2 Test Planning/T&E Events	WR	NSWC, Crane, DD, NRL	0.000	0.000		0.000		0.501	NOV-08	TBD	CONT	0.000
Subtotal Test and Evaluation			**24.106**	**2.586**		**2.947**		**4.751**		**CONT**	**CONT**	**0.000**
Remarks:												
Program Management Support	C / FFP	SEAPORT	25.149	1.200	NOV-06	1.200	NOV-07	1.958	NOV-08	TBD	CONT	0.000
Program Management Support	WR	NSWC Crane, DD, NRL	7.892	0.863	NOV-06	1.319	NOV-07	2.564	NOV-08	TBD	CONT	0.000

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**					PROJECT NUMBER AND NAME **0954/Shipboard EW Improvement Program**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Travel	PD	NAVSEA Program Office Travel	0.405	0.100	NOV-06	0.100	NOV-07	0.200	NOV-08	TBD	CONT	0.000
Subtotal Management Services			**33.446**	**2.163**		**2.619**		**4.722**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**316.555**	**13.229**		**27.714**		**54.546**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**	PROJECT NUMBER AND NAME **0954/Shipboard EW Improvement Program**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**			PROJECT NUMBER AND NAME **0954/Shipboard EW Improvement Program**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SEI Stand Alone Transition	1Q-4Q	1Q-4Q					
SEI Integrated / ICAD Improvement / NCWES Development and Integration	1Q-4Q	1Q-4Q					
HGHS Development / Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q	
Developmental Test Readiness Review (Block 1B1/1B2)	4Q						
Block 1B1/1B2 Developmental Test (DT-B6/7)	4Q	1Q					
Block 1B MS B decision		1Q					
(V)4 ESE Upgrade Development / Ingegration		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
New Receiver / Antenna / Interface Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Block 1B1/1B2 Developmental Test (DT-B8)		1Q					
Developmental Test Readiness Review (Block 1B1/1B2)		2Q					
Block 1B1/1B2 Developmental Test (DT-B9)		2Q					
Operational Test Readiness Review (Block 1B1/1B2)		2Q					
Block 1B1/1B2 Operational Test (OT) (OT-B4)		2Q					
Block 1B1/1B2 MS C/FRP		4Q					
ICAD for (V)3/4 Development, Integration and Test				3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Block 1B3 Developmental Test (DT-B10)				4Q			
Developmental Test Readines Review (Block 1B3)				4Q			
Block 1B3 Developmental Test (DT-B11)					1Q		
Operational Test Readiness Review (Block 1B3)					2Q		
Block 1B3 Operational Test (OA) (OT-B5)					2Q		
Block 1B3 MS C/FRP					4Q		

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**				PROJECT NUMBER AND NAME **2190/NULKA Decoy**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	3.949	5.868	3.028	2.043	2.554	1.985	2.013
RDT&E Articles Qty	0	0	0	0	0	0	0

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 (ASMs) 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 program to integrate the MK 53 Decoy Launching System with Ship Self Defense System (SSDS) and an upgrade to counter emerging threats.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**	PROJECT NUMBER AND NAME **2190/NULKA Decoy**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.971	1.000	1.100
RDT&E Articles Quantity	0	0	0

NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies and Fly Out Tactics.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.978	1.996	1.928
RDT&E Articles Quantity	0	0	0

Continue the development of NULKA decoy enhancements to include increased duty cycle and Electromagnetic Compatibility (EMC).

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	2.872	0.000
RDT&E Articles Quantity	0	0	0

Conduct at-sea test of upgraded Decoy Launching System (DLS) software.

C. OTHER PROGRAM FUNDING SUMMARY:

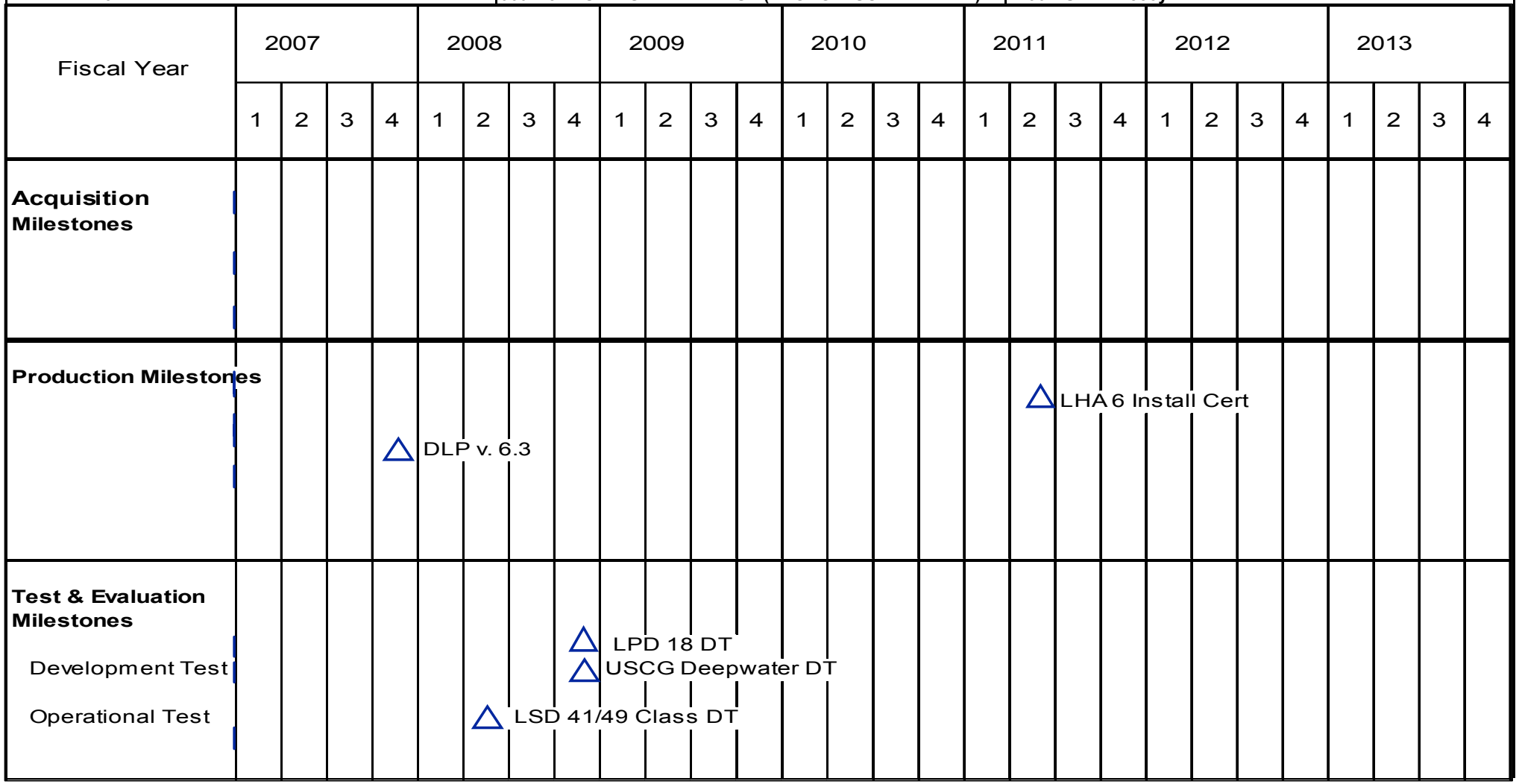
Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN: Anti-Ship Missile Decoy System / 5530	55.588	42.099	38.077					CONT	CONT
O&MN: Nulka / Anti-Ship	1.941	3.201	3.294					CONT	CONT

D. ACQUISITION STRATEGY:

NULKA is a joint cooperative program between United States and Australia in full rate production.

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**					PROJECT NUMBER AND NAME **2190/NULKA Decoy**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Primary Hardware Development	RC	NSWC, Crane, IN	3.000	0.000		0.000		0.000		0.000	3.000	0.000
Primary Hardware Development	RX	BAES/Sippican	5.656	0.000		0.000		0.000		0.000	5.656	0.000
Primary Hardware Development	MIPR	BAES	4.233	1.783	NOV-06	1.794	NOV-07	0.000		CONT	CONT	0.000
Systems Engineering	WR	NRL	8.988	1.708	VAR	0.604	TBD	0.000		CONT	CONT	0.000
Systems Engineering	WR	NWAD China Lake	0.120	0.000		0.000		0.000		0.000	0.120	0.000
Mk 53 System Eng Changes	FFP	Sechan	0.150	0.000		0.000		0.000		0.000	0.150	0.000
Systems Engineering	RX	NSWC Dahlgren, VA	0.444	0.208	VAR	0.400	NOV-07	0.000		CONT	CONT	0.000
Systems Engineering	RX	NSMA, VA	0.360	0.000		0.000		0.000		0.000	0.360	0.000
Systems Engineering	WR	NSWC Crane, IN	0.227	0.200	VAR	0.000		0.000		0.000	0.427	0.000
Subtotal Product Development			**23.178**	**3.899**		**2.798**		**0.000**		**CONT**	**CONT**	**0.000**
Remarks:												
Development Support	RX	NRL	1.314	0.000		0.000		1.413	NOV-08	0.000	2.727	0.000
Software Development	WR	NSWC Dahlgren	2.527	0.000		0.000		1.415	TBD	0.000	3.942	0.000
Subtotal Support Costs			**3.841**	**0.000**		**0.000**		**2.828**		**0.000**	**6.669**	**0.000**
Remarks:												
Developmental Test & Evaluation	WR	NSWC Dalhgren, VA	0.000	0.000		0.700	TBD	0.000		0.000	0.700	0.000
Developmental Test & Evaluation	WR	NRL	0.000	0.000		1.472	TBD	0.000		0.000	1.472	0.000
Test Assets	WR	NRL	0.000	0.000		0.700	TBD	0.000		0.000	0.700	0.000
Subtotal Test and Evaluation			**0.000**	**0.000**		**2.872**		**0.000**		**0.000**	**2.872**	**0.000**
Remarks:												
Program Management Support	FFP	SEAPORT	0.419	0.000		0.135		0.135		0.000	0.689	0.000
Travel	PD	NAVSEA Program Office Travel	0.353	0.050		0.063		0.065		CONT	CONT	0.000
Subtotal Management Services			**0.772**	**0.050**		**0.198**		**0.200**		**CONT**	**CONT**	**0.000**
Remarks:												
Total Cost			**27.791**	**3.949**		**5.868**		**3.028**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**	PROJECT NUMBER AND NAME **2190/NULKA Decoy**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**			PROJECT NUMBER AND NAME **2190/NULKA Decoy**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
DLP v 6.3	4TH QTR						
LSD 41/49 CLASS DT		2ND QTR					
LPD 18 DT		4TH QTR					
USCG DEEPWATER DT		4TH QTR					
LHA 6 INSTALL CERTIFICATION					2ND QTR		

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604757N/SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**	PROJECT NUMBER AND NAME **9999/Congressional Add**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
2441C/Nulka Decoy System	1.750	0.000	0.000
RDT&E Articles Quantity	0	0	0
Nulka research for development of additional capability against anti-ship missiles.			

	FY 2007	FY 2008	FY 2009
9243C Advanced radar absorbing tiles for surface ships	1.373	0.000	0.000
RDT&E Articles Quantity	0	0	0
Develop advanced radar absorbing materials.			

	FY 2007	FY 2008	FY 2009
9A53N Shipboard Electronic Warfare Improvement Program	3.163	0.000	0.000
RDT&E Articles Quantity	0	0	0
Receiver Replacement Studies, which includes the Shipboard Leverage Electronic Warfare System and Sea Raptor			

	FY 2007	FY 2008	FY 2009
9A54N SLQ-32 ESM System Interference Cancellation	3.163	0.000	0.000
RDT&E Articles Quantity	0	0	0
Modify the SLQ-32 to “see through” the interference caused by the installation of new communications system.			

	FY 2007	FY 2008	FY 2009
9999 Electronic Warfare Concept Demonstrator for the Littoral Combat	0	0.797	0.000
RDT&E Articles Quantity	0	0	0
Develop Electronic Warfare Concept Demonstrator for the Littoral Combat System.			

	FY 2007	FY 2008	FY 2009
9999 Advanced Radar Absorbing Tiles for Surface Ships	0	1.993	0.000
RDT&E Articles Quantity	0	0	0
Develop advanced radar absorbing materials.			

	FY 2007	FY 2008	FY 2009
9999 Congressional adjustment		1.993	0.000
RDT&E Articles Quantity	0	0	0
Congressional adjustment.			

Exhibit R-2, RDT&E Budget Item Justification								Date: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDTEN/5				R-1 ITEM NOMENCLATURE 0604761N Intelligence Engineering					
COST ($ in Millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	Cost to Complete	Total Cost
3103	3.878	1.927	13.750	4.647	4.785	4.894	4.991	CONT	CONT

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Navy Foreign Materiel Program provides high leverage cost benefit through acquisition of foreign manufactured equipment with military application and potential military application and the subsequent exploitation of that materiel for potential vulnerabilities and countermeasures.

APPROPRIATION/BUDGET ACTIVITY
RDTEN/BA5

R-1 ITEM NOMENCLATURE
0604761N Intelligence Engineering

B. (U) PROGRAM CHANGE SUMMARY:

	FY07	FY08	FY09
FY 2008 President's Budget	4.847	1.959	2.090
FY 2009 President's Budget	3.878	1.927	13.750
Delta	-.969	-.032	11.660
Summary of Adjustments			
Miscellaneous Adjustments	-.969		
Congressional Undistributed Adjustments		-0.32	
Maritime Domain Awareness			11.660

C. (U) PROGRAM CHANGE EXPLANATION:
Project 3103: FY 2007 delta reflects a reduction for higher Navy priorities. FY 2008 delta reflects congressional adjustments/reductions. FY 2009 delta reflects an increase for the Maritime Domain Awareness (MDA) Augmentation.

D. OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) Project 3103: Development of tactical and scientific intelligence collection and processing equipment.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

(U) FY 2007 PLAN ($3.878M):
- (U) Cluster Telesto/Cluster Wolverine
- (U) Cluster Azide
- (U) Project Renata
- (U) Foreign Materiel Acquisition

(U) FY 2008 PLAN ($1.927):
- (U) Foreign Materiel Exploitation
- (U) Foreign Materiel Acquisition

(U) FY 2009 PLAN ($13.750):
- (U) Foreign Materiel Exploitation
- (U) Foreign Materiel Acquisition
- (U) Maritime Domain Awareness (MDA) Augmentation

Exhibit R-2, RDT&E,N Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E,N BA 5			R-1 Item Nomenclature: Medical Development 0604771N				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	$33,063	$42,779	$7,833	$7,893	$7,912	$8,043	$8,188
Medical/Dental Equipment Development/0933	$7,486	$7,803	$7,833	$7,893	$7,912	$8,043	$8,188
Congressional Adds/9999	$25,577	$34,976	$0	$0	$0	$0	$0

A. **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 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.

B. **Program Change Summary:**	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget	$7,634	$7,973	$7,818
FY 2009 President's Budget	$33,063	$42,779	$7,833
Total Adjustments	$25,429	$34,806	$15
Program Adjustments:			
Congressional Adds	$25,577	$35,200	$0
Small Business Innovation Research	-$531	$0	$0
Execution Realignment	$383	-$120	$0
Miscellaneous Adjustments	$0	$0	$15
Contract Efficiencies	$0	-$69	$0
Economic Assumptions	$0	-$205	$0
Total Adjustments	$25,429	$34,806	$15
Total Adjustments	$25,429	$34,806	$15

C. **Other Program Funding Summary:**

D. **Acquisition Strategy:**

E. **Performance Metrics:**

Exhibit R-2a, RDT&E,N Project Justification							Date: DECEMBER 2007
Appropriation/Budget Activity RDT&E,N/BA 5				Medical Development 0604771N			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Medical/Dental Equipment Development/0933	$7,486	$7,803	$7,833	$7,893	$7,912	$8,043	$8,188
RDT&E,N Articles Quantity							

A. **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 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.

B. **Accomplishments/Planned Program**

		FY 2007	FY 2008	FY 2009	FY 2010	
Accomplishment/Effort/Subtotal Cost		$7,486	$7,803	$7,833	$7,893	
RDT&E,N Articles Quantity						

FY 2008 Plan:

Stasis Preclinical Trials for Trauma Indications - Conduct preclinical trials of an infusible hemostatic agent. The agent is designed for applications to non-compressible injuries.

Heterotopic Ossification Incidence: Identify incidence and degree of heterotopic ossification associated with trauma treatment in theater.

The Use of the Vacuum Assisted Wound Closure Device and Quantitative Bacteriology in Extremity Wound Closure - Continue data collection and analysis of VAWCD effluent for quantitative bacteriology and cytokine/growth factor expression. Complete patient enrollment and finalize data analysis.

Mobile Oxygen Ventilation and External Suction (MOVES) System - Finalize configuration for product delivery for IOC. Complete final design of MOVES anesthesia module. Initiate redesign for using MOVES in Navy Expeditionary Resuscitative Surgery System (ERRS).

Clinical Trial of a Newly Developed Forward-Deployable Dental Dressing - conduct field efficacy testing with the USMC of a novel dental treatment technology.

The Use of Anti-Oxidants to Augment Outcome in Patients with Balance Disorders After Blast Injury and Blunt Head Trauma- Initiate clinical investigations into the efficacy of antioxidants to reduce the vestibular and auditory effects of blast exposure.

Restoration of Endodontically-Treated or Compromised Teeth to Prevent or Rehabilitate Tooth Fracture Using Computer-Aided Direct Ceramic/Composite Full-Coverage Restoration - Complete efficacy studies of CEREC technology for rapid treatment of dental injuries.

Enhanced Spatial Disorientation Training: Basic, Clinical and Operational Aspects - Continue development of state of the art spatial orientation technologies to investigate methods for mitigation spatial disorientation in aviators.

Exhibit R-2a, RDT&E,N Project Justification						Date: DECEMBER 2007	
Appropriation/Budget Activity RDT&E,N/BA 5				Medical Development 0604771N			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Medical/Dental Equipment Development/0933	$7,486	$7,803	$7,833	$7,893	$7,912	$8,043	$8,188
RDT&E,N Articles Quantity							

FY 2008 Plan:

Cricothyroidotomy Device - Final configuration designs of a novel cricothryoidotomy device for use in far-forward battle areas. This is a joint program with the USMC and US Army.

Refinement and Development of Medical Planning Factors Among the Services - Finalize evaluation of modelling technologies for medical planning. Update and augment algorithms using data collected from CTR and other sources. Final Report

Development of Capability-Based Expeditionary Medical Treatment Facilities - Complete data collection and analysis for updating and resupply. Integrating with TML+ continues. Publish final report.

Improved Administration of Anti-Motion Sickness Medications - Finalize data collection and report preparation. Complete development of guidelines for dissemination and final transition to USSOCOM and NOMI. Final Report.

Joint Development Projects with MARCORSYSCOM Medical Acquisition - Initiate Joint Development Testing and Evaluation program for medical products and equipment. Finalize development for USMC Procurement.

Transition Projects from Force Health Protection Future Capability - Initiate Development, Testing, and Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development program. Focus will be on transition of novel hemostatic agents (e.g. infusible hemostatics and field/first responder devices).

RHESUS: Restore Effective Survival in Shock - Initiate Phase Imia clinical trials for use of Hemoglobin-based Oxygen Carrier in trauma treatment.

Establishing a 3D Craniofacial Image Protocol and Pre-Injury Database - Establish a pre-traumatic 3D image database for soft and hard tissue for use to re-establish structures for reconstruction of craniofacial abnormalities. Fabricate surgical guides to decrease OR time and increase predictability of surgical outcomes.

Validation of a Readiness to Fly Assessment Tool - Develop an operational readiness assessment tool that is web- or computer-based to assess an aviator's readiness to fly based on cognitive abilities crucial to heavy mental workload of aircraft operations and the effects of fatigue.

Development of the Medical Force Planning Factors - Measure the effectiveness of combat casualty medical care and preventive gear.

LED Surgical Lamp for FRSS - Complete development of a light-weight, 21-LED surgical lamp that will operate under extreme conditions.

Disposable Chair-Side Amalgam Separation System for Dental Chairs - Finalize an amalgam separation system to remove mercury and other heavy metals from wastewater leaving Navy dental treatment facilities.

Clinical Evaluation of a Vaxfectin TM - Formulated Tetravalent Dengue DNA Vaccine (VTDDV) - Initial clinical investigations trials on four sterotypes of dengue.

Evaluation of HemCon's Dental Dressing for Controlling Hemorrhage - Finalize the assessment of the stability/shelf-life of the product under extreme environmental operating conditions.

Thermal Insulatin Performance of MK11 SEIE Submarine Escape Suit - Improved life draft design; compare user-reported levels of fatigue/physical discomfort associated with long durations in the MK10 raft versus the MK11 raft.

Exhibit R-2a, RDT&E,N Project Justification						Date: DECEMBER 2007	
Appropriation/Budget Activity RDT&E,N/BA 5				Medical Development 0604771N			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Medical/Dental Equipment Development/0933	$7,486	$7,803	$7,833	$7,893	$7,912	$8,043	$8,188
RDT&E,N Articles Quantity							

FY 2009 Plan:

Joint Development Projects with MARCORSYSCOM Medical Acquisition - Initiate Joint Development Testing and Evaluation program for medical products and equipment. Finalize development for USMC Procurement.

Transition Projects from Force Health Protection Future Capability - Initiate Development, Testing, and Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development program. Focus will be on transition of novel hemostatic agents (e.g. infusible hemostatics and field/first responder devices).

C. **Other Program Funding Summary:** Not applicable

D. **Acquisition Strategy:** Not applicable

E. **Performance Metrics:** Not Applicable

Exhibit R-2a, RDT&E,N Budget Item Justification		Date: February 2008	
Appropriation/Budget Activity RDT&E,N BA 5		Medical Development 0604771N	
Cost ($ in millions)	FY 2007	FY 2008	FY 2009
9999 Congressional Adds - VARIOUS	$25,577	$35,200	$0
RDT&E,N Articles Quantity:			

A. **Mission Description and Budget Item Justification:** Congressional Adds.

B. **Accomplishments/Planned Program**

	FY 2007	FY 2008	FY 2009
Accomplishment/Effort/Subtotal Cost			
RDT&E,N Articles Quantity			
Military Dental Research/2896	$3,892	$1,600	
Biomedical Research Imaging Core - COH National Medical Center/9003	$1,311	$0	
Community Hospital Telehealth Consortium/9005	$972	$0	
Discovery, Early Detection, Evaluation, Treatment and Prevention/9397	$3,892	$0	
Infusible Hemostatic Therapeutic Trials/9592	$1,942	$0	
Diabetes Research, Somatic Cell Processing Program/9596	$1,363	$1,600	
HUVACTC Proton Beam Therapy Research/9738	$972	$0	
On Demand Custom Body Implants/Prosthesis for Injured Personnel/9742	$1,312	$1,600	
Thermotube Battlefield Body Temperature/9A55	$496	$0	
Next Generation Networking Electronic Medical Records Project	$6,783	$0	
Validation of Prognostic Health Management	$1,000		

Exhibit R-2a, RDT&E,N Budget Item Justification		Date: February 2008	
Appropriation/Budget Activity RDT&E,N BA 5		Medical Development 0604771N	
Cost ($ in millions)	FY 2007	FY 2008	FY 2009
9999 Congressional Adds - VARIOUS	$25,577	$35,200	$0
RDT&E,N Articles Quantity:			
A. **Mission Description and Budget Item Justification:** Congressional Adds. B. **Accomplishments/Planned Program**			
Center for Deployment Psychology	$0	$1,000	
Granular Chitosan Clotting Agent for Anti-Coagulated Hypothermic Blood	$0	$1,200	
Implantable Middle Ear Hearing System	$0	$1,000	
Mobile Oxygen, Ventilation and External Suction (MOVES)	$0	$2,000	
Penn State Caner Institute	$0	$5,600	
Strategies to Mitigate Individual Stress Reactivity and operational Stress Reactions in the Military	$0	$1,200	
US Navy Pandemic Influenza Vaccine Program	$0	$1,600	
VisualDX Image-Based Real-Time Clinical Decision Support	$0	$2,400	
Multivalent Dengue Vaccine Program	$0	$3,000	
Next Generation Networking Electronic Medical Records Project	$0	$4,000	
Advanced Research and Development of Hemostatic Agents (USMC)	$0	$3,200	
Phase 1 Clinical Trial	$0	$3,200	
Hampton University Cancer Treatment Initiatives	$0	$1,000	

Exhibit R-2a, RDT&E,N Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E,N BA 5	Medical Development 0604771N

Cost ($ in millions)	FY 2007	FY 2008
9999 Congressional Adds - VARIOUS	$25,577	$35,200
RDT&E,N Articles Quantity:		

A. **Mission Description and Budget Item Justification:** Congressional Adds.

B. **Accomplishments/Planned Program**
FY 2008 Plans:

Military Dental Research/2896	Develop innovative designs for dental care and dental health for CONUS and OCONUS operations. Conduct critical research in development of rapid-read diagnostic tests and other protective measures that helped reduce the severity and number of casualties due to dental and other medical emergencies.
Infusible Hemostatic Therapeutic Trials/9592	Continue to explore the use of infusible agents in the control of non-compressible bleeding.
Diabetes Research, Somatic Cell Processing Program/9596	Continue research to develop and demonstrate improvements in specific areas to include cell sorting, analysis, and imaging which have provided notable improvements to the cell isolation process and increase the areas of research for tissue-engineered end products.
On Demand Custom Body Implants/Prosthesis for Injured Personnel/9742	Continue testing and evaluation of Phase I efforts to develop manufacturing methods and materials necessary for rapid prototyping and delivery of prostheses. Apply state-of-the-art CAD/CAM procedures to prosthesis manufacturing technology.
Center for Deployment Psychology	Initiate baseline psychological reviews of the warfighter prior to deployment; psychologically prepare everyone in the realities of war; and to provide cultural awareness.
Granular Chitosan Clotting Agent for Anti-Coagulated Hypothermic Blood	Research and establish further development of the effects of the CELOX hemostatic agents based on the positively-charged CELOX granules which bind to negatively-charged red blood cells, thus forming a clotting mechanism that works independently of biological blood-clotting factors, requiring further research of how CELOX can be used on heparinized blood.
Implantable Middle Ear Hearing System	Continue to investigated the military applicability of implantable hearing systems that counter the effects of noise-induced hearing loss without the drawbacks of conventional hearing aids.
Mobile Oxygen, Ventilation and External Suction (MOVES)	Continue protyping of the Monitoring, Oxygen Ventilation and External Suction System (MOVES) beta model to allow for the completion of the animal, human factors, and human clinical testing of MOVES. Beta development is planed for FY08 as a next generation research and development spiral, based on feedback from the warfighter, which will then address FDA approval once all testing has been completed.
Penn State Caner Institute	Continuation of R&D efforts in support of the new Penn State Cancer Institute (PSCI) and the focus on expansion of translational cancer research capabilities in the areas of the breast, colon, and treatment of cancer.

Exhibit R-2a, RDT&E,N Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E,N BA 5	Medical Development 0604771N

Cost ($ in millions)	FY 2007	FY 2008
9999 Congressional Adds - VARIOUS	$25,577	$35,200
RDT&E,N Articles Quantity:		

A. **Mission Description and Budget Item Justification:** Congressional Adds.

B. **Accomplishments/Planned Program**

Strategies to Mitigate Individual Stress Reactivity and operational Stress Reactions in the Military	Develop stress-coping resources and interventions for combat deployed military personnel, their families, and the providers who support their psychological health needs. Educational materials and self-help exercises will be developed to assist returning war veterans as they readjust to domestic conditions and reintegrate with their families. Training materials will be developed for both active duty and civilian providers, to enhance their ability to recognize the signs and symptoms of combat stress and provide optimal treatment.
US Navy Pandemic Influenza Vaccine Program	Conduct research to understand mechanistically how immune responses in the respiratory tract are imitated and regulated. The information will facilitate the improvement of existing vaccines and promote the development of new vaccine strategies meat to eli cit long-lasting protective immunity against respiratory pathogens.
VisualDX Image-Based Real-Time Clinical Decision Support	Continue to validated the usefulness and technical feasibility of the VisualDx software within the theater of combat healthcare system and to evaluate the benefits of VisualDx in terms of force health protection and readiness.
Multivalent Dengue Vaccine Program	Continue work to manufacture the two vaccine mixture under GMP conditions for a Phase I clinical investigation; execution of the Phase I clinical trial; and develop and test a single vaccine candidate that will produce neutralizing antibodies against all four sterotypes in vaccinated animals.
Next Generation Networking Electronic Medical Records Project	Continue to evaluate and demonstrate the networking, distribution and data sharing efficiencies that can be achieved through the use of technologies such as dynamic layer 7 routing. The phase-III portino of the project will further demonstrate the capability of a highly advanced integrated service platform to solve problems of network performance latency, scalability and integration complexity. Objective is to design and deploy solutions that demonstrates the ability to (a) solve the above listed issues common to all networked services, (b) highlight these benefits for Electronic Medical Record (EMR) services such as Medweb, BMIST, AHLTA, and (c) allow high-level and exponential extensibility to other networked services either intra-agency, inter-service; and across secure and non-secure networks while maintaining the integrity of security and location across networks
Advanced Research and Development of Hemostatic Agents (USMC)	Research improved functional modification to the QuikClot® hemostat in an effort to establish advanced functional applications and benefits of this sterile, traumatic wound treatment that rapidly arrests high-volume blood loss and achieves hemostasis in large wounds, arresting the hemorrhage before the casualty goes into shock.
Hampton University Cancer Treatment Initiatives	Initiation of R&D efforts in support of diagnosis and treatment of cancer.

C. **Other Program Funding Summary:** Not applicable

D. **Acquisition Strategy:** Not Applicable

E. **Performance Metrics:** Not Applicable

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification — DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5

R-1 ITEM NOMENCLATURE
0604777N NAVIGATION/ID SYSTEMS

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**45.045**	**41.226**	**49.007**	**48.498**	**45.376**	**51.565**	**52.583**
0253 Navigation and Electro-Optical Support	**7.806**	**7.508**	**7.942**	**8.196**	**8.425**	**8.585**	**8.745**
0676 Improved ID Development	**3.034**	**3.315**	**2.889**	**2.926**	**2.715**	**2.636**	**2.738**
0921 NAVSTAR GPS Equipment	**19.592**	**18.813**	**28.589**	**22.044**	**19.250**	**25.096**	**25.564**
1253 Combat ID System	**13.637**	**11.590**	**9.587**	**15.332**	**14.986**	**15.248**	**15.536**
9999 Congressional Increases	**0.975**						
Quantity of RDT&E Articles	**7**	**5**	**5**	**18**			

(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 Integrated Submarine Imaging System (ISIS) (0253) is a back fit system to integrate all imaging capabilities on existing submarine classes. 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 positioning, navigation and timing (PNT) system that provides authorized users with secure, worldwide, all weather, three dimensional position, velocity and precise time data. Navy Air and Sea Navigation Warfare (NAVWAR) are major elements of the GPS program. NAVWAR's mission is to provide continued access to GPS information in a denied environment. NAVWAR accomplishes this through the use of enhanced user equipment (UE). GPS Modernization addresses the Navy's future integration of GPS Joint Program Office (JPO) Modernized User Equipment (MUE) products being developed that will enable the use of new signals in space. WRN-X is a modernized ship GPS equipment development program required to provide a replacement for the existing WRN-6 receiver and other shipboard receivers. Navigation Sensor System Interface (NAVSSI) is a surface based system that integrates shipboard position, navigation and timing data and distributes the processed output to user systems and networks.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5**	R-1 ITEM NOMENCLATURE 0604777N NAVIGATION/ID SYSTEMS

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2007	FY 2008	FY 2009
FY08/09 President's Budget	47.887	42.121	48.947
FY09 President's Submit	45.045	41.226	49.007
Total Adjustments	-2.842	-0.895	0.060
Summary of Adjustments			
Small Business Innovative Research Tax (SBIR)	-0.642	-0.627	
Miscellaneous Congressional Adjustments		-0.268	
Miscellaneous Adjustments	-2.200		0.060
Subtotal	-2.842	-0.895	0.060

(U) Schedule:

Proj 0676: DDG 104 is now the Mode 5 OPEVAL platform, with an availability in 3Q of FY08 necessitating a change in Operational Test Readiness Review (OTRR) OPEVAL from 4Q FY07 to 3Q FY08. OPEVAL OUTBRIEF is now occurring only in 4Q of FY08.

Proj 1253: DDG 104 is now the Mode 5 OPEVAL platform, with an availability in 3Q of FY08 necessitating a change in Operational Test Readiness Review (OTRR) OPEVAL from 4Q FY07/1Q FY08 to 3Q FY08.OPEVAL OUTBRIEF is now occurring in 4Q of FY08.

Proj 0921: Changes to the Advanced Digital Antenna Production (ADAP) development schedule are due to late delivery of First Article hardware. This change also delayed Full Rate Production schedule from 3Q07 to 3Q08. NAVWAR Sea Phase 1B has been replaced by Increment 2, in which ADAP is integrated on all active surface ships.

Technical: Not applicable

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604777N/NAVIGATION/ID SYSTEM**				PROJECT NUMBER AND NAME **0253/Nav & Electro-Optical Supt**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	7.806	7.508	7.942	8.196	8.425	8.585	8.745
RDT&E Articles Qty	0	0	0	0	0	0	0

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 E-O 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.

The Department of the Navy 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 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.

This program funds the development of Patriot Radar Range Finding for Photonics for SSGN and VIRGINIA Class Submarines. Patriot for Photonics will provide SSGN and VIRGINIA Class submarines with enhanced situations awareness and collision avoidance. Currently Patriot has only been developed for SSN 688 and SSN 21 Class submarines. This effort will provide Patriot Radar Range Finding to SSGN and VIRGINIA Class submarines on the Photonics Mast.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604777N/NAVIGATION/ID SYSTEM**	PROJECT NUMBER AND NAME **0253/Nav & Electro-Optical Supt**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.365	0.154	0.147
RDT&E Articles Quantity	0	0	0

Upgrade/Resolve Obsolescent Photonics On-Board Team Trainer development.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	4.213	4.429	4.985
RDT&E Articles Quantity	0	0	0

Commence development of capabilities common to ISIS and Photonics, including: Image stitching, super resolution imaging, automatic visual detection, tracking and classification capabilities using the advanced processing build.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.028	0.915	1.040
RDT&E Articles Quantity	0	0	0

Develop Low Light Level TV, improved image processing, Photonics Imaging System all digital signal path and Photonics Integrated Control and Display.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.950	0.720
RDT&E Articles Quantity	0	0	0

Complete Photonics Imaging System EDM Shock Test and convert to the configuration control model.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.200	1.060	1.050
RDT&E Articles Quantity	0	0	0

Develop Patriot Radar Range Finding for Photonics for SSGN and VIRGINIA Class Submarines.

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0604777N/NAVIGATION/ID SYSTEM**					PROJECT NUMBER AND NAME **0253/Nav & Electro-Optical Supt**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Primary Hardware Development	Various	Various	3.264	2.470	OCT-06	1.889	OCT-07	1.760	OCT-08	CONT	CONT	0.000
Software Development	Various	Various	2.343	1.691	OCT-06	1.550	OCT-07	2.227	OCT-08	CONT	CONT	0.000
Systems Engineering	Various	Various	2.830	1.609	OCT-06	2.377	OCT-07	2.059	OCT-08	CONT	CONT	0.000
Miscellaneous	Various	Various	0.979	0.655	OCT-06	0.418	OCT-07	0.503	OCT-08	CONT	CONT	0.000
Subtotal Product Development			**9.416**	**6.425**		**6.234**		**6.549**		**0.000**	**CONT**	**0.000**
Remarks:												
Program Management Support	CPAF	AT&T	0.511	0.600	JAN-07	0.530	OCT-07	0.543		CONT	CONT	0.000
Subtotal Support Costs			**0.511**	**0.600**		**0.530**		**0.543**		**0.000**	**CONT**	**0.000**
Remarks:												
Development Test & Evaluation	Various	Various	1.580	0.731	OCT-06	0.694	OCT-07	0.800	OCT-08	CONT	CONT	0.000
Subtotal Test and Evaluation			**1.580**	**0.731**		**0.694**		**0.800**		**0.000**	**0.000**	**0.000**
Remarks:												
Travel	CPAF	AT&T	0.050	0.050		0.050		0.050		CONT	CONT	0.000
Subtotal Management Services			**0.050**	**0.050**		**0.050**		**0.050**		**0.000**	**0.000**	**0.000**
Remarks:												
Total Cost			**11.557**	**7.806**		**7.508**		**7.942**		**0.000**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604777N/NAVIGATION/ID SYSTEM**	PROJECT NUMBER AND NAME **0253/Nav & Electro-Optical Supt**

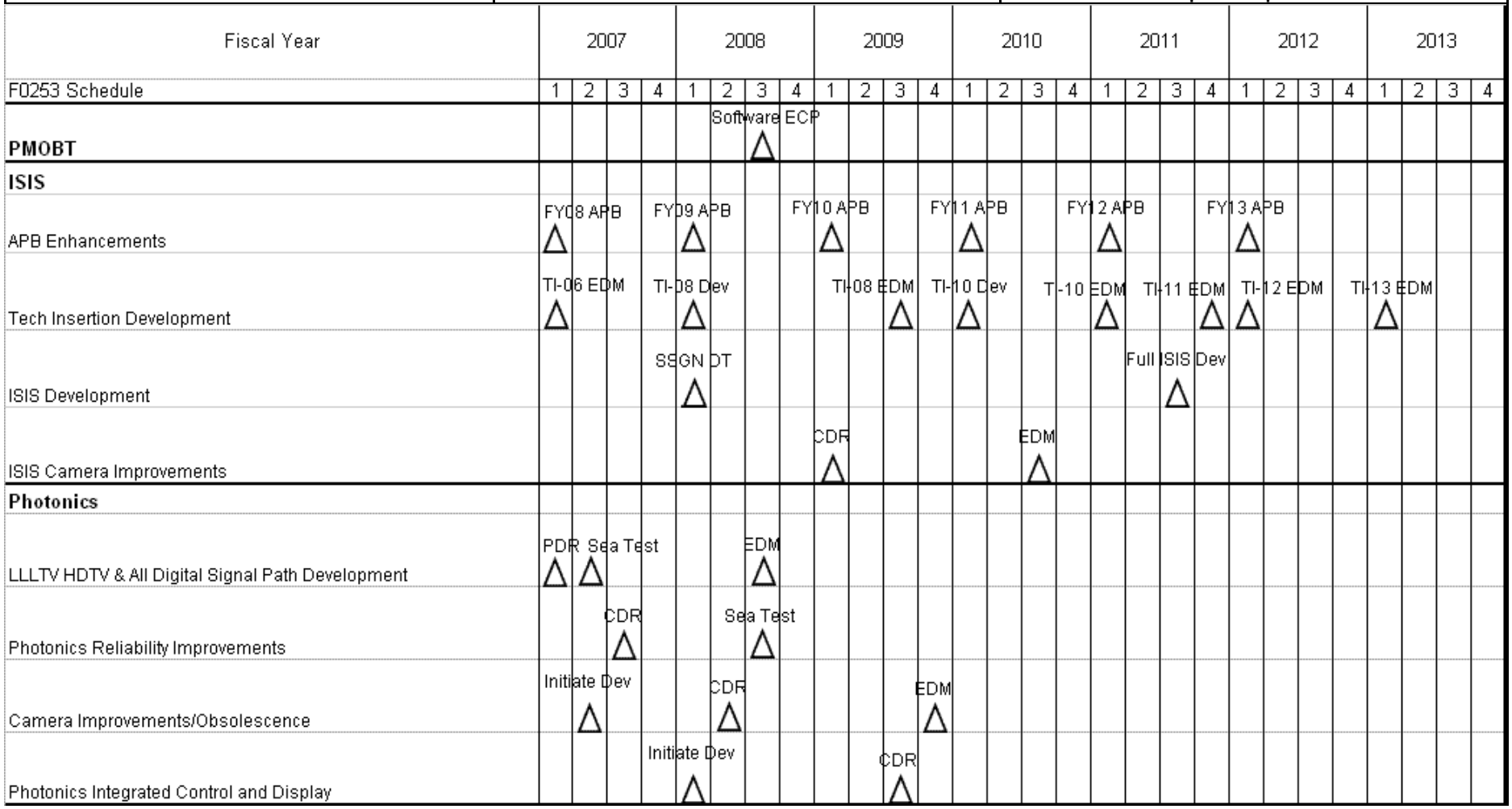


EXHIBIT R-4
SCHEDULE PROFILE

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604777N/NAVIGATION/ID SYSTEM**			PROJECT NUMBER AND NAME **0253/Nav & Electro-Optical Supt**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
PMOBT							
PMOBT SPORT Software ECP		3Q					
ISIS/APB							
Initiate FY08 APB	1Q						
Test TI-06 EDM	1Q						
Initiate FY09 APB		1Q					
Initiate TI-08 Development		1Q					
ISIS SSGN DT		1Q					
Initiate FY10 APB			1Q				
Test TI-08 EDM			3Q				
ISIS Camera Improvements CDR			1Q				
Initiate FY11 APB				1Q			
Initiate TI-10 Development				1Q			
ISIS Camera Improvements EDM				3Q			
Initiate FY12 APB					1Q		
Test TI-10 EDM					1Q		
Test TI-11 EDM					4Q		
Full ISIS Development					3Q		
Initiate FY13 APB						1Q	
Test TI-12 EDM						1Q	
Test TI-13 EDM							1Q
Photonics							
Photonics LLLTV, HDTV, All Digital Signal Path PDR	1Q						
Photonics LLLTV, HDTV, All Digital Signal Path Sea Test	2Q						
Photonics Reliability Improvements CDR	3Q						
Initiate Photonics Camera Development	2Q						
Photonics LLLTV, HDTV, All Digital Signal Path EDM		3Q					
Photonics Realibility Improvements Sea Test		3Q					
Photonics Camera Development Improvement CDR		2Q					
Initiate Photonics Integrated Control and Display Development		1Q					
Photonics Camera Development EDM			4Q				
Photonics Integrated Control and Display CDR			3Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/ BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION / ID SYSTEMS			PROJECT NUMBER AND NAME 0676 IMPROV IDENTIFICATION DEV			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0676 IMPROV IDENTIFICATION	**3.034**	**3.315**	**2.889**	**2.926**	**2.715**	**2.636**	**2.738**
RDT&E Articles Qty							

(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. 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 ID Development project unit (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.

Exhibit R-2a, RDTEN Budget Item Justification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/ BA-5	0604777N NAVIGATION / ID SYSTEMS	0676 IMPROV IDENTIFICATION DEV

(U) B. Accomplishments/Planned Program

Mark XIIA Mode 5 Improvements for AN/UPX-29	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.315	0.918	0.465
RDT&E Articles Quantity			

Engineering and integration development of MARK XIIA Improvements to the AN/UPX-29 (V). Correct deficiencies from Developmental Test B1 and Operational Test B1. (DTB1 - OTB1). Develop AN/UPX-29 interface capability.

AN/UPX-29 (V) Software Development	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.099	1.213	0.302
RDT&E Articles Quantity			

Funds Development of MARK XIIA Improvement to the AN/UPX-29 (V) system software for interface with AEGIS weapon system and core Integrated Logistics Support (ILS) documents; formalize hardware/software configuration; update technical data. Develop ILS documentation in support of DT-C1/OT-C1 and software for AN/UPX-29 (V) interface. Correct DT-C1/OT-C1 software deficiencies and baseline software and documentation.

Mark XIIA Mode 5 Development and Operational	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.620	0.934	1.022
RDT&E Articles Quantity			

Provide support for MARK XIIA Mode 5 DT/OA and provide test asset for Mark XIIA Mode 5 DT/OT B1 and AEGIS Combat system development site.
Provide support for MARK XIIA Improvements to the AN/UPX-29(V) DT-B1/OT-B1. Provide support for AEGIS Combat System operational demonstration.
Provide Support for AEGIS Combat System certification.

AN/UPX-29 (V) - OE-120 Antenna Replacement	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.250	1.100
RDT&E Articles Quantity			

Engineering and integration development of the new OE-120 antenna replacement. Develop design studies and test procedures, draft specifications, and perform system integration efforts.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5	0604777N NAVIGATION / ID SYSTEMS	0676 IMPROV IDENTIFICATION DEV

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
285100: Identification Systems - OPN	27.066	26.675	34.560	39.407	26.811	35.192	35.902	Continuing	Continuing

D. 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.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)				DATE:									
												February 2008	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT											
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5		0604777N NAVIGATION / ID SYSTEMS										0676 IMPROV IDENTIFICATION DEV	
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	WX	NAWCAD, St Inigoes, MD	1.333	0.200	11/06	0.308	11/07	0.605	11/08	Continuing	Continuing		
Ship Integration	WX	NAWCAD, St.St Inigoes, MD	0.810	0.434	11/06	0.430	11/07	0.445	11/08	Continuing	Continuing		
Systems Engineering	WX	NAWCAD, St Inigoes, MD	2.648	0.495	11/06	0.693	11/07	0.420	11/08	Continuing	Continuing		
Subtotal Product Development			4.791	1.129		1.431		1.470		Continuing	Continuing		
Remarks:													
Configuration Management	WX	NAWCAD, St. St Inigoes, MD	0.169							Continuing	Continuing		
ILS	WX	NAWCAD, St Inigoes, MD	1.284	0.360	11/06	0.223	11/07	0.251	11/08	Continuing	Continuing		
Software Development	WX	Various	1.980	0.378	11/06	0.400	11/07	0.200	11/08	Continuing	Continuing		
Technical Data	WX	NAWCAD, St Inigoes, MD	0.388			0.300	11/07	0.300	11/08	Continuing	Continuing		
Training	WX	NAWCAD, St Inigoes, MD	0.100			0.100	11/07	0.073	11/08	Continuing	Continuing		
Subtotal Support			3.921	0.738		1.023		0.824		Continuing	Continuing		
Remarks:													
Developmental Test & Evaluation	WX	Various	0.250			0.150	11/07	0.100	11/08	Continuing	Continuing		
Operational Test & Evaluation	WX	NAWCAD, St Inigoes, MD	0.568	0.360	11/06	0.300	11/07	0.100	11/08	Continuing	Continuing		
Test Assets	WX	NAWCAD, St. St Inigoes, MD	0.250	0.260	11/06	0.121	11/07	0.100	11/08	Continuing	Continuing		
Subtotal T&E			1.068	0.620		0.571		0.300		Continuing	Continuing		
MANAGEMENT	C-CPFF	AMERICAN ELECTRONICS INC, CALIFORNIA, MD		0.547	12/06	0.290	12/07	0.295	12/08	Continuing	Continuing		
Subtotal Management				0.547		0.290		0.295					
Remarks:													
Total Cost			9.780	3.034		3.315		2.889		Continuing	Continuing		
Remarks:													

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile | DATE: **February 2008**

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

PROGRAM ELEMENT NUMBER AND NAME: 0604777N, NAVIGATION/ID SYSTEM

PROJECT NUMBER AND NAME: 0676 IMPROV ID DEVELOPMENT

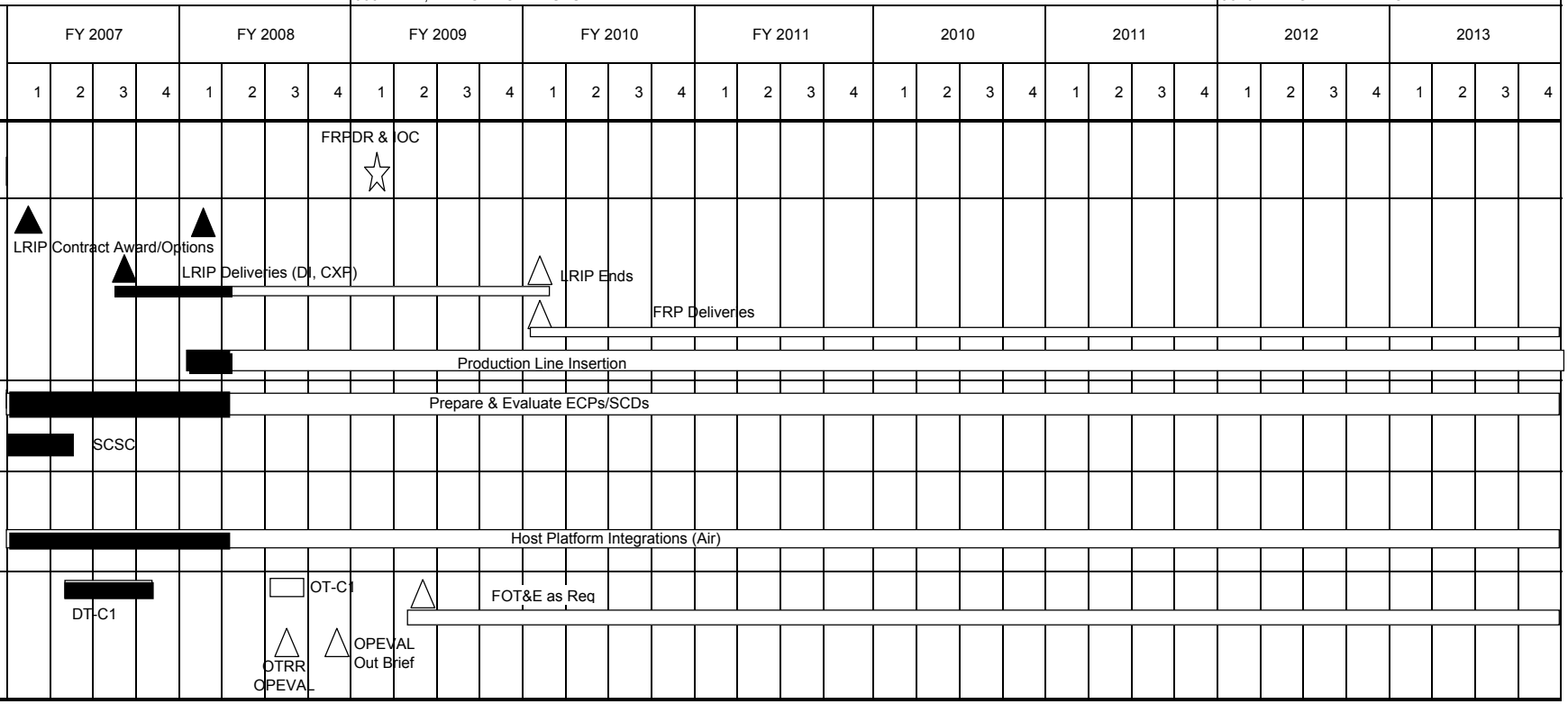


Exhibit R-4, Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604777N, NAVIGATION/ID SYSTEM			PROJECT NUMBER AND NAME 0676 COMBAT ID SYSTEMS			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Full Rate Production Decision Review (FRPDR) & IOC			1Q				
Low-Rate Initial Production Contract Award/Options	1Q	1Q					
Low-Rate Initial Production Deliveries (DI, CXP)	3Q-4Q	1Q-4Q	1Q-4Q	1Q			
FRP Deliveries				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Prepare & Evaluate ECPs/SCDs	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Surface Combat Systems Center (SCSC)	1Q-2Q						
Production Line Insertion		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Host Platform Integrations (Air)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Technical Evaluation (DT-C1)	2Q-4Q						
Operational Evaluation (OT-C1)		3Q					
Operational Test Readiness Review (OTRR) OPEVAL		3Q					
OPEVAL Out Brief		4Q					
Follow-on Test and Evaluation			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

Exhibit R-4a, Schedule Detail

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
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)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**19.592**	**18.813**	**28.589**	**22.044**	**19.250**	**25.096**	**25.564**
RDT&E Articles Qty								

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

The mission of the GPS program efforts is to provide assured and protected navigation solutions to the war fighters through supported, affordable, and integrated systems. RDT&E funds are used to perform all the non-recurring Global Positioning System (GPS) Surface Ship, Submarine and Aircraft Integration efforts. GPS continues to be integrated in all DoD platforms in accordance with Public Law 103-160, its amendment 105-261 (National Defense Authorization Acts for FYs 94 and 99 respectively) which make development of enhanced GPS an "urgent national security priority", and CJCS Instruction 6130.01(Ser). This direction is in keeping with the National Security/Presidential Directive (NSPD)-39 of 15 December 2004 and is current solutions are well-supported by numerous studies and analyses that include Defense Science Board Task Force reports (October 2005), the DoD's GPS II System Architecture/Requirements Definition (SA/RD) of January 2003, and various DoD and Navy requirements documents. The Navigation Warfare (NAVWAR) effort initiated in FY99 and planned GPS Modernization, an extension of the NAVWAR effort, are designed to continue the aircraft and shipboard integration efforts outlined by public law and Joint instruction, respond to the well-documented emerging GPS electronic jamming and interference threats by incorporating GPS protection measures, and leverage the DoD's and Navy's growing investment in GPS.

The GPS is a space-based positioning, navigation and timing (PNT) system that provides authorized users with secure, worldwide, all-weather, three-dimensional position, velocity and precise time data. The primary tasks to be accomplished for each Naval aircraft configuration include GPS integration design studies, acquisition of lab test and design assets, timing and frequency synchronization, development of software designs or platform mission computer upgrades, 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 those associated with the development of new hardware and software systems for over 3300 Naval Aircraft to meet GPS flight In controlled airspace (FICA), common navigation air traffic management (ATM), and precision approach and landing system (PALS) requirements.

The Surface Ship and Submarine integration efforts include two vitally important navigation integration initiatives: Navigation Sensor System Interface (NAVSSI) and the AN/WRN-6 replacement. 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 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. NAVSSI is an evolutionary acquisition development.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
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 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, the Navy Enhanced GPS User Equipment ORD was drafted 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, Developmental Test/Operational Test (DT/OT), as well as the GPS Joint Program Office's (JPO) development of an Advanced Digital Antenna Production (ADAP) program, the Navy's development of a smaller Anti-Jam (AJ) antenna and a conformal low-observable AJ antenna for aircraft with unique requirements, new technology AJ solutions for submarines (Frequency Excision Filter (FEF)), and the integration of AJ protection into handheld receivers. Two similar but separate ACAT III programs (Air and Sea NAVWAR) have been established and have become the basis for the Navy's Naval Air and Sea Navigation Warfare (NAVWAR) program. The NAVWAR Sea Program is executed in 3 increments. The GPS Antenna System (GAS01) is integrated on surface platforms in Increment 1. Increment 2 replaces GAS-1 with ADAP and continues surface ship integrations. Increment 3 addresses anti-jam (AJ) capabilities for submarines

The second phase of the Navy's overall GPS User Equipment upgrade is Modernization of all GPS systems on Air and Sea platforms. This will require RDT&E to support the replacement of existing legacy GPS receivers with enhanced capability receivers and antennas based upon and coordinated with the GPS Joint Program Office Modernized User Equipment (JPO MUE) program. These new receivers and antennas will incorporate GPS Joint Program Office (JPO) and Navy directed and developed technology enhancements to support new signals in space, enhanced receiver security, aircraft operations within controlled airspace and future weapons, combat, and C4I systems requirements such as the development of a precision approach and landing system (PALS). In step with DoD guidance, central planning and programming efforts have been initiated to integrate GPS Modernization systems and architectures in all Naval aircraft.

The primary Global Positioning System (GPS) shipboard receivers fielded on the majority of U.S. Navy ships today include the AN/WRN-6 and the GPS VME Receiver Card (GVRC). These military GPS receivers provide precise Position, Navigation, and Time (PNT) data required for many combat weapons and navigation systems, as well as providing the time synchronization critical to the network environments. The failure of the GPS receiver ultimately means the loss of GPS for the ship and those systems that depend upon it. However, as GPS devices have proliferated throughout the commercial community, it has become more readily available not only to civilians, but to adversaries as well. As a result, even the military GPS Precise Positioning System (PPS) is more vulnerable today to unintentional and intentional jamming. The new security architecture, known as Selective Availability Anti-Spoof Module (SAASM), addresses this vulnerability, and has been mandated for all military combat GPS receiver procurements beginning in FY07. Additionally, the GPS satellite constellation is being modernized to incorporate new GPS signals from space for both military and civilian users (e.g., M-code and L5). While SAASM-capable GPS receivers are available commercially today, they require modification to support the various combat system requirements and interfaces required by the Navy shipboard systems, and will require modification in the future to implement the new GPS modernized signals (expected to become available in FY11). The WRN-X system will be engineered for immediate implementation of SAASM, and will be an open architecture allowing for modification to implement modernized GPS signals when they become available; thus making it backwards and forwards compatible with all GPS systems (e.g., Y code, M code, (C/A) code (YMCA)).

SAASM is also required in GPS receivers being installed in aircraft. Similar to shipboard use, airborne SAASM GPS receivers also require integration and test.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

Air NAVWAR		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		10.645	7.515	13.720
RDT&E Articles Quantity		0	0	0

(U) FY07 ACCOMPLISHMENTS: ($10.645) Air NAVWAR: Started integration of antenna mounting on the F/A-18 E/F/G. Started development of conformal array for F/A-18 E/F/G. Started integration study on E-2D and supported platform and system level vulnerability assessments for other potential forward fit platforms. Completed integration and started testing of ADAP on H-53. Completed NAVWAR AJ & SAASM integration and test on AV-8B . Monitored and impacted development and testing of small antenna system (SAS) and miniature controlled reception pattern (M-CRPA) AJ antenna. Continued participation in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY08 PLANS: ($7.515) Air NAVWAR: Complete development of conformal array for F/A-18 E/F/G. Complete ADAP testing on H-53 (IOC). Complete integration efforts on E-2D. Continue integration/testing of antenna mounting on F/A-18 E/F/G. Continue monitoring potential SAS/M-CRPA solutions. Continue participation in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY09 PLANS: ($13.720) Air NAVWAR: Start integration of NAVWAR conformal array electronics on F/A-18 E/F/G. Continue SAASM integration and testing on F/A 18 E/F/G. Continue monitoring of SAS (Small Antenna System)/M-CRPA (Miniaturized - Controlled Reception Pattern Antenna) development. Continue participation in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

Sea NAVWAR		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		4.447	4.274	4.964
RDT&E Articles Quantity		0	0	0

(U) FY07 ACCOMPLISHMENTS: ($4.447) Sea NAVWAR: Conducted modeling/simulation, integration, Developmental Test (DT) efforts for ADAP on DDG and LSD platforms. Continued participation in Joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY08 PLANS: ($4.274) Sea NAVWAR: Conduct modeling/simulation, integration, DT efforts for ADAP on CG 47 and CVN 68 platforms. Support Operational Test (OT) on DDG. Continue participation in Joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY09 PLANS: ($4.964) Sea NAVWAR: Conduct modeling/simulation, integration, DT efforts for ADAP on WPB and LPD 17 platforms. Continue participation in Joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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

GPS Modernization		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.500	2.148	4.641
RDT&E Articles Quantity		0	0	0

(U) FY07 ACCOMPLISHMENTS: ($1.500) GPS Modernization: Continued GPS Modernization support to the GPS JPO, Program Executive Office Command, Control, Communications, Computers, & Intelligence (PEO C4I), Space & Naval Warfare Systems Command (SPAWAR), Naval Air Systems Command (NAVAIR) and Naval Sea Systems Command (NAVSEA). Began Air and Sea platform specification developments for hardware/software upgrades to support the integration of new capabilities and signals from space.

(U) FY08 PLANS: ($2.148) GPS Modernization activities: Pre Milestone B market research, acquisition strategies and plans will be performed in preparation for Milestone B. Perform acquisition document development and planning for the various entities of the modernization program.

(U) FY09 PLANS: ($4.641) GPS Modernization: Continue the above activities completing pre-Milestone B efforts. Complete requirements development and develop Draft RFP and RFP for Milestone B Modernization. Conduct Milestone B preparations and review. Begin to develop adaptations of Modernized GPS receiver technology with Binary Offset Carrier (BOC) waveform technology for capability with Modernized GPS space and control segments.

WRN X		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.000	4.876	5.264
RDT&E Articles Quantity		0	0	0

(U) FY07: ACCOMPLISHMENTS: ($3,000) WRN X: Developed pre Milestone B acquisition documents. Released RFI. Conducted contracting planning conference. Completed WRN-X requirements documents. Developed Draft RFP in preparation for WRN-X System Development and Demonstration (SDD) contract.

(U) FY08 PLANS: ($4.876) WRN X Finalize mandatory acquisition documentation to obtain a Milestone B decision. Conduct appropriate milestone decision review. Finalize the WRN-X technical specifications. Finalize and issue the Draft RFP and RFP. Evaluate responses through a source selection team. Award the WRN-X SDD contract.

(U) FY09 PLANS: ($5.264) WRN X Initiate system development and demonstration tasking requirements. Begin preparations for a design readiness review. Finalize all documentation for system integration and system demonstration activities. Update the acquisition strategy and other documents as needed to support Milestone C activities. Intensify efforts to finalize the Performance Based Logistics Strategy and other documents as required. Prepare pre-milestone C acquisition documentation requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
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. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY2012	FY2013
(U) OPN Line #2657	10.804	7.122	10.893	10.956	15.151	16.718	17.246
(U) APN - Common Avionics Line # 0577	21.737	9.984	9.074	7.862	8.844	9.022	9.229

(U) D. ACQUISITION STRATEGY:

NAVWAR/GPS Modernization: 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 Wing in their development of an Advanced Digital Antenna Program (ADAP) Line Replaceable Unit (LRU) and identify potential Navy candidate platforms. Participate in GPS JPO procurements wherever practicable for GPS Modernization Enhancements. Develop the Navy's specifications necessary to capture and implement future GPS enhancements. See attached Milestone chart.

WRN-X: Investigate Navy contracting options for a WRN-6/GVRC Replacement (WRN-X Modernized Shipboard GPS system). Investigate commercial modernized GPS engines certified through the GPS JPO for application in the WRN-X system. Support the development of the Navy's Modernized GPS User Equipment efforts as they apply specifically to NAVSSI and non-NAVSSI shipboard applications. Work in concert with the WRN-6 sustainment efforts to ensure a coupled solution of obsolescence upgrades (occurring under WRN-6 Sustainment) and modernization tasks (for WRN-X development).

(U) E. Major Performers:

SPAWAR Systems Center, San Diego CA	NAVWAR Engineering and Product Development	Award funding Oct of each year
Naval Air Warfare Center, Pax River, MD	NAVWAR System Engineering and Test	Award funding Oct of each year

(U) F. Metrics:

Quarterly program reviews, monthly financial reviews to evaluate cost, schedule, performance, award fee inputs.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2008**

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 07 Cost	FY 07 Award Date	FY08 Cost	FY08 Award Date	FY09 Cost	FY09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	Various	Product Vendors	274.111	2.633	Various	2.832	Various	5.509	Various	Continuing	Continuing	
Product Development (SSC-SD)	WX	SSC-SD	67.059	0.850	10/06	0.850	10/07	0.850	10/08	Continuing	Continuing	
Product Dev (other in house)	WX	Various Field Activities	439.397									
Systems Engineering	Various	Various Govt/Contractor	8.210	2.640	Various	2.618	Various	2.923	Various	Continuing	Continuing	
Subtotal Product Development			788.777	6.123		6.300		9.282		Continuing	Continuing	

Remarks:

Development Support	Various	Various	12.710									
Software Development	Various	SSC-SD/Platform Primes	7.600	1.000	10/06	0.500	10/07	1.000	10/08	Continuing	Continuing	
Integrated Logistics Support	Various	SSC-SD/NAWC/Various Contractors	3.357	0.900	10/06	0.600	10/07	0.900	10/08	Continuing	Continuing	
Training Development	WX	SSC-SD/NAWC	2.325	0.600	10/06	0.600	10/07	0.600	10/08	Continuing	Continuing	
Technical Data	Various	Platform PMO's	1.900	0.600	10/06	0.600	10/07	0.600	10/08	Continuing	Continuing	
Subtotal Support			27.892	3.100		2.300		3.100		Continuing	Continuing	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604777N NAVIGATION/ID SYSTEMS	0921 NAVSTAR GPS EQUIPMENT

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test & Evaluation (NAWC PAX)	WX	NAWC PAX	17.929	3.000	10/06	2.500	10/07	2.500	10/08	Continuing	Continuing	
Test & Evaluation (DCS)	CPAF	DCS CORP PAX	2.926	0.450	10/06	0.450	10/07	0.450	10/08	Continuing	Continuing	
Test & Evaluation (SSC-SD)	WX	SSC-SD	4.031	0.900	10/06	0.900	10/07	1.144	10/08	Continuing	Continuing	
Test & Evaluation Platform Testing	Various	VARIOUS CONTRACTORS	13.297	3.040	Various	3.040	Various	6.266	Various	Continuing	Continuing	
Subtotal T&E			38.183	7.390		6.890		10.360		Continuing	Continuing	

Remarks:

Contractor Engineering Support	Various	DCS, SAIC, ARINC	8.037	0.967	10/06	1.153	10/07	1.800	10/08	Continuing	Continuing	
Government Engineering Support	WX	SSC, NAWC, WR	6.149	1.350	10/06	1.300	10/07	2.200	10/08	Continuing	Continuing	
Program Management Support	CPAF	DCS, Price Systems	13.521	0.662	10/06	0.870	10/07	1.847	10/08	Continuing	Continuing	
Subtotal Management			27.707	2.979		3.323		5.847		Continuing	Continuing	

Remarks:

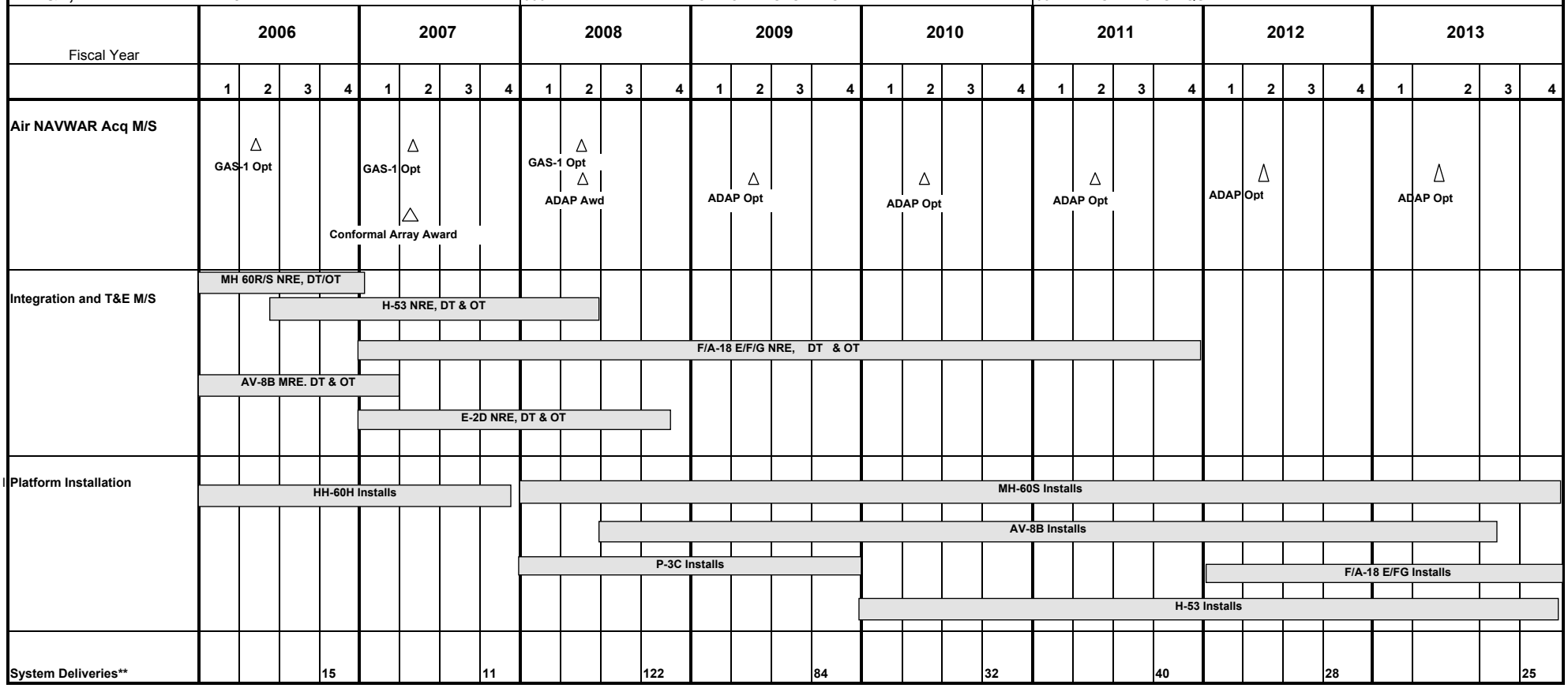
Total Cost			882.559	19.592		18.813		28.589		Continuing	Continuing	

Remarks:

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile — DATE: **February 2008**

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



* ADAP (Advanced Digital Antenna Production), C-CRPA (Conformal Controlled Reception Pattern Antenna), GAS-1/1N (GPS Antenna System /Navy) are Anti-Jam (AJ) antenna solutions for designated platforms.

** Quantities are approximate year-end total number of NAVWAR system deliveries. Quantities do not include RDT&E units, Spares, or those projected for new construction aircraft.

*** MDA direction of 3/30/06 directed streamlining Air NAVWAR program from three phases to one. Milestone C decision of Oct 2001 applies to all current phases. Anticipate NAVWAR Air Phase 2 to integrate Modernized (M-Code) GPS Receivers.

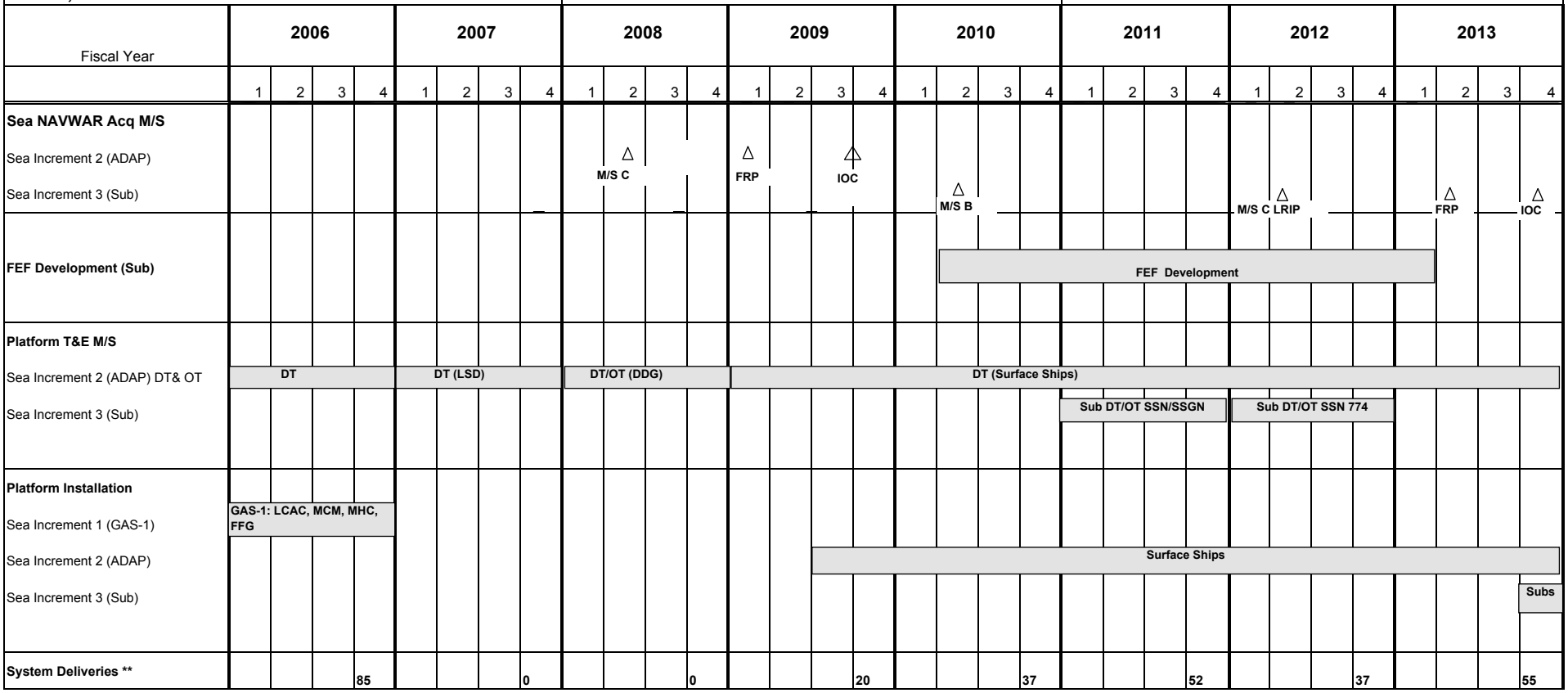
CLASSIFICATION:

EXHIBIT R-4, Schedule Profile — DATE: **February 2008**

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

* ADAP is the Advanced Digital Antenna Production program, the Navy's development of a smaller Anti-Jam (AJ) antenna.

** Quantities are approximate year-end total number of NAVWAR system deliveries including those projected for new construction ships. Quantities do not include RDT&E units or Spares.

*** NAVWAR Sea has been restructured to reflect program changes. Phase 1A has been redesignated as Increment 1. Phase 1B has been terminated and installations planned for this phase are deferred to ADAP (Increment 2). Submarine integrations have been redesignated as Increment 3.

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile		DATE: **February 2008**
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

WRN-X Development Schedule

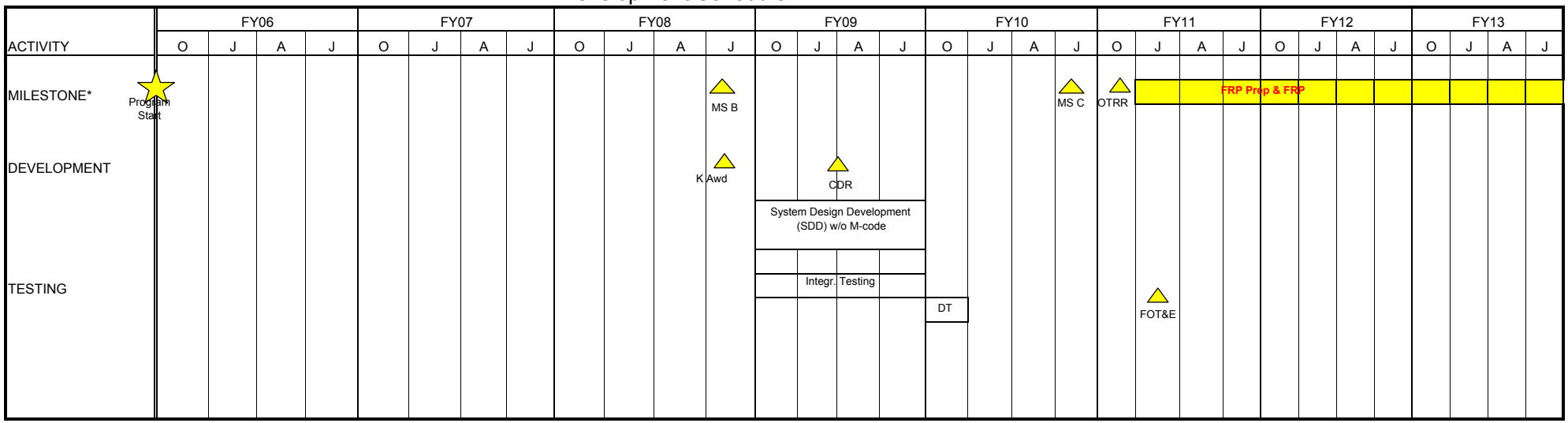


Exhibit R-4, Schedule Profile

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAM	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604777N NAVIGATION/ID SYSTEMS	0921 NAVSTAR GPS EQUIPMENT	

GPS Modernization Development Schedule

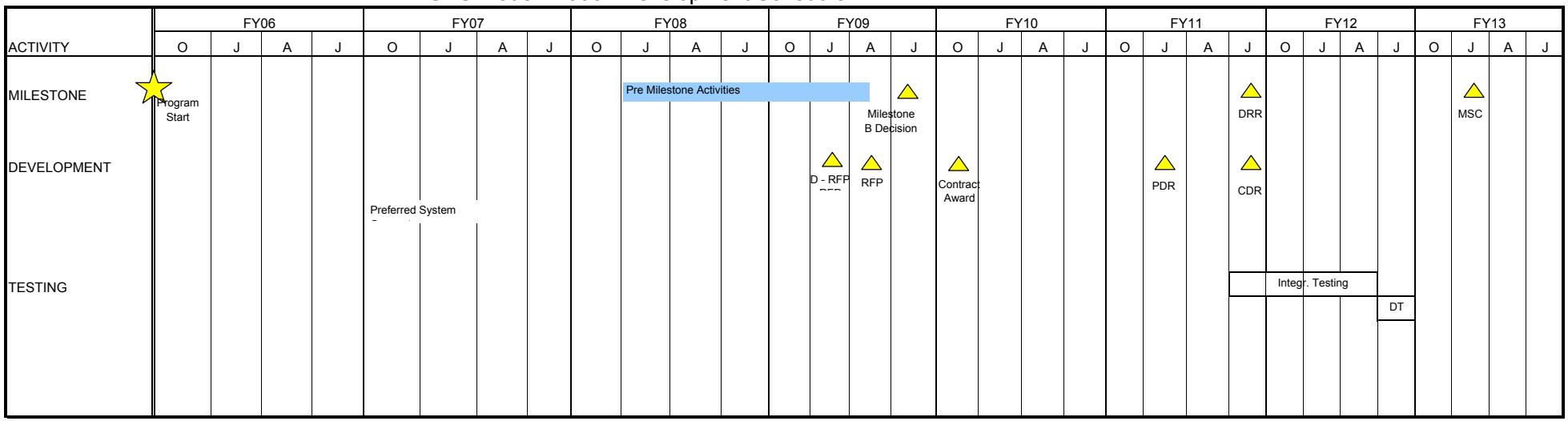


Exhibit R-4, Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS				PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT			
NAVWAR Air Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Conformal Array Development		2-4Q	1-4Q					
MH-60 R/S DT/OT	1-4Q							
H-53 DT/OT	3Q-4Q	1-4Q	1-2Q					
AV-8B DT/OT	1-4Q	1Q						
F/A 18 E/F/G DT/OT		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
E-2D DT/OT		1-4Q	1-4Q					
NAVWAR Sea Profile								
Increment 3 (Phase 2) M/S B (FEF)					2Q			
Increment 3 (Phase 2) DT/OT						1-4Q	1-4Q	
Increment 3 (Phase 2) M/S C LRIP							2Q	
Increment 3 (Phase 2) FRP								2Q
Increment 3 (Phase 2) IOC								4Q
Increment 2 (ADAP) DT/OT	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Increment 2 (ADAP) M/S C LRIP			2Q					
Increment 2 (ADAP) FRP				1Q				
Increment 2 (ADAP) IOC				3Q				
WRN X								
Milestone B*			4Q					
Milestone C					4Q			
MODERNIZATION								
Milestone B				4Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/ BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION / ID SYSTEMS			PROJECT NUMBER AND NAME 1253 COMBAT IDENTIFICATION SYSTEMS			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
1253 Combat Identification Systems	**13.637**	**11.590**	**9.587**	**15.332**	**14.986**	**15.248**	**15.536**
RDT&E Articles Qty	**7**	**5**	**5**	**18**			

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

In 1995, the Under Secretary of Defense (Acquisition and Technology)/Vice Chairman, Joint Chiefs of Staff {USD(A7T)/VCJCS} tasked the Services to develop a high-level plan and long-range strategy for migrating to new 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 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 Communications 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.

In August 2003 the Navy MK XIIA Mode 5 program was approved for entry in Systems Development and Demonstration (SDD) phase with approval to develop prototypes.

The FY 2008 and out RDT&E articles include Mode 5 cryptographic modules and associated hardware and software changes to AN/APX-119 and XS-950SIs. Remaining RDT&E units are production representative Low Rate Initial Procurement units to support hardware, software, and integration efforts to host systems on remaining Aircraft T/M/S, including but not limited to AH-1Z/UH-1Y, E-2D, VH-71A, and MV-22.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/ BA-5	0604777N NAVIGATION / ID SYSTEMS	1253 COMBAT IDENTIFICATION SYSTEMS

(U) B. Accomplishments/Planned Program

Mode 5 prototype hardware, cryptographic module	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.998	4.372	3.685
RDT&E Articles Quantity	7	5	5

Perform development of kits for installation into existing fleet assets including AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, AN/APX-111 Interrogator/Transponder, and RT-1832/1918 APX Transponder. Repair and correct deficiencies identified during testing in support of Milestone C decision and procure 18 Low Rate Initial Procurement (LRIP) units in FY 06 to support OPEVAL. LRIP units include Mode 5 cryptographic modules install kits for AN/APX-118/123, AN/UPX-37/41C, R/T-1832/1918 and AN/UPX-24 with associated hardware and software change to the host boxes.

Mode 5 systems engineering and ILS	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	5.082	3.798	3.642
RDT&E Articles Quantity			

Perform systems engineering and analysis in support of Mode 5 hardware/software development and platform integration efforts on AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, AN/APX-111 Interrogator/Transponder, RT-1832/1918 APX Transponders, Cryptographic Module, Mode 5 Engineering Test Equipment, and Mode 5 support equipment. The Cryptographic Module includes, but is not limited to, activities such as Integrated Logistics Support, Design and Engineering Studies and Analysis, and Configuration Management performed as the Lea Service.

Mode 5 Upgrade DT & OT	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.557	3.420	2.260
RDT&E Articles Quantity			

Perform Mode 5 developmental and operational test phases for AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Transponder, and RT-1832/1918 APX Transponder.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RESEARCH DEVELOPMENT TEST & EVALUATION, NAV	0604777N NAVIGATION / ID SYSTEMS	1253 COMBAT IDENTIFICATION SYSTEMS

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
285100: Identification Systems - OPN	27.066	26.675	34.560	39.407	26.811	35.192	35.902	Continuing	Continuing
058200: Identification Systems - APN-5	11.103	10.213	12.032	24.348	20.529	31.649	26.114	Continuing	Continuing

D. 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.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0604777N, NAVIGATION/ID SYSTEM				PROJECT NUMBER AND NAME 1253, COMBAT IDENTIFICATION SYSTEMS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hardware Development	FFP	LOCKHEED MARTIN CORP, OWEGO, NY		1.947	03/07	1.100	12/07	1.105	12/08	.427	4.579	4.579
Primary Hardware Development	WX	NAWCWD, CHINA LAKE CA		2.551	12/06	1.072	12/07	.180	12/08	Continuing	Continuing	
Primary Hardware Development	TBD	NORTHROP GRUMMAN , BETHPAGE, NY				2.200	12/07	2.400	12/08	.800	5.400	5.400
Primary Hardware Development	VAR	BAE, GREENLAWN NY	25.783	.500	10/06						26.283	26.283
Systems Engineering	WX	NAWCAD, PATUXENT RIVER MD		2.104	10/06	1.996	10/07	1.929	10/08	Continuing	Continuing	
Systems Engineering	WX	NAWCAD, ST INDIGOES MD	5.428	2.500	10/06	1.500	10/07	1.351	10/08	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT			31.211	9.602		7.868		6.965		Continuing	Continuing	
SUPPORT												
ILS	VAR	VAR	.317	.478	11/06	.302	11/07	.362	11/08	Continuing	Continuing	
Software Development	VAR	VAR	2.708								2.708	
Technical Data	VAR	VAR	.053								.053	
SUBTOTAL SUPPORT			3.078	.478		.302		.362		Continuing	Continuing	
TEST & EVALUATION												
OT	WX	NAWCAD, PATUXENT RIVER MD	.935			.936	11/07	.186	11/08	Continuing	Continuing	
DT	WX	NAWCAD, PATUXENT RIVER MD	6.721	2.892	11/06	2.272	11/07	1.928	11/08	Continuing	Continuing	
Test Assets	VAR	VAR	.761	.665	11/06	.212	11/07	.146	11/08	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION			8.417	3.557		3.420		2.260		Continuing	Continuing	
MANAGEMENT												
Contractor Engineering Support	VAR	VAR	.450								.450	
Government Engineering Support	VAR	VAR	1.811								1.811	
Program Management Support	VAR	VAR	1.961								1.961	
ETS (Non-FFRDC)	WX	NAWCAD, PATUXENT RIVER MD	.174								.174	
SUBTOTAL MANAGEMENT			4.396								4.396	
Total Cost			47.102	13.637		11.590		9.587		Continuing	Continuing	

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604777N, NAVIGATION/ID SYSTEM	PROJECT NUMBER AND NAME 1253, COMBAT IDENTIFICATION SYSTEMS	

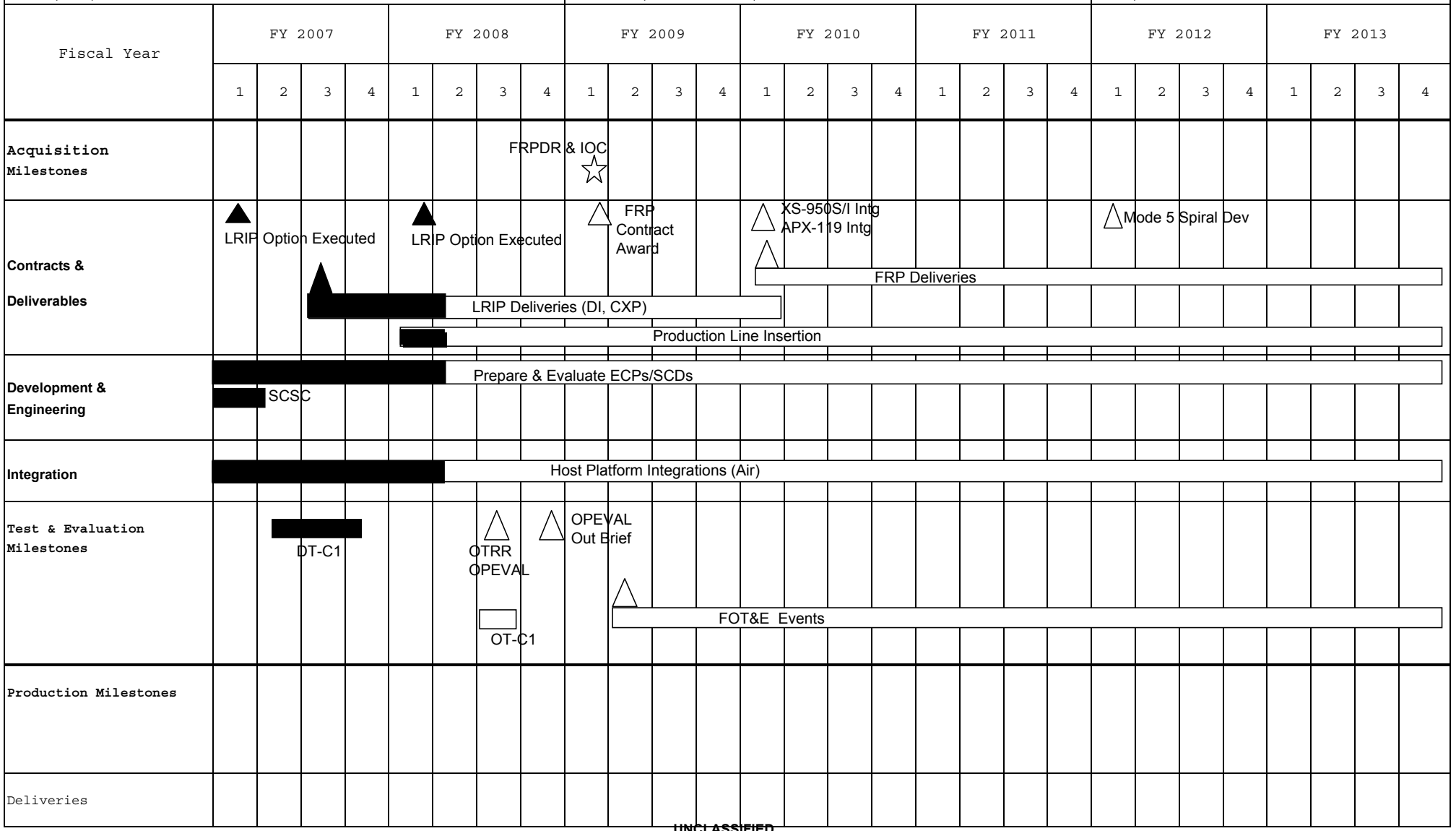


Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604777N, NAVIGATION/ID SYSTEM				PROJECT NUMBER AND NAME 1253, COMBAT IDENTIFICATION SYSTEMS		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Full Rate Production Decision Review (FRPDR)			1Q				
Low-Rate Initial Production Contract Award and Options	1Q	1Q					
Low-Rate Initial Production Deliveries (CXP, DI)	3Q-4Q	1Q-4Q	1Q-4Q	1Q			
FRP Deliveries				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Prepare & Evaluate ECPs/SCDs	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Surface Combat Systems Center (SCSC)	1Q-2Q						
Production Line Insertion		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Host Platform Integrations (Air)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Technical Evaluation (DT-C1)	2Q-4Q						
Operational Evaluation (OT-C1)		3Q					
Operational Test Readiness Review (OTRR)		3Q					
OPEVAL Out Brief		4Q					
XS-950S/I and APX-119 Integration				1Q			
Mode 5 Spiral Development						1Q	
Follow-on Test and Evaluation			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q

Exhibit R-4a, Schedule Detail

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604777N, NAVIGATION/ID SYSTEM			PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS					
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013		
Project Cost	.975								
RDT&E Articles Qty Not Applicable.									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project extends and improves the air and sea surveillance and data sharing capabilities within the Chesapeake Bay and National Capital Region through upgrades to the SureTrak Integrated Track Management System.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9857C, SureTrak	FY 2007	FY 2008	FY 2009	
Accomplishments / Effort / Sub-total Cost	.975			
RDT&E Articles Qty				

This project will upgrade the SureTrak data management software and communication infrastructure and add additional surveillance sensors in order to demonstrate enhanced range safety and force protection information.

Exhibit R-2a, RDTEN Budget Item Justification

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604784N/DISTRIBUTED SURVEILLANCE SYSTEM**						
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	59.049	0.000	0.000	0.000	0.000	0.000	0.000
1300 / Advanced Deployable System	58.053	0.000	0.000	0.000	0.000	0.000	0.000
9999 / CONGRESSIONAL ADDS	0.996	0.000	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

The Advanced Deployable System (ADS), Project 1300, is a rapidly deployable, passive acoustic undersea surveillance system that will be deployed and monitored by a rental craft at a System Integration Test (SIT) in the first quarter of Fiscal year 2008. ADS is designed to detect, track and report modern diesel electric and nuclear submarines, as well as provide the capability to track surface ships and potentially detect mine-laying activities. ADS consists of three subsystems coordinated by the Prime Contractor who develops the Prime Mission Product (PMP) and who acts as the system integrator for all subcontract activities:

- The String, which incorporates the Sensor Subsystem (SS) and the Tactical Interface Subsystem (TIS). SS consists of four acoustic arrays, small diameter fiber optic (SDFO) cable which connects the arrays, and a pressure vessel (PV). The PV contains a battery power supply, electronics, and lasers. The lasers serve to optically telemeter the hydrophone data to the in-water TIS via SDFO cable. The TIS consists of a self-powered buoy, housing computers (to partially process and compress the SS data stream), a radio and an antenna to transmit to the data to a 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 the rental craft for monitoring and data collection.
- An Installation Support Subsystem (ISS) for rapid deployment of the SS and TIS by the LCS.

Following SIT, the ADS program will be terminated as directed by the Assistant Secretary of the Navy (Research, Development and Acquisition) in an Acquisition Decision Memorandum dated 5 October 2006.

FY07 Congressional add: Funding for Off-Board Sensor

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

TECHNOLOGY DEVELOPMENT (TD) AND SYSTEM DEVELOPMENT DEMONSTRATION (SDD)

This program is funded under technology development because it encompasses development of new end-items. Milestone B approved December 2005.Only SIT remains funded for completion.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	R-1 ITEM NOMENCLATURE **0604784N/DISTRIBUTED SURVEILLANCE SYSTEM**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY08 Pres Controls)	59.049		
Current President's Budget (FY09 Pres Controls)	59.049		
Total Adjustments	0.000		

C. OTHER PROGRAM FUNDING SUMMARY:

N/A

D. ACQUISITION STRATEGY:

Acquisition Strategy (Approved by ASN/RDA Apr04) addresses redirected program under review by Navy Leadership. Strategy takes ADS to sole source contracting strategy, and the contract was awarded SEP 04.

MILESTONES:	FY07	FY08
PROGRAM:		
ENGINEERING:	CRITICAL DESIGN REVIEW (CDR)	
T&E:	DEVELOPMENTAL TEST EVENTS	CONDUCT SIT
CONTRACT:		CANCEL PROGRAM AFTER SIT

E. MAJOR PERFORMERS:

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604784N/DISTRIBUTED SURVEILLANCE SYSTEM**				PROJECT NUMBER AND NAME **1300/Advanced Deployable System**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	58.053	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Deployable System (ADS), Project 1300, is a rapidly deployable, passive acoustic undersea surveillance system that will be deployed and monitored by a rental craft at a System Integration Test (SIT) in the first quarter of Fiscal year 2008. ADS is designed to detect, track and report modern diesel electric and nuclear submarines, as well as provide the capability to track surface ships and potentially detect mine-laying activities. ADS consists of three subsystems coordinated by the Prime Contractor who develops the Prime Mission Product (PMP) and who acts as the system integrator for all subcontract activities:

- The String, which incorporates the Sensor Subsystem (SS) and the Tactical Interface Subsystem (TIS). SS consists of four acoustic arrays, small diameter fiber optic (SDFO) cable which connects the arrays, and a pressure vessel (PV). The PV contains a battery power supply, electronics, and lasers. The lasers serve to optically telemeter the hydrophone data to the in-water TIS via SDFO cable. The TIS consists of a self-powered buoy, housing computers (to partially process and compress the SS data stream), a radio and an antenna to transmit to the data to a 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 the rental craft for monitoring and data collection.

- An Installation Support Subsystem (ISS) for rapid deployment of the SS and TIS by the LCS.

Following SIT, the ADS program will be terminated as directed by the Assistant Secretary of the Navy (Research, Development and Acquisition) in an Acquisition Decision Memorandum dated 5 October 2006.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604784N/DISTRIBUTED SURVEILLANCE SYSTEM**	PROJECT NUMBER AND NAME **1300/Advanced Deployable System**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
ANALYSIS AND REPORTING SYSTEM (ARS)	4.318	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 Conducted System CDR and DVTs for the segments of the ARS of the ADS Mission Module. Integrated ARS segments for subsystem testing and then participated in ADS System Integration Test (SIT).

	FY 2007	FY 2008	FY 2009
INSTALLATION SUPPORT SUBSYSTEM (ISS)	2.317	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 Conducted System CDR. Continued segment fabrication and integration testing. Procured hardware for ISS test article in support of the System Integration Test (SIT) .

	FY 2007	FY 2008	FY 2009
TEST AND EVALUATION (T&E)	0.665	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 Coordinated test planning for SIT. Following the Critical Design Review, DT focused on the demonstration of system integration with final SIT aboard a surface vessel to validate system end-to-end performance.

	FY 2007	FY 2008	FY 2009
STRING	1.238	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 Conducted Buoy Installation Assembly (BIA) risk reduction test. Conducted System CDR. Continued DVT of subsystem components. Fabricated test articles to support SIT. Finalized spectrum certification approval.

	FY 2007	FY 2008	FY 2009
Prime Mission Product (PMP)	45.033	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 Developed ADS prime mission product hardware and software. Provided prime contractor funding to act as system integrator. Conducted System CDR. Continued manufacturing test articles to support SIT. Refurbished SIT gear and conduct all efforts required to terminate program following refurbishment of SIT.

	FY 2007	FY 2008	FY 2009
SYSTEM ENGINEERING PROGRAM MANAGEMENT (SEPM)	4.482	0.000	0.000
RDT&E Articles Quantity	0	0	0

FY07 Continued Project Management support for the ADS Program Office. Monitored government and contractor technical, schedule, and cost performance. Witnessed subsystem integration testing and prepared for conduct of system integration testing with the engineering development models. Continued to conduct cost trade off studies, analyze and track technical performance measures, perform configuration and interface management, hold technical reviews and audits and conduct risk management. Conducted System CDR.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604784N/DISTRIBUTED SURVEILLANCE SYSTEM**	PROJECT NUMBER AND NAME **1300/Advanced Deployable System**

Continued to coordinate with LCS Mission Module and Ship program offices for radio and antenna integration. Oversaw refurbishment of SIT gear and cancellation of the program following SIT.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0604784N/DISTRIBUTED SURVEILLANCE SYSTEM**	PROJECT NUMBER AND NAME **9999/CONGRESSIONAL ADDS**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
9A57 - Off Board Sensor	0.996	0.000	0.000
RDT&E Articles Quantity	0	0	0

Congressional add funds provide a systems approach to the development of the Wet-end Installation System Element (WISE) which deploys sensors using expendable underwater vehicles. The system provides wide area surveillance and real-time target information from deployable surveillance sensors to the tactical Commander in the Littoral environment without the need to connect to the sensors."

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**					R-1 ITEM NOMENCLATURE 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		2,109.426	1,868.046	1,532.748	1,028.674	1,053.934	736.711	657.544
2261 JSF		1,938.423	1,524.702	1,502.947	1,000.185	1,018.629	716.176	644.583
3194 Joint Reprogramming Center			5.505	29.801	28.489	35.305	20.535	12.961
9999 Congressional Adds		171.003	337.839					

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, 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 7 other International countries are participants in the JSF Program.

Congressional Adds currently being included in the program planning and development.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5**	R-1 ITEM NOMENCLATURE 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 07	FY 08	FY 09
FY 2008 President's Budget:	2,163.931	1,707.372	1,548.903
FY 2009 President's Budget	2,109.426	1,868.046	1,532.748
Total Adjustments	-54.505	160.674	-16.155
Summary of Adjustments			
Congressional Reductions		-141.600	
Congressional Rescissions			
Congressional Increases		340.000	
Congressional Undistributed Reductions	-53.310	-37.726	
Economic Assumptions	0.005		-5.225
Miscellaneous Adjustments	-1.200	0.000	-10.930
Subtotal	-54.505	160.674	-16.155

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM				PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) PROGRAM			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		1,938.423	1,524.702	1,502.947	1,000.185	1,018.629	716.176	644.583
RDT&E Articles Qty			6	12				

This Program Element continues development efforts budgeted in program element 0603800N prior to FY 2002.

RDT&E articles include 13 flight test articles (including 1 in FY06) and 6 ground test articles. This is the total program test article quantities for Navy and AF.

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, 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 Navy and Air Force funding is combined on the following pages. The United Kingdom and 7 other International countries are participants in the JSF Program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	2261, JOINT STRIKE FIGHTER (JSF) PROGRAM SDD

B. Accomplishments/Planned Program

System Development and Demonstration		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3,409.493	2,677.102	2,118.409
RDT&E Articles Quantity			6	12

Continue System Development and Demonstration SDD execution of the Air System, with Lockheed Martin including International Commonality Effort (ICE) which includes airframe, vehicle systems, mission systems, autonomic logistics, systems engineering and integrated test efforts.

F135 Propulsion System		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		754.246	715.000	439.000
RDT&E Articles Quantity				

Continue SDD execution of the F135 Propulsion System, with Pratt & Whitney using (ICE) which includes engine testing, autonomic logistics, integration and performing technology maturation efforts.

F136 Propulsion System		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		341.290	480.000	0.000
RDT&E Articles Quantity				

Continue the Fighter Engineering Team (General Electric/Rolls Royce) F136 development for a second, interchangeable, JSF engine for competition in production (previously begun in associated program elements 0603800N and 0603800F). Efforts include technology maturation, engine testing, autonomic logistics and integration. Congressional actions added $340M to F136 Propulsion System in FY07 and $480M in FY08.

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	2261, JOINT STRIKE FIGHTER (JSF) PROGRAM SDD

B. Accomplishments/Planned Program (Cont.)

Systems Engineering		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		56.676	42.711	34.551
RDT&E Articles Quantity				

Continue SDD Systems Engineering (SE) including systems operations requirements analysis, program integration, requirements integration, and interoperability support.

Development Test and Evaluation		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		95.407	149.000	232.756
RDT&E Articles Quantity				

Government Development Test and Evaluation (DT&E) continues in support of first flight of test aircraft. Elements of DT&E include preparation for flight testing, weapons integration testing, and Program Introduction Documents (PIDs).

Development Support		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		181.459	218.243	367.558
RDT&E Articles Quantity				

Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	2261, JOINT STRIKE FIGHTER (JSF) PROGRAM SDD

B. Accomplishments/Planned Program (Cont.)

Program Management Support		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		45.191	51.222	57.734
RDT&E Articles Quantity				

Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PRO	2261, JOINT STRIKE FIGHTER (JSF) SDD	

C. OTHER PROGRAM FUNDING SUMMARY: This is a joint program with no executive service. Service Acquisition Executive (SAE) authority alternates between the Department of the Navy and the Department of the Air Force and currently resides with the Navy. Program Element 0604800N continues USN development efforts budgeted in 0603800N prior to FY 2002. The United Kingdom and other International countries are participants in the SDD phase of JSF.

RDT&E:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost*
0604800F Joint Strike Fighter	2,074.021	1,991.537	1,524.016	1,132.458	779.303	966.018	728.031	0.000	17,883.221
International Partner Funding	700.315	479.200	223.045	171.450	144.030	16.900	9.300	0.000	4,555.311

* Note: Total cost includes FY2006 and prior funding received for JSF SDD Program.

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; and International Partner contributions of $253.921 for a total of $4,229.896. Total cost includes prior years funding FY02 through FY06.

RELATED PROCUREMENT:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete**	Total Cost
0214146N P-1 No. 6 F-35 (JSF) Joint Strike Fighter	124.498	1,223.834	1,860.898	3,334.394	3,201.247	5,384.432	5,262.819	64,286.790	84,678.912
(Quantity)		(6)	(8)	(18)	(19)	(40)	(42)		
0207142F P-1 No. 1 F-35	647.761	1,449.136	1,896.384	2,437.298	3,514.821	4,872.043	5,178.132	140,191.838	160,187.413
(Quantity)	(2)	(6)	(8)	(12)	(24)	(42)	(48)		

** Note: Procurement and Spares Cost to Complete is based on SAR-06 cost model.

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	2261, JOINT STRIKE FIGHTER (JSF) SDD	

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete*	Total Cost
RELATED SPARES AND REPAIR PARTS:									
0207142F, BPAC: 16F35A	76.067	37.039	85.693	121.548	226.788	355.420	372.760	11,239.842	12,515.157
BLI 060510		0.000	35.128	230.912	174.837	255.853	350.513	4,050.389	5,097.632

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
RELATED OTHER PROCUREMENT NAVY:									
BLI 426500		0.855	2.981	6.142	6.225	6.127	5.732	12.238	40.300

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
RELATED MILCON:									
0207142F		74.300	22.100	95.743	164.795	33.267	75.952	TBD	TBD

* Note: Procurement and Spares Cost to Complete is based on SAR-06 cost model

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM SDD

D. 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.

(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 continued propulsion development efforts through FY08.

The updated JSF Acquisition Strategy and program schedule were approved following the May 05 DAB. APR 06 DAB authorized LRIP I full funding procurement.

DoN Advance Procurement funding was obligated in FY 07 in support of the DoN's FY08 aircraft procurement. USAF regular procurement funding for LRIP 1 JSF aircraft was awarded during FY07 USAF Advance Procurement funding was awarded during FY06. USAF Advanced Procurement funding for LRIP II was awarded during FY07.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA-5**		PROGRAM ELEMENT 0604800N, JOINT STRIKE FIGHTER (JSF) PI				PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) PROGRAM SDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hdw Develop - Air System	C/CPAF	Lockheed, Ft Worth TX	14,212.404	3,407.144	10/06	2,677.102	10/07	2,118.409	10/08	4,809.758	27,224.817	25,904.288
Award Fees (Non-Add-Budgeted)			(983.399)	(251.690)		(239.112)		(212.368)		(687.655)	(2,374.224)	
Award Fees (% Funded to Date)			100%								1.000	
Primary Hdw Develop - Air System	SS/BOA	Lockheed Martin	5.630	0.000		0.000		0.000			5.630	5.630
Primary Hdw Develop - Air System	SS/IDIQ	Lockheed Martin	15.824	2.349		0.000		0.000			18.173	18.173
Primary Hdw Develop - F135 Engine	SS/CPAF	Pratt&Whit, Hartford, CT	4,100.154	754.221	10/06	715.000	10/07	439.000	10/08	385.000	6,393.376	5,901.589
Award Fees (Non-Add-Budgeted)			(403.402)	(88.541)		(93.892)		(68.192)		(99.995)	(754.022)	
Award Fees (% Funded to Date)			100%								1.000	
Prim Hdw Dev - F135 Engine	SS/BOA	Pratt & Whitney	36.016	0.000		0.000		0.000		0.000	36.016	36.016
Prim Hdw Dev - F135 Engine	SS/IDIQ	Pratt & Whitney	14.653	0.025		0.000		0.000		0.000	14.677	14.703
Primary Hdw Develop - F136 Engine	SS/CPAF	General Elect, Cinn, OH	382.753	0.000		0.000		0.000		0.000	382.753	382.753
Award Fees (Non-Add-Budgeted)			(52.509)	(34.194)		(49.039)		0.000		0.000	(135.742)	
Award Fees (% Funded to Date)			100%								1.000	
Primary Hdw Develop - F136 Eng	SS/BOA	General Electric	5.548	0.800		0.000		0.000		0.000	6.348	6.348
Primary Hdw Develop - F136 Eng	SS/IDIQ	General Electric	109.849	0.000		0.000		0.000		0.000	109.849	109.849
Primary Hdw Develop - F136 Eng SDD	SS/CPAF	GE/RR Fighter Engin	443.729	340.489	10/06	480.000		0.000		0.000	1,264.219	2,489.889
Systems Engineering	WX	Various	121.126	56.676	10/06	42.711	10/07	34.551	10/08	150.247	405.311	0.000
Subtotal Product Development			19,447.686	4,561.705		3,914.813		2,591.960		5,345.005	35,861.169	TBD

Remarks: Total cost includes Navy, Air Force and International Cooperative Partners contributions. Target Value of Contract reflects the projected contract value at the completion of SDD program.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) PROGRAM SDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Support	WX	AFFTC/Eglin	32.693	13.622	10/06	9.620	10/07	18.056	10/08	28.692	102.683	
Development Support	WX	ASC/AFRL	21.970	6.733	10/06	4.802	10/07	8.180	10/08	15.540	57.225	
Development Support	WX	Bolling AFB	0.375	4.190	10/06	4.141	10/07	1.107	10/08	2.074	11.887	
Development Support	MIPR	DMEA	0.673	5.049	10/06	12.226	10/07	-	10/08	0.000	17.948	
Development Support	MIPR	ESC	5.455	0.510	10/06	2.746	10/07	1.725	10/08	0.696	11.132	
Development Support	MIPR	AEDC/Fuel	12.431	53.220	10/06	76.034	10/07	123.954	10/08	106.944	372.583	
Development Support	WX/MIPR	Jacksonville	0.916	1.681	10/06	1.736	10/07	3.062	10/08	5.820	13.215	
Development Support	MIPR	Various	163.477	18.359	10/06	29.915	10/07	54.513	10/08	90.290	356.554	
Development Support	MIPR	NAWC China Lake	40.944	16.875	10/06	17.592	10/07	37.578	10/08	71.047	184.036	
Development Support	WX	NAWC TSD	1.373	2.311	10/06	-	10/07	5.034	10/08	9.646	18.364	
Development Support	WX	NAWC Patuxent River	138.389	54.602	10/06	54.278	10/07	106.860	10/08	192.834	546.963	
Development Support	MIPR	NSWC	0.845	1.402	10/06	0.970	10/07	2.156	10/08	4.080	9.453	
Development Support	WX	SPAWAR	2.059	2.905	10/06	4.183	10/07	5.333	10/08	10.123	24.603	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			421.600	181.459		218.243		367.558		537.786	1,726.646	

Remarks: Total cost includes Navy, Air Force and International Cooperative Partners contributions.

R-1 SHOPPING LIST - Item No. 126

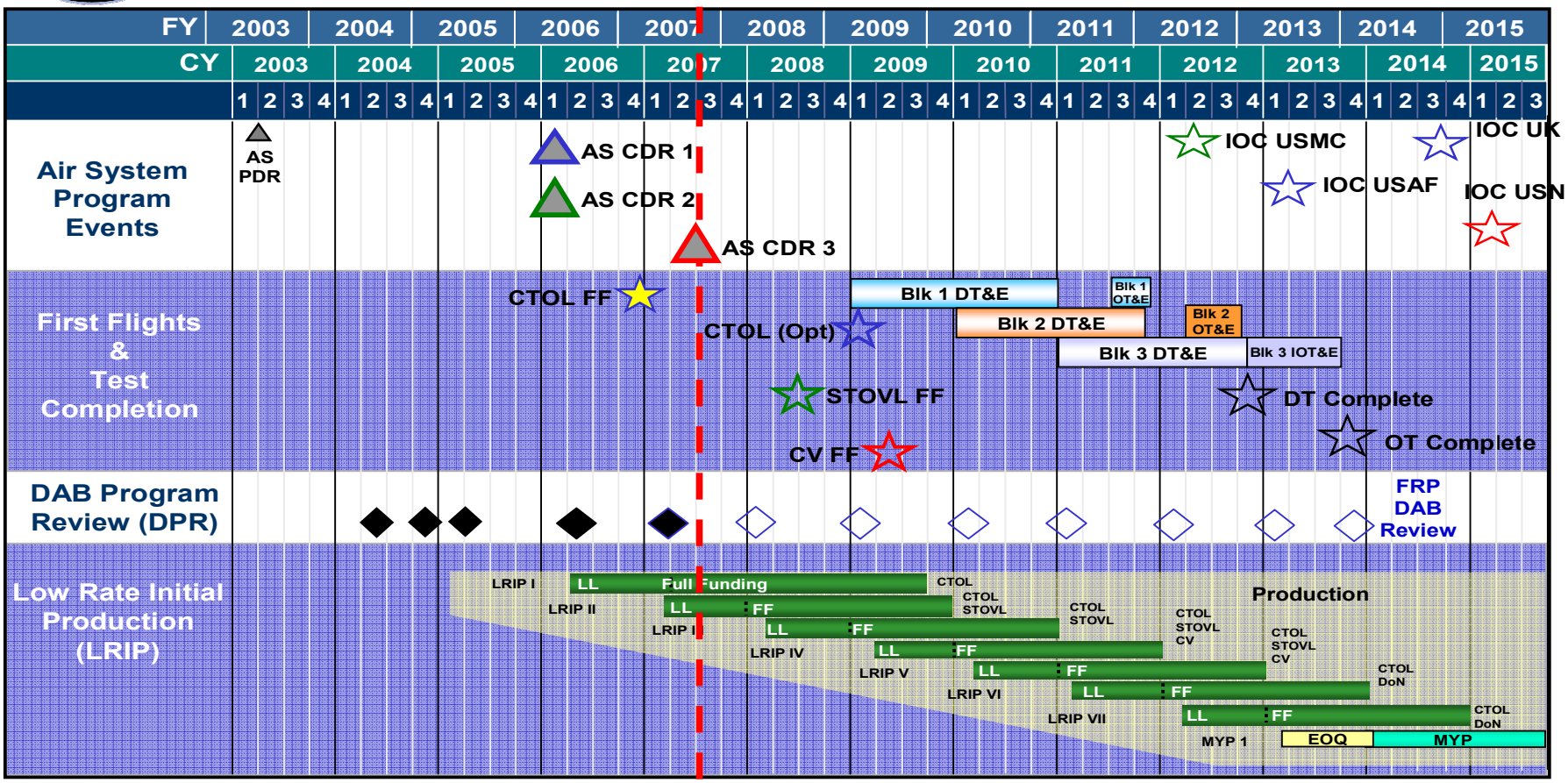
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) PROGRAM SDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Government T&E											0.000	
Development Test & Evaluation	WX	NAWC Patuxent River	70.102	24.022	10/06	57.000	10/07	97.000	10/08	384.217	632.341	
Development Test & Evaluation	MIPR	Edwards AFB - AFFTC	74.682	31.752	10/06	49.550	10/07	88.100	10/08	403.250	647.335	
Development Test & Evaluation	WX	Various	26.733	9.541	10/06	4.965	10/07	29.165	10/08	139.260	209.665	
Development Test & Evaluation	WX	NAWC China Lake	23.941	4.499	10/06	8.730	10/07	8.779	10/08	32.815	78.764	
Development Test & Evaluation	MIPR	Eglin AFB	15.928	17.049	10/06	20.055	10/07	0.415	10/08	7.300	60.747	
Development Test & Evaluation	MIPR	JITC	0.150	0.240	10/06	0.300	10/07	1.497	10/08	13.383	15.570	
Operation Test & Evaluation	WX/MIPR	Various	4.195	8.304	10/06	8.400	10/07	7.800	10/08	242.000	270.699	
Subtotal T&E			215.731	95.407		149.000		232.756		1,222.225	1,915.121	
Remarks: Total cost includes Navy, Air Force and International Cooperative Partners contributions.												
Program Management Support	SS/CPFF	Stanley, Arlington, VA	57.897	13.731	10/06	16.382	10/07	16.228	10/08	53.715	157.953	
Program Management Support	SS/CPFF	Mantech, Arlington, VA	14.800	5.700	12/06	6.942	12/07	7.000	12/08	32.000	66.442	
Travel	WX/MIPR	Various	13.465	4.543	10/06	4.340	10/07	10.648	10/08	44.833	77.829	
Program Management Support	C/CPAF	Sverdrup/Anteon, Arl, VA	20.006	10.889	12/06	12.070	12/07	13.550	12/08	44.851	101.366	
Program Management Support	SS/CPFF	Wyle Labs (AI-ES), Arl, Va	22.193	10.328	12/06	11.488	12/07	10.308	12/08	46.648	100.965	
Subtotal Management			128.361	45.191		51.222		57.734		222.047	504.555	
Remarks: Total cost includes Navy, Air Force and International Cooperative Partners contributions. Prior Years reflect $8,714,470 USN / $8,687.837 USAF / $2,811.071 International / Total $20,213,378 FY 2007 reflects $2,109,426 USN / $2,074.021 USAF / $700.315 International / Total $4,883.762 FY 2008 reflects $1,862.541 USN / $1,991.537USAF / $479.200 International / Total $4,333.278 FY 2009 reflects $1,502.947 USN / $1,524.016 USAF / $223.045 International / Total $3,250.008												
Total Cost			20,213.378	4,883.762		4,333.278		3,250.008		7,327.063	40,007.490	

R-1 SHOPPING LIST - Item No. 126

EXHIBIT R4, Schedule Profile		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604800N / JOINT STRIKE FIGHTER (JSF) PROGRAM	PROJECT NUMBER AND NAME 2261 / JOINT STRIKE FIGHTER SDD

JSF Top-Level SDD Program Schedule



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R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) PROGRAM SDD			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
DAB Program Review (DPR)	2Q	2Q	2Q	2Q	2Q	2Q	2Q
Critical Design Reviews (CDRs)	CDR 3, 3Q						
Initial Operational Capability USMC (IOC)						3Q	
Initial Operational Capability USAF (IOC)							2Q
Initial Operational Capability USN (IOC)							
CTOL First Flight	1Q						
STOVL First Flight		3Q					
CV First Flight			3Q				
Block 1, DT&E			2Q-4Q	1Q-4Q	1Q		
Block 1, OT&E					4Q		
Block 2, DT&E				2Q-4Q	1Q-4Q		
Block 3, DT& E					2Q-4Q		
Block 2 OT&E						3Q-4Q	
Block 3 IOT&E							1Q-4Q
LRIP I (CTOL)	1Q-4Q	1Q-4Q	1Q-4Q				
LRIP II (CTOL, STOVL)	3Q-4Q	1Q-4Q	1Q-4Q	1Q			
LRIP III (CTOL, STOVL, CV, UK)		2Q-4Q	1Q-4Q	1Q-4Q	1Q		
LRIP IV (CTOL, STOVL, CV, UK)			2Q-4Q	1Q-4Q	1Q-4Q	1Q	
LRIP V (CTOL, STOVL, CV, UK)				2Q-4Q	1Q-4Q	1Q-4Q	1Q
LRIP VI (CTOL, DON, UK)					2Q-4Q	1Q-4Q	1Q-4Q
LRIP VII (CTOL, STOVL, CV, UK)						2Q-2Q	1Q-4Q
DT Complete							1Q

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM				PROJECT NUMBER AND NAME 3194, JOINT REPROGRAMMING CENTER			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost			5.505	29.801	28.489	35.305	20.535	12.961
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Strike Fighter (JSF) program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC, and USMC, and allies, with maximum commonality among the variants, consistent with National Disclosure Policy, 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 7 other International countries are participants in the JSF Program.

The JSF Joint Reprogramming Center/Capability Concept is required to adequately develop and maintain Operation Sensor Engineering F-35(V) Mission Data to multi-service, multi-country, and multi-mission objectives. JRC will allow rapid operational response to threat changes. Funding for this project unit (3194) is provided specifically for:

- Aircraft sensor function and combat identification
- Conducting Offensive Identification/Jamming of potential threats
- Providing self defense against surface threats, air, and missile threats.
- Detecting and identifying targets, to include moving land, air, and missile targets
- Providing mission planning to ensure aircraft survivability
- Conducting offensive operations against surface threats;
- Conducting sensor management and information processing.

Software development for this requirement is funded through the Joint Strike Fighter SDD baseline.

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	3194, JOINT REPROGRAMMING CENTER

B. Accomplishments/Planned Program

System Development and Demonstration		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			5.005	20.009
RDT&E Articles Quantity				

Provide funds to Lockheed Martin Aero in support of reprogramming techniques, development and verification capacity required to adjust to emergent threats, and validate system effectiveness to increase survivability of the weapon system.

Development Support		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			0.500	8.892
RDT&E Articles Quantity				

SDD Systems Engineering (SE) including systems operations requirements analysis, program integration, requirements integration, and interoperability support of Joint Reprogramming Center.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGR	3194, JOINT REPROGRAMMING CENTER

C. OTHER PROGRAM FUNDING SUMMARY: This is a joint program with no executive service. Program Element 0604800F continues USAF development efforts budgeted in 0603800F.

RDT&E:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0604800F		43.000	57.500	15.000	15.000	12.500	12.000

Remarks: USAF is funding this requirement jointly with the USN beginning in FY08 under PE 0604800F.

D. ACQUISITION STRATEGY:

The Joint Reprogramming Center (JRC) is a subset of the JSF Program and falls within the JSF acquisition strategy. JRC is needed to support scheduled Initial Operational Capability dates (and supporting test activity) for the three JSF variants. To that end, a concept of operations (CONOPS) is being developed for JRC to address Mission Data (MD) development and verification/validation/testing and to merge service unique requirements into Joint processes/procedures. Inter-Service collaboration is ongoing to formalize the JRC requirements planning process and will eliminate duplication of effort, maximize technology to improve configuration control, utilize advance networks, and ensure the implementation of an enterprise (single shared database) solution. This will capitalize on legacy platform synergy, operational mission data intellect, proven processes, and existing reprogramming center resources. This approach also will improve efficiencies, eliminate duplication, and influence JRC design. International partner collaboration on the JRC is being explored through the Joint Reprogamming Action Group. A Joint Command reprogramming authority will determine/manage reprogramming priorities and implementation authority.

The JRC Mission data development strategy is based upon an assessment of legacy systems, F-22 data, corporate expertise of Eglin/Pt Mugu personnel, adjusted cost and schedule projections keyed to complexity of multi-variant and multi-mission aircraft, JSF-specific utilization of multiple sources of non-sustained disparate, raw, intelligence data, development of threat assessment - metrics and build-up of real-world scenarios for systems verification and validation. These efforts support JSF operational requirements, interoperability, and fratricide mitigation.

Although the JSF SDD Program has contracted with Lockheed Martin and Pratt & Whitney for the SDD of the JSF, LM does not have the laboratory space availability or expertise to perform operational evaluation of lab and flight test data and support field recommendations to the level needed. The complexity and magnitude of JSF mission data loads drives the decision to utilize government and contractor resources to design and develop a JSF Reprogramming facility at Eglin AFB.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRA	3194, JOINT REPROGRAMMING CENTER

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hdw Develop - Air System	C/CPAF	Lockheed, Ft Worth TX	0.000			5.005	02/08	20.909	10/08		25.914	25.014
Award Fees (Non-Add-Budgeted)			0.000			(0.422)		(1.401)			(1.823)	
Award Fees (% Funded to Date)												
Subtotal Product Development			0.000	0.000		5.005		20.909			25.914	

Remarks:

CLASSIFICATION:

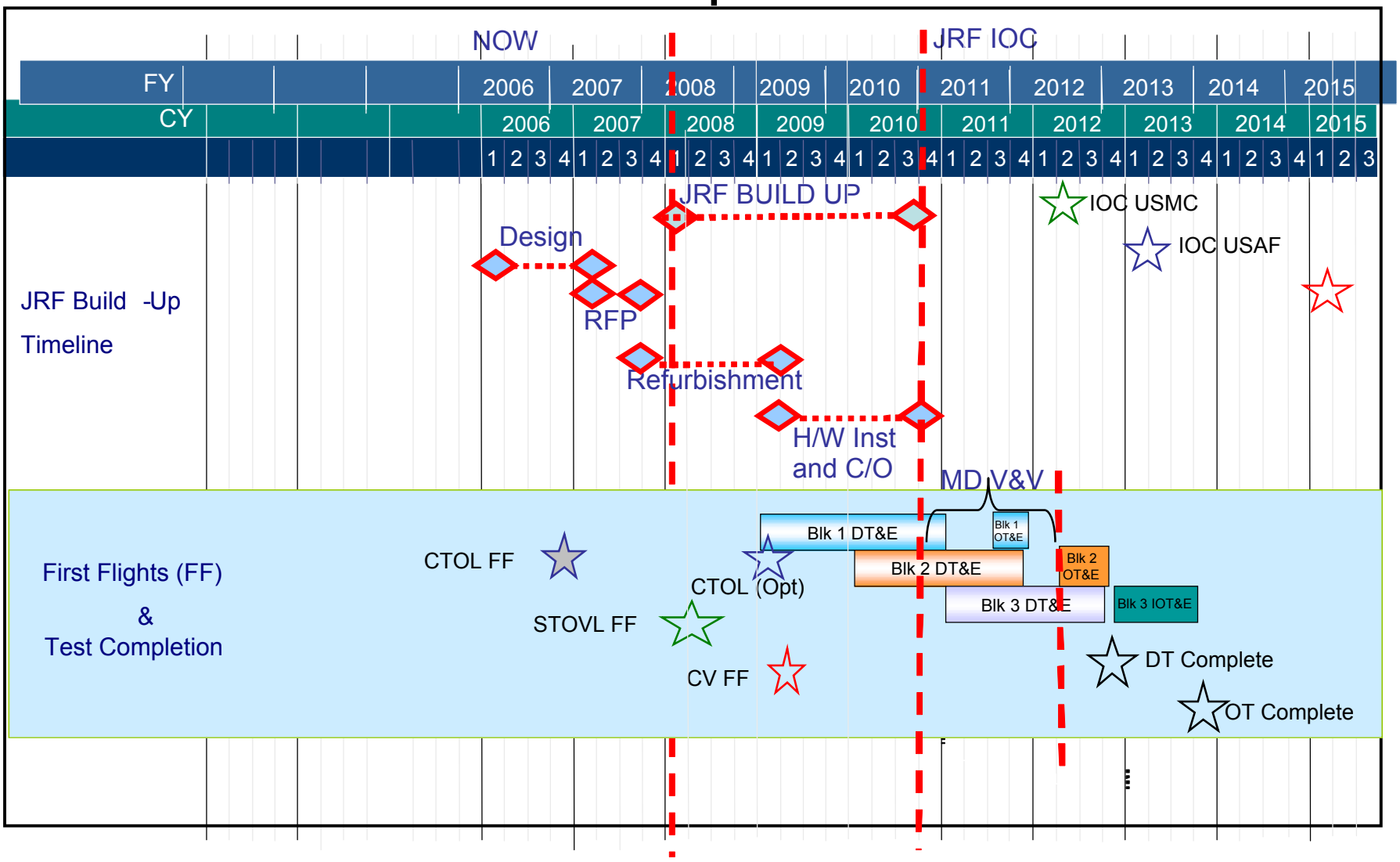
Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			PROJECT NUMBER AND NAME 3194, JOINT REPROGRAMMING CENTER					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost
Development Support	WX/MIPR	NAWC Patuxent River				0.250	01/08	4.142	10/08	Continuing	Continuing
Development Support	WX/MIPR	NAWC China Lake				0.125	01/08	2.710	10/08	Continuing	Continuing
Development Support	MIPR	Electronic Systems Comm				0.125	01/08	2.040	10/08	Continuing	Continuing
Subtotal Support			0.000	0.000		0.500		8.892			0.000
Subtotal T&E			0.000	0.000		0.000		0.000			0.000
Subtotal Management			0.000	0.000		0.000		0.000			0.000
Total Cost			0.000	0.000	0.000	5.505		29.801		Continuing	Continuing

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604800N / JOINT STRIKE FIGHTER (JSF) PROGRAM	PROJECT NUMBER AND NAME 3194 / JOINT REPROGRAMMING CENTER

JRC Joint Development Schedule



CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM				PROJECT NUMBER AND NAME 3194, JOINT REPROGRAMMING CENTER			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
JRF Design		1Q-4Q						
JRF RFP		1Q-4Q	1Q					
JRF BUILD UP			2Q-4Q	1Q-4Q	1Q-3Q			
JRF Refurbishment			1Q-4Q	1Q-2Q				
JRF H/W Installation				3Q-4Q	1Q-3Q			
Mission Data Validation Verification (MD V&V)						1Q-4Q	1Q-3Q	
JRF IOC						1Q		
Initial Operational Capability USMC (IOC)							3Q	
Initial Operational Capability USAF (IOC)								2Q
Initial Operational Capability USN (IOC)								
CTOL First Flight		1Q						
STOVL First Flight			3Q					
CV First Flight				3Q				
Block 1, DT&E				2Q-4Q	1Q-4Q	1Q		
Block 2, DT&E					2Q-4Q	1Q-4Q	1Q	
Block 3, DT& E						2Q-4Q	1Q-4Q	
Block 1 OT&E							4Q	
Block 2 OT&E							3Q-4Q	
Block 3 IOT&E								2Q-4Q
DT Complete							4Q	

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**					R-1 ITEM NOMENCLATURE 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**171.003**	**337.839**					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional Adds to the Joint Strike Fighter Program include:

FY 2007
1) Innovative Technologies for JSF Core Processor to ensure the latest technological advances are incorporated into the JSF aircraft to include the avionics suite.
2) JSF Head Exchanger Development Weight Reduction and Performance
3) Maintain Development of 2nd Source for Engine GE/FET (General Electric/Fighter Engine Team).

FY 2008
1) F136 Fighter Engine Team (FET) Alternate Engine incremental funding.
2) Production Affordability Initiatives

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	9999 Congressional Adds

B. Accomplishments/Planned Program (Breakout reflects USN only funding)

2261C		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.003		
RDT&E Articles Quantity				

To provide funds for JSF Heat Exchanger Development and Weight Reduction & Performance requirements of the Joint Strike Fighter aircraft. This effort will provide tests for optimum weight and heat ratios evaluation.

2261C		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		170.000	237.839	
RDT&E Articles Quantity				

Maintain Development of 2nd source for F-35, Lightning II engine GE/FET (General Electric/Fighter Engine Team). Funding continues the Fighter Engineering Team (General Electric/Rolls Royce) F136 development for a second, interchangeable, JSF engine for competition in production (previously begun in associated Program Elements 0603800N and 0603800F). Efforts include technology maturation, engine testing, autonomic logistics and integration. Congressional actions added $170M DoN and $170M USAF funding to the JSF Program in FY07. FY08 Congressional actions added $240M DoN and $240M USAF funding to the JSF Program in FY08.

2261C		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			100.000	
RDT&E Articles Quantity				

To provide funds for Production Affordability initiatives to protect JSF production schedule profile.

R-1 SHOPPING LIST - Item No. 126

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5 / System Development and Demonstration**		PROGRAM ELEMENT (PE) NAME AND NO. **0605013M Information Technology and Development**						
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		**15.516**	**25.100**	**30.238**	**13.058**	**13.458**	**11.721**	**11.360**
C2906 Marine Corps Information Technology Dev/Mod		**14.545**	**21.721**	**30.238**	**13.058**	**13.458**	**11.721**	**11.360**
C9999 Congressional Adds		**0.971**	**3.379**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Quantity of RDT&E Articles								

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

This program establishes, sustains and continuously refines computing platforms and Information Technology (IT) services as tested, certified and reusable components of a Marine Corps information technology framework that spans the range of military operation.

B. PROGRAM CHANGE SUMMARY

	FY2007	FY2008	FY2009
(U) FY 2008 PRESIDENT'S BUDGET:	**14.272**	**22.181**	**13.788**
(U) Adjustments from the President's Budget:			
(U) Congressional Program Reductions			
(U) Congressional Rescissions			
(U) Congressional Undistributed Rescissions/Reductions		-0.163	
(U) Congressional Increases		3.400	
(U) PR09 Program Review			
(U) Reprogrammings	1.589		16.245
(U) SBIR/STTR Transfer	-0.345	-0.318	
(U) Minor Affordability Adjustment			0.205
(U) FY 2009 PRESIDENT'S BUDGET:	**15.516**	**25.100**	**30.238**

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5 / System Development and Demonstrat**	PROGRAM ELEMENT NUMBER AND NAME **0605013M Information Technology and Development**				PROJECT NUMBER AND NAME **C2906 Marine Corps Information Technology**			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project Cost		**14.545**	**21.721**	**30.238**	**13.058**	**13.458**	**11.721**	**11.360**
RDT&E Articles Qty								

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

Defense Messaging System (DMS) is an OSD-mandated program that replaced the Automatic Digital Network (AUTODIN) in 30 September 2003. DMS expands writer-to-reader connectivity, support, and message security services. Organizations are 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. Future changes to DMS will provide message drafters and releasers, a web interface and will centralize the DMS functions including FORTEZZA security services.

Manpower Planning Systems (formerly Models) portfolio consists of three systems; Legacy Manpower Models, the Total Force Data Warehouse (TFDW), and the replacement effort of the existing legacy models, the Total Force Manpower Models Re-engineering effort (TFMMR). This portfolio will provide the tools and data to support the creation of active and reserve accession, recruiting, training, classification, retention, promotion, mobilization, distribution, and assignment plans.

MANPOWER OPERATIONS SYSTEMS: 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.

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 Guidebook for Recruiters, Volume I, 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.

Marine Corps Enterprise Information Technology Services (MCEITS) will provide an overarching portfolio of capabilities to deliver "Power to the Edge" for the Marine Corps. Born from an effort to establish a Continuity of Operations Plan (COOP) of HQMC Automated Information Systems (AIS), MCEITS will realign the existing USMC environment of applications, databases, networks, and facilities into an integrated architecture and programs to deliver new information technology capabilities based on a common infrastructure and shared services. MCEITS is a unifying framework of both the Net-Centric Enterprise Services (NCES) to be delivered, and the infrastructure and systems which must be deployed to enable delivery of those services. Initially it will encompass the Operational, Technical and Systems architectures of the garrison environment. However, ultimately it will extend to transform Command and Control (C2) both in garrison and in the deployed environment. Combined with policy, procedure and standards provided by HQ-USMC C4, it will allow us to finally achieve architectural standardization, consolidated management, and seamless interoperability of, and access to, and the data residing in our currently fielded applications (business and tactical).

MCEITS will provide the Marine Corps with the Information Technology tools that will allow for decision superiority now and in the future.

Total Force Structure Management System (TFSMS) is the single Marine Corps authoritative source for all force structure data to include the official Marine Corps hierarchy, Table of Organization/Table of Equipment which display all approved units, unit tables, unit identification codes (UIC), billets, unit equipment allowances, individual equipment allowances, Table of Allowance Material Control Numbers (TAMCN), all equipment characteristics, as well as approved acquisition objectives. TFSMS is a commercial-off-the-shelf (COTS) web-based system based on the Oracle supply chain management suite of applications, enabling manpower and equipment transactions. TFSMS includes tools to support system design, automated workflow and change request management, and decision support. Embedded within the TFSMS application is the COGNOS Report Net business intelligence software enabling users to view standard reports and conduct ad-hoc queries against TFSMS data.

Enterprise-Total Life Cycle Management-Common Operating Picture (E-TLCM-COP): Multiple organizations are responsible for different phases of the equipment life cycle. Currently, no single organization or system maintains an enterprise view to support critical decisions. The mission of the E-TLCM-COP is to provide an Enterprise Total Life Cycle Management view of equipment and weapon systems from the point of requirements generation through the life cycle of equipment across the Unites States Marine Corps' Logistic Enterprise. Funding provided for this effort will be used to automate the E-TLCM-COP. The intent is that the E-TLCM-COP, once automated, is designated as the single strategic solution for Advocates to view status of weapon systems and equipment to answer Congressional Testimony, address Principle End Item rotation, crossing leveling of equipment and correlate funding to equipment readiness.

Insensitive Munititions: This R&D initiative will focus on the development of improved packaging materials/design, venting technology, development/ incorporation of a less sensitive propelling charge and all associated munitions qualification testing of the incorporated technologies. This development effort is being executed to directly improve the IM responses for the 120mm EFSS XM1103 Smoke and Precision Extended Range Munition (PERM) cartridges in the areas of Fast/Slow Cook-Off, Fragment Impact and Sympathetic Reaction.

Marine Ammunition Knowledge Enterprise (MAKE) : is the enterprise knowledge repository designed, evolved and updated to facilitate knowledge dominance. MAKE provides the enterprise web based access to data and information to enable the decision making process. MAKE is a force multiplier and critical enabler in support of the Life Cycle Management(LCM) of the Corps $4 billion plus Class V(W) stockpile.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME
RDT&E, N / BA 5 / System Development and Demonstrat	**0605013M Information Technology and Development**		**C2906 Marine Corps Information Technology**

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.400**	**0.270**	**0.571**
RDT&E Articles Qty				

DMS: OTE and DTE testing of DMS new releases, maintenance releases, TDMS, Proxy solution (Automated Message Handling System (AMHS), Decision Agency (DA) and others), integration testing of DMS inclusion into the NetCentric Enterprise System (NCES).

COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.964**	**6.896**	**3.226**
RDT&E Articles Qty				

MANPOWER OPERATIONS SYSTEMS: 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, Manpower Mobilization Assignment System (MMAS) to an integrated Detailed Planning and Current Operations System over the long-term. Provide support for the development and integration of modules into TFAS and enhancements to other systems within the portfolio.

COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**5.669**	**0.000**	**0.000**
RDT&E Articles Qty				

MANPOWER OPERATIONS SYSTEMS: Provide support for the development and integration of modules into TFAS and enhancements to other systems within the portfolio

COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**2.810**	**8.380**	**17.568**
RDT&E Articles Qty				

MCEITS: The Marine Corps' instrument for the deployment of infrastructure, fielding of interoperable net-centric capabilities and will mutually support and contribute to the Department of Defense (DoD) overall Global Information Grid (GIG) Enterprise Services (GES), Net-Centric Enterprise Services (NCES) and Information Technology (IT) capabilities. MCEITS is a core capability of the Marine Air Ground Task Force Command and Control (MAGTF C2) construct and Family of Systems that provides the end-to-end C2 capability for the Marine Corps. MCEITS will deliver enterprise IT software and data via web-services, host, organize and manage hardware as virtualized resources, enable and use autonomic data sources, and offer core NCES as well as Marine Corps specific services. The infrastructure will be based on Service Oriented Architecture (SOA) using industry standard hardware and software building blocks. MCEITS will orchestrate IT resources that reduce complexity, lower costs and improve interoperability and operational flexibility. RDT&E funds will be used for RDT&E management, analysis and support, System Integration and System Demonstration.

COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**2.690**	**4.697**	**2.016**
RDT&E Articles Qty				

MANPOWER PLANNING SYSTEMS: Re-engineering of long-term planning tools which are integral to the decision support processes of the TFAS. 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 Manpower Master Planning System.

COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**1.172**	**0.000**	**0.000**
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 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.840**	**1.478**	**5.757**
RDT&E Articles Qty				

TFSMS: Funding will be used for a commercial-off-the-shelf (COTS) web-based system based on the oracle supply chain management suite of applications, enabling manpower and equipment transactions. TFSMS includes tools to support system design, automated workflow and change request management, and decision support. Embedded within the TFSMS application is the COGNOS Report net business intelligence software enabling users to view standard reports and conduct ad-hoc queries against TFSMS data.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5 / System Development and Demonstrat**	PROGRAM ELEMENT NUMBER AND NAME **0605013M Information Technology and Development**		PROJECT NUMBER AND NAME **C2906 Marine Corps Information Technology**	
COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.000**	**0.000**	**1.100**
RDT&E Articles Qty				

INSENSITIVE MUNITIONS: This R&D initiative will focus on the development of improved packaging materials/design, venting technology, development/ incorporation of a less sensitive propelling charge and all associated munitions qualification testing of the incorporated technologies. This development effort is being executed to directly improve the IM responses for the 120mm EFSS XM1103 Smoke and Precision Extended Range Munition (PERM) cartridges in the areas of Fast/Slow Cook-Off, Fragment Impact and Sympathetic Reaction.

(U) Total $		**14.545**	**21.721**	**30.238**

(U) PROJECT CHANGE SUMMARY:	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2008 President's Budget:	**13.276**	**22.181**	**13.788**
(U) Adjustments from the President's Budget:			
(U) Congressional Program Reductions			
(U) Congressional Rescissions			
(U) Congressional Increases			
(U) Congressional Undistributed Rescissions/Reductions		-0.142	
(U) Reprogrammings	1.589		16.245
(U) SBIR/STTR Transfer	-0.32	-0.318	
(U) Minor Affordability Adjustments			0.205
(U) FY 2009 President's Budget:	**14.545**	**21.721**	**30.238**

CHANGE SUMMARY EXPLANATION:

(U) Funding:

(U) Schedule:

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
(U) PMC BLI 463500 DMS	5.508	6.668	0.000	0.000	0.000	0.492	0.506	Cont	Cont
(U) PMC BLI 461700 MOS	0.762	0.577	0.769	0.858	0.563	0.654	0.674	Cont	Cont
(U) PMC BLI 463000 MCEITS	0.931	7.591	4.375	4.732	5.328	9.030	11.116	Cont	Cont
(U) PMC BLI 463000 TFSMS	3.800	0.604	0.337	0.086	0.875	0.085	0.085	Cont	Cont
(U) PMC BLI 461700 MPS	0.199	0.258	0.289	0.293	0.292	0.298	0.306	Cont	Cont

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5 / System Development and Demonstrat	**0605013M Information Technology and Development**	**C2906 Marine Corps Information Technology**

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:

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 funding supports Marine Corps Operations Test Activity (OTA). Marine Corps participation is vital to ensuring the implementation of DMS is interoperable with all DOD CINCs/Services/Agencies.

MANPOWER OPERATIONS SYSTEMS: The systems within this portfolio follow an Evolutionary Acquisition (EA) approach: 1. Define, develop & deliver an initial or "core" capability based on mature technology. 2. "Core" capability will be incrementally improved over an extended period of time. Spiral Development Model: 1. Iterative cycles of requirements definition, design, build and evaluation. 2. TFAS will field functionality in increasing levels of complexity. 3. Business Process Re-engineer personnel administration processes. Additionally the TFAS program uses Bundled Capability Packages (BCPs) & Modules: 1. BCPs contain specific functions from the 18 functional areas of the Manpower Process. 2. BCPs are developed in detail by the TFAS Steering Group & approved by the TFAS Quality Leadership Board (MSC G-1s) and ultimately DC, M&RA. 3. BCP-1 taught us to break BCPs into smaller Functional Area "Modules" to better fit existing funding profiles and allows for less complex software development. NOTE: BCPs are categorical areas of functionality and Modules are specific functions within a category.

MCEITS: Complete system design and evaluation; achieve Milestone C; complete installation of initial Global Information Grid Enterprise Solution (GIG ES) application suites and conduct testing; achieve approval for full fielding (FY06); procure equipment for full network (FY06); complete upgrades of prototype installations to approved final design (FY07-08); establish all network nodes (FY07-08). Begin technology refreshment cycle (FY09-11). It is important to recognize that as this is a multi-layered approach, RDT&E will be required in FY06 to develop that application solutions for the GIG-ES. PMC execution is in support of the infrastructure layer, (COOP/DR/Network).

MANPOWER PLANNING SYSTEMS: To redesign or develop a Tamm that will improve Model functionality and integration, which support various manpower management functions. It will be developed with an open system architecture using spiral development methodology and maximize the use of COTS/GOTS solutions while supporting the current legacy manpower models until the full transition to TFMMR.

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.

TFSMS: RDT&E funding is required in support of a block capability/evolutionary acquisition development effort. Development work to provide additional functionality and testing for future block releases include: enhanced workflow and global force management capabilities in FY08; authorized strength report, enhanced mirroring and large scale reorganization in FY09; additional functionality for authorized acquisition objectives, compensation and manpower modeling in FY10; additional manpower modeling in FY11/FY12.

INSENSITIVE MUNITIONS: The Marine Corps has over 300 items currently in their inventory that are not IM compliant which are addressed annually in the USMC IM Strategic Plan. Through this annual plan the USMC is required to propose, focus and execute an IM strategy to yield maximum benefit to the Marine Corps with respect to achieving a more IM compliant munitions inventory. Based on USMC IM Strategic Plan this RDT&E program will focus on addressing IM deficiencies for EFSS in FY 09 and FY 10. FY 11-13 efforts are planned to develop minimum smoke IM solutions to address sholder launched weapon systems. These systems are among the highest priority based on current strategic plan.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5 / System Development and Demonstrat	**0605013M Information Technology and Development**	**C2906 Marine Corps Information Technology**

(U) E. MAJOR PERFORMERS:

DMS:

FY07 - MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing, NCES/DMS, Proxy testing, Dec 06
Fort Huachuca, AZ , TDMS, DMS, Proxy solution Joint Interoperability Certifications (JIC) exercise, 01/07
FY08 - MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing, 3.2, Proxy AMHS, DA testing, Jan 08
Fort Huachuca, AZ , TDMS, DMS Joint Interoperability Certifications (JIC) exercise, Jan 08
FY09 - MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing, NCES/DMS, Proxy testing, Dec 08
Fort Huachuca, AZ , TDMS, DMS, Proxy solution Joint Interoperability Certifications (JIC) exercise, Jan 09

MANPOWER OPERATIONS SYSTEMS:
FY08 - TSO Kansas City, MO, Verification and validation testing of software; Dec 07
FY09 - TSO Kansas City, MO, Verification and validation testing of software; Dec 08

MCEITS:

FY07 - Apogen. Stafford, VA; Mar 07
MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing
FY08 - Contractor TBD
FY09 - Contractor TBD

MANPOWER PLANNING SYSTEMS:

FY08 - Contractor TBD
FY09 - Contractor TBD

MCRISS:

TFSMS:

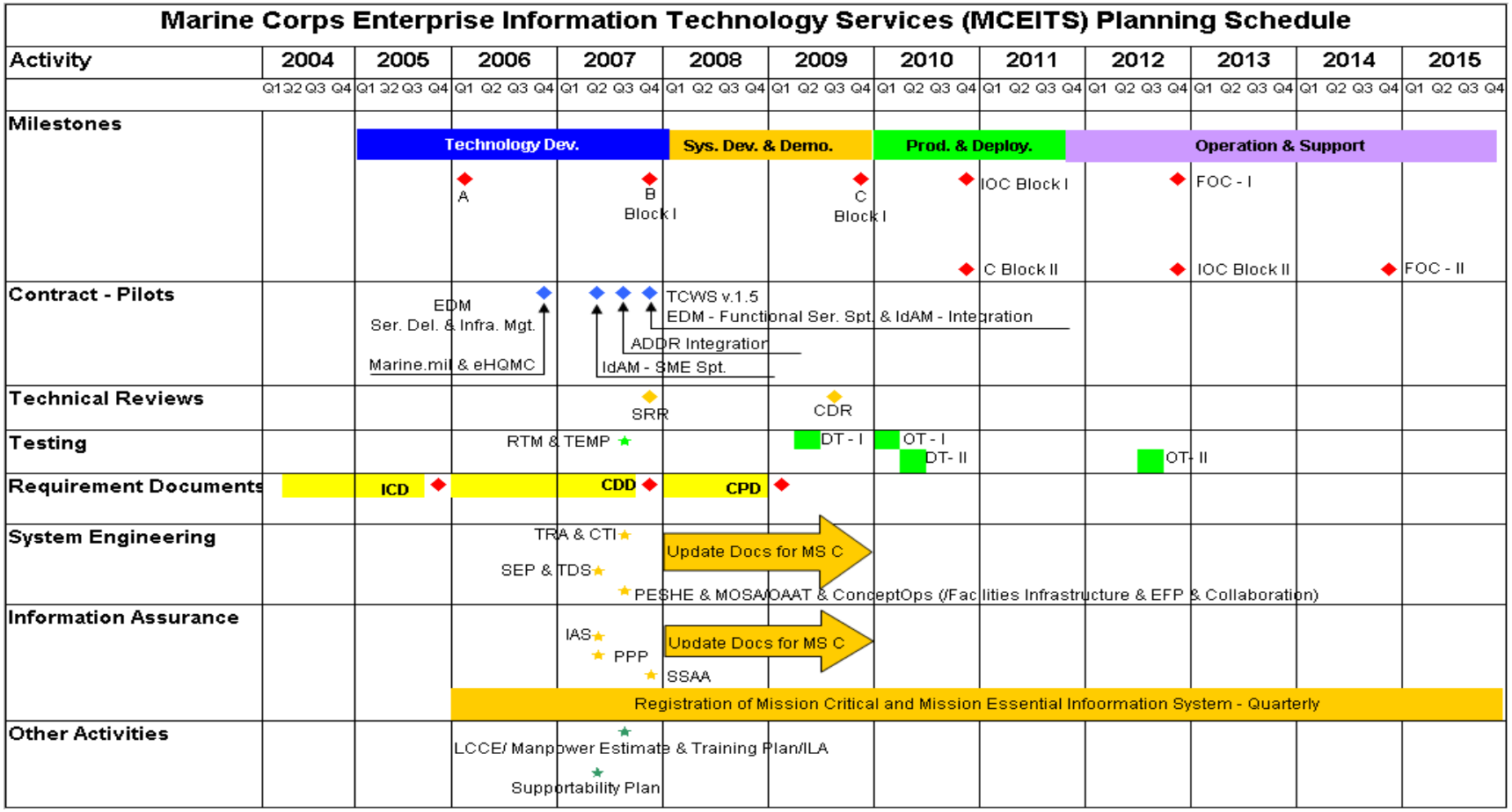
FY08 - Contractor TBD
FY09 - Contractor TBD

INSENSITIVE MUNITIONS:
FY 09-13 - TBD

Exhibit R-3 Cost Analysis															February 2008
RDT&E, N /BA-5 System Development and Demonstration (SDD)			**0605013M Marine Corps Information Tec**			**C2906 Marine Corps Information Technology**									
RDT&E, N / BA 5 / System Development and Demonstration						0605013M Information Technology and Development									
	Method & Type	Activity & Location	PY s Cost			FY 07 Cost	Award Date	FY 08 Cost	Award Date	FY 09 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Manpower Planning Systems	RCP	MCSC, Quantico, VA				2.690	06/07	4.697	06/08	2.016	06/09	Cont	Cont	
MCEITS	RCP	MCSC, Quantico, VA	1.475			2.810	03/07	4.878	TBD	11.868	TBD	Cont	Cont	
MCEITS RDT&E Management	TBD	TBD						2.400	TBD	2.400	TBD	Cont	Cont	
MCEITS Research and Analysis	TBD	TBD						0.377	TBD	0.300	TBD	Cont	Cont	
MCEITS Test and Evaluation	TBD	MCOTEA						0.225	TBD	1.000	TBD	Cont	Cont	
MCEITS Service Oriented Architecture Development	TBD	TBD								1.000	TBD	Cont	Cont	
MCEITS OT TEST	WR	MCOTEA, Quantico,VA	0.217					0.500	TBD	1.000	TBD		1.717	
TFSMS	RCP	MCSC, Quantico, VA				0.840	07/07	1.478	12/07	5.757	12/08	Cont	Cont	
Manpower Operations Systems	VAR	VAR	9.431			6.633	07/07	6.896	TBD	3.226	TBD	Cont	Cont	
MCRISS	RCP	TBD				1.172	07/07							
Insensitive Munitions	TBD	TBD								1.100	TBD	Cont	Cont	
Subtotal Product Dev			**11.123**			**14.145**		**21.451**		**29.667**		**Cont**	**Cont**	
Remarks														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY07 Award Date	FY 08 Cost	FY08 Award Date	FY 09 Cost	FY09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MCRISS	MIPR	FEDSIM	5.916										5.916	
Manpower Operations Systems	MIPR	TSO	7.562									Cont	Cont	
Subtotal Support			**13.478**			**0.000**		**0.000**		**0.000**		**Cont**	**Cont**	
Remarks														
Cost Categories	Method & Type	Activity & Location	Total PY s Cost			FY 07 Cost	FY07 Award Date	FY 08 Cost	FY08 Award Date	FY 09 Cost	FY09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DMS	WR	MCOTEA	0.480			0.200	01/07					Cont	Cont	
DMS	MIPR	JITC	0.253			0.200	12/06	0.170	12/07	0.200	12/08	Cont	Cont	
DMS	MIPR	SPAWAR	0.292				12/06	0.100	12/07	0.200	12/08	Cont	Cont	
DMS	RCP	NORTHROP GRUMMAN	0.029							0.171	12/08	Cont	Cont	
Subtotal T&E			**1.054**			**0.400**		**0.270**		**0.571**		**Cont**	**Cont**	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 07 Cost	FY07 Award Date	FY 08 Cost	FY08 Award Date	FY 09 Cost	FY09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal Management			**0.000**			**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	
Remarks:														
Total Cost			**25.655**	**0.000**		**14.545**		**21.721**		**30.238**		**Cont**	**Cont**	

Exhibit R-4/4a, RDT&E Program Schedule Profile/Detail		Febraruy 2008
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5 / System Development and Demonstration**	Program Element (PE) Name and No. **0605013M Information Technology and Development**	PROJECT NUMBER AND NAME **C2906 Marine Corps Information Technology**

MCEITS



Program Funding Summary

(APPN, BLI #, NOMEN)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
(U) RDT&E,N	2.810	8.380	17.568	4.832	5.988	4.909	4.919	Cont	Cont
(U) PMC, 463000 MCEITS	0.931	7.591	4.375	4.732	5.328	9.030	11.116	Cont	Cont

Exhibit R-4/4a, RDT&E Program Schedule Profile/Detail		Febraruy 2008
APPROPRIATION/BUDGET ACTIVITY	Program Element (PE) Name and No.	PROJECT NUMBER AND NAME
RDT&E, N / BA 5 / System Development and Demonstration	**0605013M Information Technology and Development**	**C2906 Marine Corps Information Technology**

MCEITS	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Pre-Concept Decision								
Milestone A	1st Qtr							
Block 1 Milestone B		4th Qtr						
Block 1 Milestone C				4th Qtr				
Block 1 IOT&E					1st Qtr			
Block 2 Milestone C					4th Qtr			

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008					
APPROPRIATION /BUDGET ACTIVITY **RDT&E, N /BA-5 ENG AND MANUFACTURING DEV**	PROGRAM ELEMENT NUMBER AND NAME **0605013M MC INFORMATION TECHNOLOGY**				PROJECT NUMBER AND NAME **C9999 CONGRESSIONAL ADDS**			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY2010	FY2011	FY2012	FY2013
C9999 Congressional Adds		**0.971**	**3.379**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

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

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost		**0.971**	**0.990**	**0.000**
RDT&E Articles Qty			.	

OBLIQUE IMAGING & SOFTWARE TOOL C9A59: provides imagery of all Marine Corps installations from oblique angles (40-degree angle) covering all four cardinal directions. The imagery is tied into systems that support emergency and first responders (fire, police, and security personnel) as part of their homeland defense and force protection mission. Use of the oblique imagery integrated within the existing GEOFidelis program also improve operational efficiencies, reduce expenses, and better manage installation growth via improved decision making processes through the use of visual data.

COST ($ in Millions)		FY 2007	FY 2008	FY 2009
Accomplishment/Effort Subtotal Cost			**2.389**	**0.000**
RDT&E Articles Qty				

ELECTRONIC PORTAL FOR ANALYSIS AND SURVEILLANCE OF MEDICAL AND PREVENTATIVE HEALTH C9999

(U) Total $	**0.971**	**3.379**	**0.000**

(U) PROJECT CHANGE SUMMARY:	**FY 2007**	**FY 2008**	**FY 2009**
(U) FY 2008 PRESIDENT'S BUDGET:	**0.996**	**0.000**	**0.000**
(U) Adjustments from the President's Budget:			
(U) Congressional Program Reductions			
(U) Congressional Rescissions			
(U) Congressional Undistributed Rescissions/Reductions		-0.021	
(U) Congressional Increases		3.400	
(U) Reprogrammings			
(U) Reprogramming for Execution			
(U) SBIR/STTR Transfer	-0.025		
(U) FY 2009 President's Budget:	**0.971**	**3.379**	**0.000**

CHANGE SUMMARY EXPLANATION:

Congressional Add FY06 9881N for $2.5M is being executed by ONR
(U) Funding: See Above.
(U) Schedule:
(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**To Compl**	**Total Cost**
PMC BLI									Cont	Cont

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STRATEGY:

(U) E. MAJOR PERFORMERS:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0605013N, NAVY IT DEV/MOD		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	116.702	69.053	72.497	66.388	45.689	35.213	32.931
2901 AAUSN IT	8.147	2.068	4.004	.276	2.795	2.391	
2903 NAVAIR IT	2.216	.673	.707	.787	.854	.872	.889
2904 NAVSEA IT	5.000	5.148	22.970	26.979	26.980	26.975	26.955
2905 BUPERS IT			6.500	8.000	10.000		
2907 RESFOR IT SPAWAR & BUPERS	2.050	.571	3.500	3.500			
3026 ERP CONVERGENCE	78.223	32.890	32.787	25.414	3.000		
3167 JOINT TECH DATA INTEGRATION (JTDI)	1.843	1.156	1.603	.996	1.616	1.688	1.759
3185 JOINT AIRLIFT INFORMATION		.414	.426	.436	.444	.453	.463
9406 MAINTENANCE DATA WAREHOUSE						2.834	2.865
9601 NAVY LAW ENFORCEMENT EXCHANGE (LINX)	3.786						
9999 Congressional Adds	15.437	26.133					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

FY 2008 funding totals do not include $ 2.810 in pending request for current FY2008 GWOT requirements.

2901 AAUSN IT The NCIS Modernization Initiative includes multiple projects with RDT&E requirements : Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, and Knowledge Network (K-Net).
Multiple Threat Alert Center (MTAC): The Post-Cole Secretary of the Navy Anti-terrorism/Force Protection Task Force identified the need for NCIS to enhance the Multiple Threat Alert Center (MTAC). The MTAC provides key anti-terrorism/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 those forward deployed agents and to task them to respond to emerging threats. Funding is required for equipment and contractor support to modify COTS software.
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.
Knowledge Network (K-Net): K-Net is a Data Modernization & analytical tool being developed and soon deployed that greatly enhances NCIS's technological arsenal. K-Net implements an integrated NCIS approach for identifying, capturing, evaluating, retrieving, and sharing all of NCIS's knowledge and expertise. To that end, K-Net is a knowledge management system that improves NCIS's ability to search, analyze, fuse, and distribu both national intelligence and law enforcement information. The envisioned end state for K-Net is a secure, intuitive, web environment that is the one stop shop where applications, data, and tools are easily accessible to all of NCIS users to effectively and securely fulfill their mission regardless of when and where they operate.
NCIS RECORDS DIGITALIZATION: The Electronic Records Management System (ERMAS) is an on-going contractor supported effort to develop a system that will digitalize all of the NCIS criminal and intelligence investigative records.
DEPARTMENT OF THE NAVY CRIMINAL JUSTICE INFORMATION SYSTEM (DONCJIS): The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Department of the Navy Criminal Justice Information System (DONCJIS) formerly (CLEOC). This system provides a cradle to grave criminal justice and law enforcement information system.
THE SECRETARY OF THE NAVY'S COUNCIL OF REVIEW BOARDS (SCORB): A modular, integrated, web-based system designed to retrieve, process manage and track cases, replacing four existing client-server databases operating on a non-NMCI compliant platform for the Combat Related Special Compensation Board, Physical Evaluation Board, Naval Clemency and Parole Board, and Naval Discharge Board in Phase One c this project.
THE DEPARTMENT OF THE NAVY CHIEF INFORMATION OFFICE (DON CIO): is chartered to advise the Secretary of the Navy on Information Management/ Information Technology (IM/IT) matters as well as discharge the functions with the Clinger-Cohen Act of 1996. The Clinger-Cohen Act revised government IM/IT acquisition and procurement policies and procedures for Information Technology (IT). The Chief Information Officer is charged with providing leadership, guidance and support to the Department of the Navy (DON) to ensure enabling the DON mission through effective use of IT.
The DON CIO initiated an initiative to develop a Self Assessment Tool to be used by installation commanders to determine vulnerabilities associated with their critical infrastructure. The tool will be provided to commands to assist them in determining vulnerabilities to their infrastructure. Once vulnerabilities are identified, the tool will provide base commanders with the ability to prioritize those vulnerabilities, enabling them to better determine appropriate resource allocations to make corrective actions.
DITPR identifies mission critical, mission essential and mission support IT assets and their contingency plan status, in support of DON CIO Critical Infrastructure efforts and meeting critical IT reporting requirements levied by Congress. DITPR is a critical DOD authoritative database tool used for tracking Component (MILDEP) systems, programs and infrastructure to include NSS systems and programs. DITPR is a Portfolio Management decision making tool used to make better resource allocations with in the Department.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0605013N, NAVY IT DEV/MOD

2903 NAVAIR IT -CMIS - 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.

2904 NAVSEA IT - This program includes the funding for Information Technology (IT) support at NAVSEA HQ and the technical refresh of Naval Shipyardmaintenance, repair and overhaul (MRO) production tools.This includes modifications/enhancements to Shipyard IT systems,such asAdvanced Industrial Management (AIM), AIM Express (Xp), Project Scheduling and Sequencing (PSS), Performance Measurement & Control (PMC Navy Workload and Performance System (NWPS) and NAVSEA Forecaster (NSFC). This program also supports development and modernization of Shipyard HQ tools and other new start technologies/systems. The goal of this program is to provide modernization, migration, and consolidation of obsolete legacy systems to the next generation of centrally hosted tools supporting MRO of the fleet force assets. This funding also supports development and modification to existing software, hardware, contractual program management and technical support to modify/enhance the NAVSEA HQ systems and infrastructure.

2905 BUPERS IT NCMTFS (Navy and Marine Corps Total Force System) is a fully integrated military personnel and pay system currently operational within the Department of Defense. MCTFS employs state-of-art software/hardware that is compliant with industry-defined standards for open system architecture, which promotes the ability to interoperate in new environments they evolve. MCTFS promotes rapid development and deployment of system interfaces through an open-interface architectural design, and through the federated DOD architecture. MCTFS can ensure the appropriate linkages and alignment of architecture from the prograr level upward to the enterprise level. The functionality found within the MCTFS Fail on Select (FOS) provides the Department of the Navy with an accurate and effective means by which to accomplish Personnel and Financial Visibility Priorities within the DOD Enterprise Architecture. The MCTFS FOS may also be used as a means to support Business Enterprise Priorities (BEPS) of the DOD Enterprise Architecture by providing a good source of data that can be used in decision making effecting BEPS. This in turn facilitates information superiorty, accelerates decision-making, effective operations and net-centric transformation.

2907 RESFOR IT BUPERS Joint Air Logistics Information System (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. The JALIS application is a multipurpose on-demand automated scheduling program for Operational Support Aircraft (OSA) and Navy Unique Fleet Essential Aircraft (NUFEA). JALIS is used to meet essential DoD requirements as well as to provide essential readiness training to support any wartime
requirement. The JALIS application allows DoD Service personnel the ability to request airlift support and retrieve status information about the movement of DoD personnel and cargo. JALIS provides the airlift schedulers with a decision-support tool to develop efficient flight schedules based on the priority of requests and the availability of aircraft. JALIS provides the aircraft operators with an on-line tool to communicate the latest aircraft status, retrieve flight assignments, and enter post-mission reporting data. The United States Navy is designated as the lead agency for sponsoring and funding the JALIS program. Personnel. Permanent Change of Station Reservation Obligation Distribution System (PRODS): PRODS is an automated system which was developed to establish and report PCS reservation estimates and obligations to the Naval Personne Command and the N10 organization. These estimates are developed at the individual order issuing level and are summarized in financial management reports to support the Financial Management of the Navy's PCS accounts. Statistics from PRODS supports the budget formulation process for Budget Activity 5 of the Military Personnel , Navy appropriation. Migration of PRODS from a mainframe to a Web Based application system. Replaces current legacy systems that have been operational in excess of 25 years and are currently dependent upon costly mainframe processing and antiquated Cobol 390 program logic. Key benefits would include a more automated process that would reduce operational
costs and produce a more integrated and interoperable system.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0605013N, NAVY IT DEV/MOD

2907 RESFOR IT SPAWAR Sea Warrior: Sea Warrior Systems (SWS) include the Navy manpower management, career management, personnel distribution, recruiting and accessions, training and education information technology systems. The products produced by the SWS PMO support the Navy mission by ensuring the best available fit of personnel to work requirements. The PM is responsible for Manpower Personnel Training and Education (MPT&E) systems identified as (1) part of Sea Warrior Spiral 1, (2) those identified for development, modernization, integration or consolidation in the career management, distribution, training, education, manpower, recruiting, and accessions domains as specified by OPNAV N16 and approved by OPNAV N12, and (3) those identified as part of future increments of Sea Warrior capability. Specifically, this funding is used by the Sea Warrior Systems Program Management Office in support of Sea Warrior Spiral 1. The Sea Warrior Systems Program Management Office was requested by OPNAV N1 in June 2006 and officially stood up under Program Executive Office Enterprise Information Systems (PEO EIS) in April 2007. In previous years funding from this project funded the re-engineering of the Total Force Manpower Management System (TFMMS). TFMMS, now Total Force Authorization and Requirements System (TFARS), was re-engineered in order to transition the Navy to a position based manpower management system, and provided the position based manpower functionality necessary to support Sea Warrior. SW CMS/ID 1C Release - The Career Management System/Interactive Detailing (CMS-ID)will complete maintenance upgrade 1B in FY08. Expanded scope planned in the 1C release includes the addition of Officers, final work to complete Fleet to NOSC, Career/Case Mgr Technologies, Distribution Incentives, manpower requirements generation and the stable marriage algorithm, along with deferred Class I Engineering Change Proposals (ECPs) MU1B. SW Enterprise Training Management and Delivery System Acquisition - The migration of legacy applications toward, and acquisition of an MPTE enterprise training management and delivery system begins in FY09. This funding is for the migration of common training management and delivery functionality in Navy Training Management and Planning System (NTMPS) , Corporate Enterprise Training Activity Resource Systems (CeTARS), Learning Management System (LMS), Learning Content Management System (LCMS) into a common, services oriented product suite that will use a common enterprise data environment. SW Single Navy Order Writing System Dev/Mod acquisition - The migration of legacy applications toward, and acquisition of an MPTE enterprise order writing begins in FY09. This funding is for the migration of common order writing functionality in Enlisted Assignment Information System (EAIS), Officer Assignment System II / Online Distribution Information System (OAIS II / ODIS), Navy Reserve Order Writing Systems (NROWS), Navy-Marine Corps Mobilization Processing System(NMCMPS), Medical Readiness Reporting System (MRRS), and Navy Military Personnel Distribution System (NMPDS) into a common, services oriented product suite that will use a common enterprise data environment. DON eBusiness Solutions (Previously referenced as DASN ACQ or AAUSN-IT): This effort encompasses two Department of Defense (DoD) electronic solutions which, when combined, enable a DoN end-to-end procurement/financial management process (including receipt, acceptance and payment). These acquisition initiatives directly support the DoD mission of providing not only a paperless contracting and procurement process, but also provide an integrated over-all system architecture, which promotes efficiency in the transferring of data and information between applications. By facilitating contracting, receipts & acceptance, contractor payments, personnel and interest payment savings, etc., this effort directly supports virtually all DON efforts including electronic Government, Integrated Acquisition Environment, Strategic Acquisition, and other OSD initiatives. Current RDT&E development for Wide Are Work Flow-Receipt and Acceptance (WAWF-RA), focuses on interface design and testing to allow data and information to pass to and from mandated Federal and DoD systems, as well as allow data to flow to Navy ERP. WAWF-RA - Increasing the use of WAWF within the Navy (as mandated by ASN RDA and ASN FMC in their 15 March 2007 Memorandum, is dependent on Navy specific functionality and new interfaces with financial systems (including Navy ERP) used by Navy commands. RDT&E funding will be utilized to develop WAWF interface requirements and support testing of these interfaces and new versions of WAWF. Cyber-Asset Resource Security/Legacy Network Reduction (CARS/LNR) - The Chief of Naval Operations (CNO) had directed OPNAV N6 to take control of the Navy's Information technology (IT) investments to ensure Navy enterprise-wide IT security, interoperability and return on investment. The end result expected is the Navy will achieve adequate ashore IT asset visibility (cost and configuration) in preparation for post Navy Marine Corps Intranet (NMCI) environment in FY10.

3026 ERP Convergence: The Navy Enterprise Resource Planning (ERP) Program was established to achieve the overarching objectives of the Defense Reform Initiative of 1997, the OUSD (Comptroller) Business Management Modernization Program (BMMP), and the Chief Financial Officer's Act of 1990. In 1998, the Navy's Revolution in Business Affairs (RBA) Commercial Business Practices Working Group established ERP pilots in each of the four major systems commands to investigate the applicability of using a Commercial-off-the-Shelf (COTS) ERP solution for the Navy's business. Each pilot (Sigma, Supply Maintenance Aviation Re-engineering Team (SMART), Navy Enterprise Maintenance Automated Information System (NEMAIS), and Cabrillo) used the SAP platform for different functional areas including Acquisition, Financial Management, an Logistics. Converging and extending the proven pilot solutions across the Navy enterprise will integrate the functional capabilities of the proven pilot projects, upgrading the SAP ERP software suite as a single Navy platform that, within FYDP funding, will encompass financial and acquisition management, wholesale and retail supply, intermediate-level maintenance, and provide the mechanism for future technology insertion. The Navy ERP solution will provide a coherent and seamless Fleet focus that enables the Navy to standardize business processes using information technology that will result in accurate, timely, and efficient services to the Fleet, retirement of stove-piped data systems that are no longer sustainable, acceleration of financial transactions, and improved accountability for financial management. FY 2007 includes a $4.8 million Congressional Add (3026C).

3167 Joint Technical Data Integration (JTDI) Program: Funding supports the evaluation, testing and integration to develop a JTDI Commercial Off The Shelf (COTS) solution for installation on a Carrier (CV) and Amphibious Assault (L) class ships and up to 104 Navy/Marine Corp aviation activities. JTDI is a digital technical data access, delivery and local O&I level library management toolset and telemaintenance collaboration process enabler. It improves accuracy and timeliness of technical manual and other technical data delivery and minimizes the Fleet's library management burden. JTDI reduces maintenance workhours with saving Return on Investment (ROI) of 2.5:1. It facilitates the transition of the Joint Distance Support and Response (JDSR) Advanced Concept Technology Demonstration (ACTD) for telemaintenance and provides for process efficiencies to support ongoing Aviation Fleet Technical Representative reductions. Naval Aviation Maintenance Discrepancy Reporting Program (NAMDRP): Discontinued

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0605013N, NAVY IT DEV/MOD

3185 Joint Air Logistics Information System (JALIS): 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.

9406 Maintenance Data Warehouse/NAVAIR DECKPLATE - 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. Becaus 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.

9601 Navy Law Enforcement Information Exchange (LINX):
NCIS initiated two initiatives to expand information sharing among local, state, and federal law enforcement agencies in Department of the Navy (DON) strategic locations. Recognizing that data is the key to detecting and neutralizing potential threats to the DON's strategic assets - principally the Navy's nuclear fleet and related infrastructure - NCIS launched these initiatives, known collectively as the Law Enforcement Information Exchange (LInX), in the Hampton Roads, Virginia, Puget Sound, Washington, and Hawaii areas. These funds provide for continued development of the LInX system and capabilities and attainment of initial and full operating capability of the LInX program.

9999 Congressional Adds

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0605013N, NAVY IT DEV/MOD

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	119.972	54.098	31.047
Current BES / President's Budget:	116.702	69.053	72.497
Total Adjustments	-3.270	14.955	41.450

Summary of Adjustments:			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-2.544	-0.511	
Congressional Increases		26.300	
Economic Assumptions			-0.302
Miscellaneous Adjustments	-0.726	-10.834	41.752
Subtotal	-3.270	14.955	41.450

Schedule:
2905 BUPERS IT Schedule provided to show funding received.
3026 ERP Convergence. As a result of adjustments to the program release strategy, Initial Operational Capability (IOC) has been moved from 1st quarter to 2nd quarter FY08. The Finance and Acquisition Release (1.0) is on schedule to deploy to NAVAIR October 2007. Based on Milestone C Capability Production Document (CPD) definition of Initial Operational Capability (IOC), IOC is formally scheduled for January 2008. Full Operational Capability (FOC) remains in FY 2013. Deleted "Project Prep / Blueprint Update" from FY08 in I-Level Maintenance .
2907 RESFOR IT Schedule added to reflect SPAWAR funding added to this project unit.
TFARS: Sys Dev - Schedule pushed to the right based on Program Executive Office/Enterprise Information Systems (PEO/EIS) assessment of program status.
DoN eBusiness: Planned NAFI program enhancements were discontinued in accordance with September 30, 2004 OSD Directive which required validation of all program requirements by a combined EDA/NAFI Joint Requirements Board.
JALIS: JALIS funds for FY07-11 have been realigned from SPAWAR to the Chief of Naval Personnel.
TFMMS: Funds for FY07-FY11 realigned from SPAWAR to the MPT&E claimant.

Technical:
2907 DoN e-Business: Plans and expenditures related to Standard Procurement System (SPS) 4.2.3 development were ceased due to direction from MG Pair, the Defense Business Systems Acquisition Executive (DBSAE) for Business Transformation Agency (BTA). Funding still required to support WAWF requirements and testing for WAWF v4.0.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
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 2007	FY 2008	FY 2009	FY2010	FY 2011	FY 2012	FY 2013
Project Cost	**8.147**	**2.068**	**4.004**	**0.276**	**2.795**	**2.391**	
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

NCIS MODERZNIZATION INITIATIVE (includes multiple projects with RDT&E requirements : Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, and Knowledge Network (K-Net):

Multiple Threat Alert Center (MTAC):
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R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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

NCIS MODERZNIZATION INITIATIVE	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	**8.147**	**2.068**	**4.004**
RDT&E Articles Qty			

NCIS MODERNIZATION INITIATIVE (includes multiple projects with RDT&E requirements : Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, and Knowledge Network (K-Net):

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FY 2009
$ 3.205M Contractor support to begin developmental efforts for next-increment capabilities in Data Modernization & Analytical Tools and K-Net.

NCIS RECORDS DIGITALIZATION: The Electronic Records Management System (ERMAS) is an on-going contractor supported effort to develop a system that will digitalize all of the NCIS criminal and counterintelligence investigative records.

FY 2007
$ **6.218M** - During the initial examination of the NCIS prototype electronic records management system, additional requirements have been discovered. The initial tasks outlined in the SOW will be expanded to include digitization of new forms of media both paper and electronic.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA - 5	0605013N Information Technology Development	2901 AAUSN IT

DEPARTMENT OF THE NAVY CRIMINAL JUSTICE INFORMATION SYSTEM (DONCJIS):
The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Department of the Navy Criminal Justice Information System (DONCJIS) formely (CLEOC). This system provides
a cradle to grave criminal justice and law enforcement information system. The system enables multiple communities within the DON to share criminal justice and law enforcement information. This system will also be used for managing investigations and storing information on the law enforcement, command, judicial and corrections response to criminal activity within the DON. Funding is required for contractor support to develop, test, train , deploy and implement this application in support of the overall NCIS Modernization effort.

FY2007
$ **1.007M** - Contractor Support- Necessary contractor resources for the Requirements Analysis, Design, Testing, Implementation, and Support of the application.
$ **.052M -** Travel costs for Project Manager, Project Leaders, Executive Personnel, and other team members to visit designated locations during the development, and testing of this system.

FY2008
$ **.590M -** Contractor Support for continued development of additional spirals/versions of DONCJIS production capabilities

FY2009
$ **.599M -** Contractor Support for continued development of additional spirals/versions of DONCJIS production capabilities

THE SECRETARY OF THE NAVY'S COUNCIL OF REVIEW BOARDS (SCORB): A modular, integrated, web-based system designed to retrieve, process manage and track cases, replacing four existing client-server databases operating on a non-NMCI compliant platform for the Coumbat Related Special Compensation Board, Physical Evaluation Board, Naval Clemency and Parole Board, and Naval Discharge Board in Phase One of this project. In Phase Two of this project the database will include additional functionality to support the work of the Board for Correction of Naval Records and make the system available not only to SCORB staff but also to the public to enable applicants to apply online.

FY 2008
$ 1.478 Contractor support, hardware and software

FY 2009
$ **.200M** Contractor support, hardware and software

DON CIO CRITICAL INFRASTRUCTURE:
THE DEPARTMENT OF THE NAVY CHIEF INFORMATION OFFICE (DON CIO): is chartered to advise the Secretary of the Navy on Information Management/ Information Technology (IM/IT) matters as well as discharge the functions with the Clinger-Cohen Act of 1996. The Clinger-Cohen Act revised government IM/IT acquisition and procurement policies and procedures for Information Technology (IT). The Chief Information Officer is charged with providing leadership, guidance and support to the Department of the Navy (DON) to ensure enabling the DON mission through effective use of IT.
The DON CIO initiated an initiative to develop a Self Assessment Tool to be used by installation commanders to determine vulnerabilities associated with their critical infrastructure. The tool will be provided to commands to assist them in determining vulnerabilities to their infrastructure. Once vulnerabilities are identified, the tool will provide base commanders with the ability to prioritize those vulnerabilities, enabling them to better determine appropriate resource allocations to make corrective actions.
DITPR identifies mission critical, mission essential and mission support IT assets and their contingency plan status, in support of DON CIO Critical Infrastructure efforts and meeting critical IT reporting requirements levied by Congress. DITPR is a critical DOD authoritative database tool used for tracking Component (MILDEP) systems, programs and infrastructure to include NSS systems and programs. DITPR is a Portfolio Management decision making tool used to make better resource allocations with in the Department.

FY 2007
$ .870M Contractor support, hardware and software

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) — February 2008

APPROPRIATION/BUDGET ACTIVITY: RDT&E, N / BA-5
PROGRAM ELEMENT: 0605013N InformationTechnology Development
PROJECT NUMBER AND NAME: 2901 AAUSN IT

Cost Categories	Contract Method & Type	Performing Activity & Location	FY 07 Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering	TBD	Competitive RFP						0.700	TBD		0.700	0.700
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development								0.700			0.700	
Development Support	TBD	Competitive RFP						2.505	TBD		2.505	2.505
Software Development IT Critical Infrastructure	T&M	DON CIO - Arlington, VA	0.870								0.870	0.870
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			0.870					2.505			3.375	

T&M - Time and Material

R-1 Shopping List Item No. 128

CLASSIFICATION:

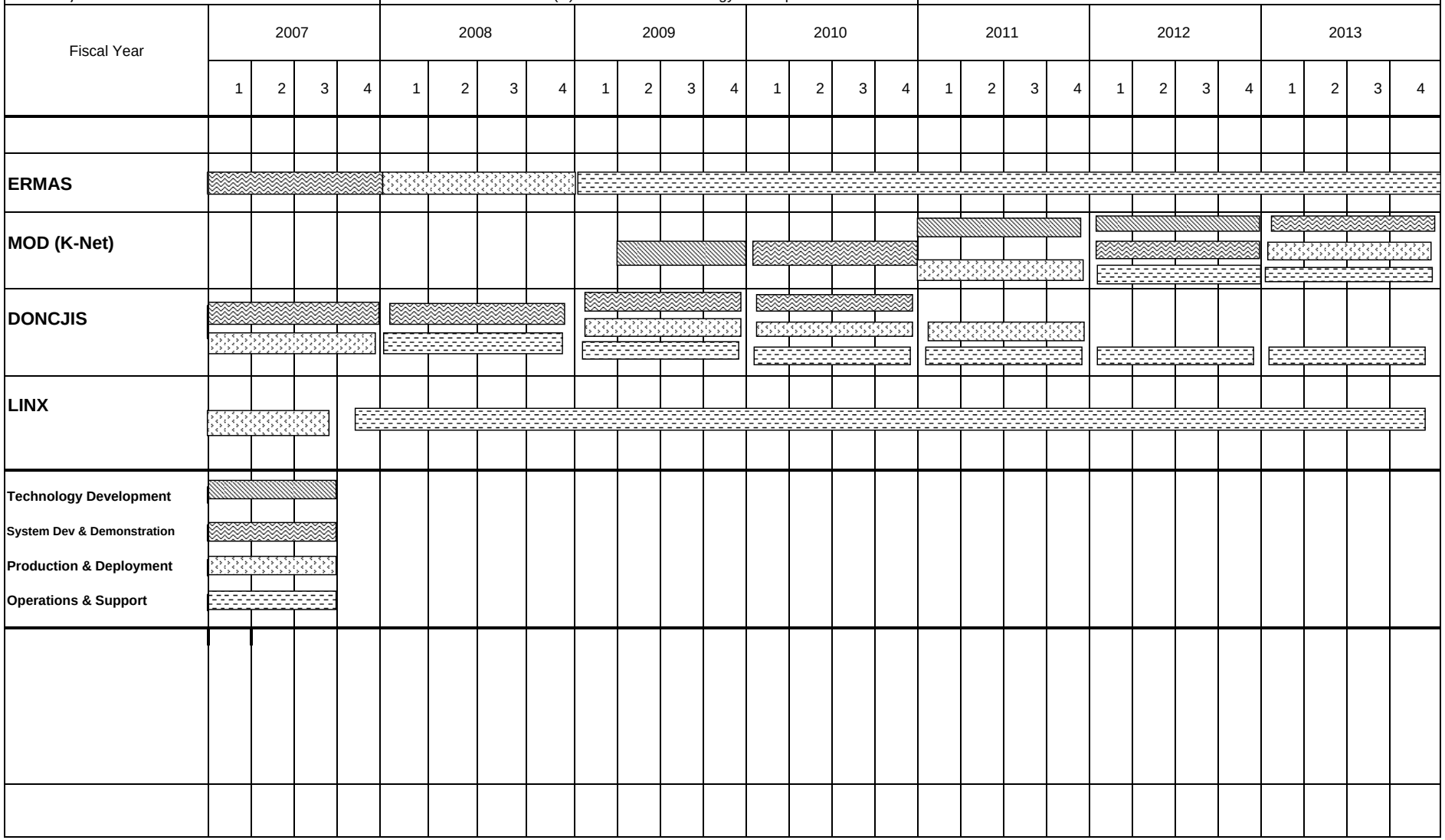
Exhibit R-3 Cost Analysis (page 2)					DATE:				February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0605013N Information Tech Development		PROJECT NUMBER AND NAME 2901 AAUSN IT						
Cost Categories	Contract Method & Type	Performing Activity & Location	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											
Operational Test & Evaluation											
Live Fire Test & Evaluation											
Test Assets											
Tooling											
GFE											
Award Fees											
Subtotal T&E											
Contractor Engineering Support DONCJIS	T&M	InterImage, Manassas, VA	1.009	09/07	0.590	09/08	0.599	03/09		2.198	2.198
Contractor Engineering Support Records Digitization	T&M	IMC, Arlington, VA	6.218	09/07						6.218	6.218
Contractor Engineering Support SCORB	TBD	TBD			1.478	TBD	0.200	TBD		1.678	1.678
Travel			0.050	03/07						0.050	
Transportation											
SBIR Assessment											
Subtotal Management			7.277		2.068		0.799			10.144	
Total Cost			8.147		2.068		4.004			14.219	

Remarks:

R-1 Shopping List Item No. 128

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /	0605013N (U) Information Technology Development	2901 AAUSN IT	



R-1 SHOPPING LIST - Item No.128

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-5**		PROGRAM ELEMENT 0605013N (U) Information Technology Development				PROJECT NUMBER AND NAME 2901 AAUSN IT			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
	Technology Development			1Q-4Q		1Q-4Q	1Q-4Q		
	System Dev & Demonstration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		1Q-4Q	1Q-4Q	
	Production & Deployment	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		1Q-4Q	
	Operations & Support		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	

R-1 SHOPPING LIST - Item No. 128

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2903 NAVAIR IT	2.216	.673	.707	.787	.854	.872	.889	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
CMIS - 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.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Completion of Annual Software Release	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	2.216	.673	.707
RDT&E Articles Qty			

CMIS - 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.

C. OTHER PROGRAM FUNDING SUMMARY: FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 FY 2012 FY 2013 To Complete Total Cost

CMIS - Not Applicable

D. ACQUISITION STRATEGY:
CMIS - The CMIS Program used Joint Logistics Systems Center (JLSC) funds to evolve CMIS to Software Release 5.0. 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 evolving commercial standards. Various contractors using competitively awarded contracts have supported the program. Currently, Intergraph Corporation is the CMIS integration contractor selected through a GSA contract.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0605013N/INFORMATION TECHNOLOGY DEVELOPMENT**				PROJECT NUMBER AND NAME **2904/NAVSEA IT**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	5.000	5.148	22.970	26.979	26.980	26.975	26.955
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program includes the funding for Information Technology (IT) support at NAVSEA HQ and the technical refresh of Naval Shipyard maintenance, repair and overhaul (MRO) production tools. This includes modifications/enhancements to Shipyard IT systems, such as Advanced Industrial Management (AIM), AIM Express (Xp), Project Scheduling and Sequencing (PSS), Performance Measurement & Control (PMC), Navy Workload and Performance System (NWPS) and NAVSEA Forecaster (NSFC). This program also supports development and modernization of Shipyard HQ tools and other new start technologies/systems. The goal of this program is to provide modernization, migration, and consolidation of obsolete legacy systems to the next generation of centrally hosted tools supporting MRO of the fleet force assets. This funding also supports development and modification to existing software, hardware, contractual program management and technical support to modify/enhance the NAVSEA HQ systems and infrastructure.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0605013N/INFORMATION TECHNOLOGY DEVELOPMENT**	PROJECT NUMBER AND NAME **2904/NAVSEA IT**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	5.000	5.148	22.970
RDT&E Articles Quantity			

Provides development and deployment of information technology modernization efforts in support of Naval Shipyard's MRO systems used to plan and execute depot and intermediate level ship maintenance

C. OTHER PROGRAM FUNDING SUMMARY: N/A

D. ACQUISITION STRATEGY- Naval Shipyard Software Development - Competitive contract for services. NAVSEA Central Design Agents (CDAs) will coordinate the solicitation process through the appropriate contracting activity, such as the Fleet Industrial Supply Center (FISC), SEAPORT, etc.

CLASSIFICATION:
UNCLASSIFIED

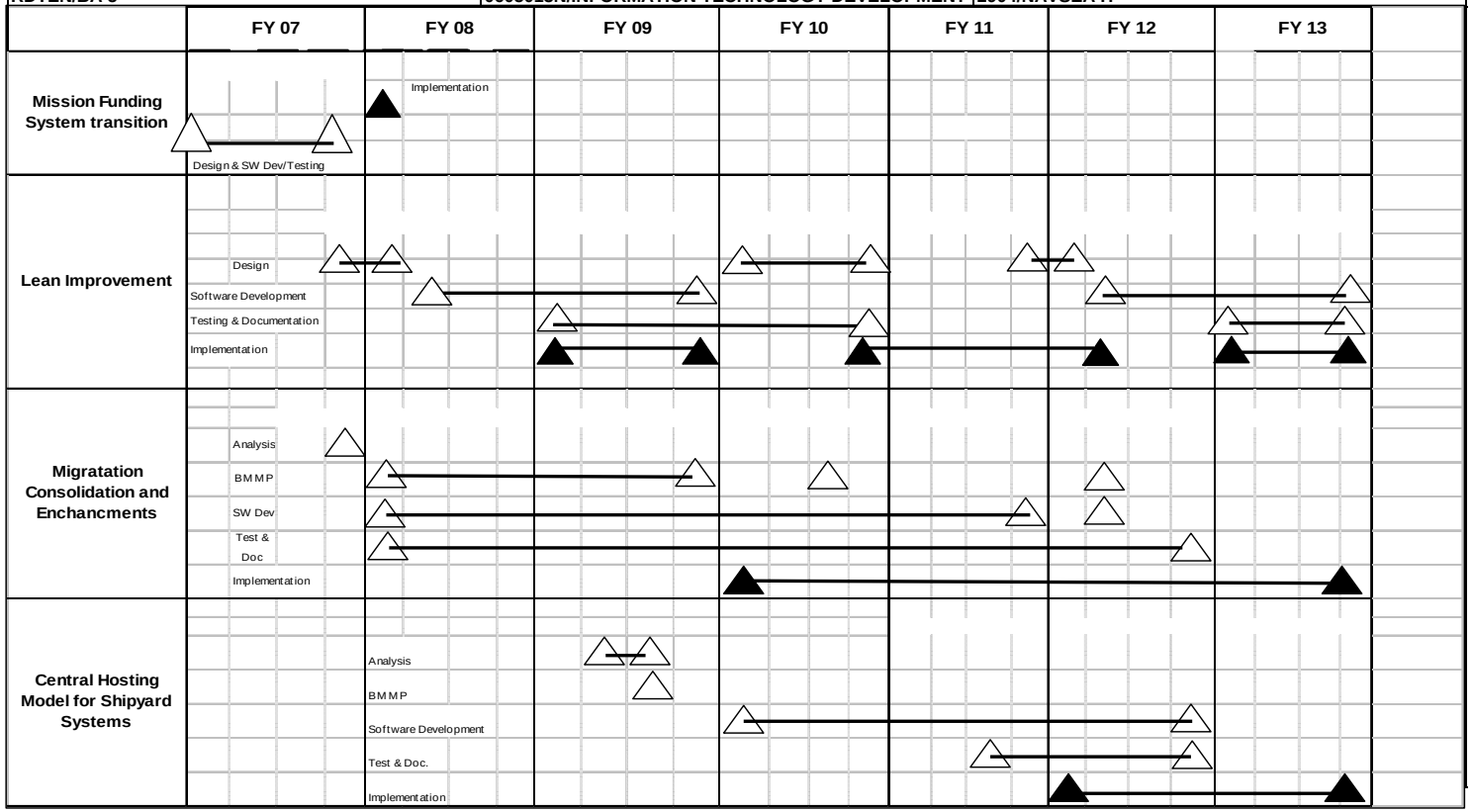
EXHIBIT R-2a
RDT&E PROJECT JUSTIFICATION

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS											DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**		PROGRAM ELEMENT NUMBER AND NAME **0605013N/INFORMATION TECHNOLOGY DEVELOPMENT**					PROJECT NUMBER AND NAME **2904/NAVSEA IT**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Software Development	CPFF	NAVSEA - WNY, DC				0.789	APR-08	22.970	VAR	107.900	131.659	131.659
Software Development	WR	FISC Philly		5.000	VAR	4.359	VAR				9.359	
Subtotal Support Costs				**5.000**		**5.148**		**22.970**		**107.900**	**141.018**	
Remarks: Various is selected for award date since the Shipyard IT Development program is designed to replace or upgrade multiple Naval Shipyards systems. Due to this, multiple competitive contracts and task orders will be awarded to support this requirement. For FY09, the planned range for contract award dates is Nov 2009 - May 2010 (85% of funds), and the remaining 15% between May 2010 and Sep 2010. The NAVSEA 04 Program Office for Information Technology plans to execute all contract awards through the NAVSEA SEAPORT vehicle starting in FY 09.												
Total Cost				**5.000**		**5.148**		**22.970**		**107.900**	**141.018**	

CLASSIFICATION:
UNCLASSIFIED

EXHIBIT R-3
RDT&E PROJECT COST ANALYSIS

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0605013N/INFORMATION TECHNOLOGY DEVELOPMENT**	PROJECT NUMBER AND NAME **2904/NAVSEA IT**



CLASSIFICATION: **UNCLASSIFIED**

EXHIBIT R-4
SCHEDULE PROFILE

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 5**	PROGRAM ELEMENT NUMBER AND NAME **0605013N/INFORMATION TECHNOLOGY DEVELOPMENT**			PROJECT NUMBER AND NAME **2904/NAVSEA IT**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Shipyard Systems Transition into Mission Funding							
Software development	Q1-Q4						
ITesting and documentation	Q1-Q4						
Implementation		Q1					
Lean Systems Improvement							
Analysis and design	Q4	Q1		Q1-Q4	Q4	Q1	
Software development		Q2-Q4	Q1-Q4			Q2-Q4	Q1-Q4
Testing and documentation			Q1-Q4	Q1-Q4			Q1-Q4
Implementation			Q1-Q4	Q4	Q1-Q4	Q2	Q1-Q4
Migratation Consolidation and Enchancments							
Analysis	Q4						
BMMP Approval		Q1-Q4	Q1-Q4	Q3		Q2	
Software Development		Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q2	
Testing and Documentation		Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	
Implementation				Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4
Central Hosting Model for Shipyard Systems							
Analysis			Q2/Q3				
BMMP Approval			Q3		Q1		
Software Development				Q1-Q4	Q1-Q4	Q1-Q4	
Testing and Documentation					Q3-Q4	Q1-Q4	
Implementation						Q1-Q4	Q1-Q4

CLASSIFICATION:
UNCLASSIFIED

EXHIBIT R-4a
SCHEDULE DETAIL

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 2905 BUPERS IT			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost			**6.500**	**8.000**	**10.000**		
RDT&E Articles Qty			**1**				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
2905 BUPERS IT:

NMCTFS (Navy and Marine Corps Total Force System) is a fully integrated military personnel and pay system currently operational within the Department of Defense. MCTFS employs state-of-art software/hardware that is compliant with industry-defined standards for open systems architecture, which promotes the ability to interoperate in new environments as the evolve. MCTFS promotes rapid development and deployment of system interfaces though an open-interface architectural design, and through the federated DOD architecture, MCTFS can ensure the appropriate linkages and alignment of architectures from the program level upward to the enterprise level. The functionality found within the MCTFS Fail on Select (FOS) provides the Department of the Navy with an accurate and effective means by which to accomplish Personnel and Financial Visibility Priorities within the DOD Enterprise Architecture. The MCTFS FOS may also be used as a means to support all Business Enterprise Priorities (BEPS) of the DOD Enterprise Architecture by providing a good source of data that can be used in decision making effecting BEP's. This in turn facilitates information superiority, accelerates decision-making, effective operations and net-centric transformation.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	2905 BUPERS IT

B. Accomplishments/Planned Program

NMCTFS	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			6.500
RDT&E Articles Quantity			1

Funding supports process and documentation analysis, system requirements definitions, architectural design, system/software interoperability and compatibility requirements analysis, and begins system development.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE:		February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAM			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5		0605013N Navy Info Tech Development			2905 BUPERS IT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Award Date	FY 07 Cost	FY 08 Award Date	FY 08 Cost	FY 09 Award Date	FY 09 Cost	Total Cost	Target Value of Contract
Primary Hardware Development											
Ancillary Hardware Development											
Aircraft Integration											
Ship Integration											
Ship Suitability											
Systems Engineering											
Training Development											
Licenses											
Tooling											
GFE											
Award Fees											
Subtotal Product Development											
Remarks:											
Development Support											
Development Support											
Development Support	TBD	TBD						TBD	2.000	2.000	2.000
Software Development											
Software Development											
Studies & Analyses	TBD	TBD						TBD	3.500	3.500	3.500
Studies & Analyses											
Award Fees											
Subtotal Support									5.500	5.500	
Remarks: Development and S & A support to NMCTFS.											

R-1 SHOPPING LIST - 128

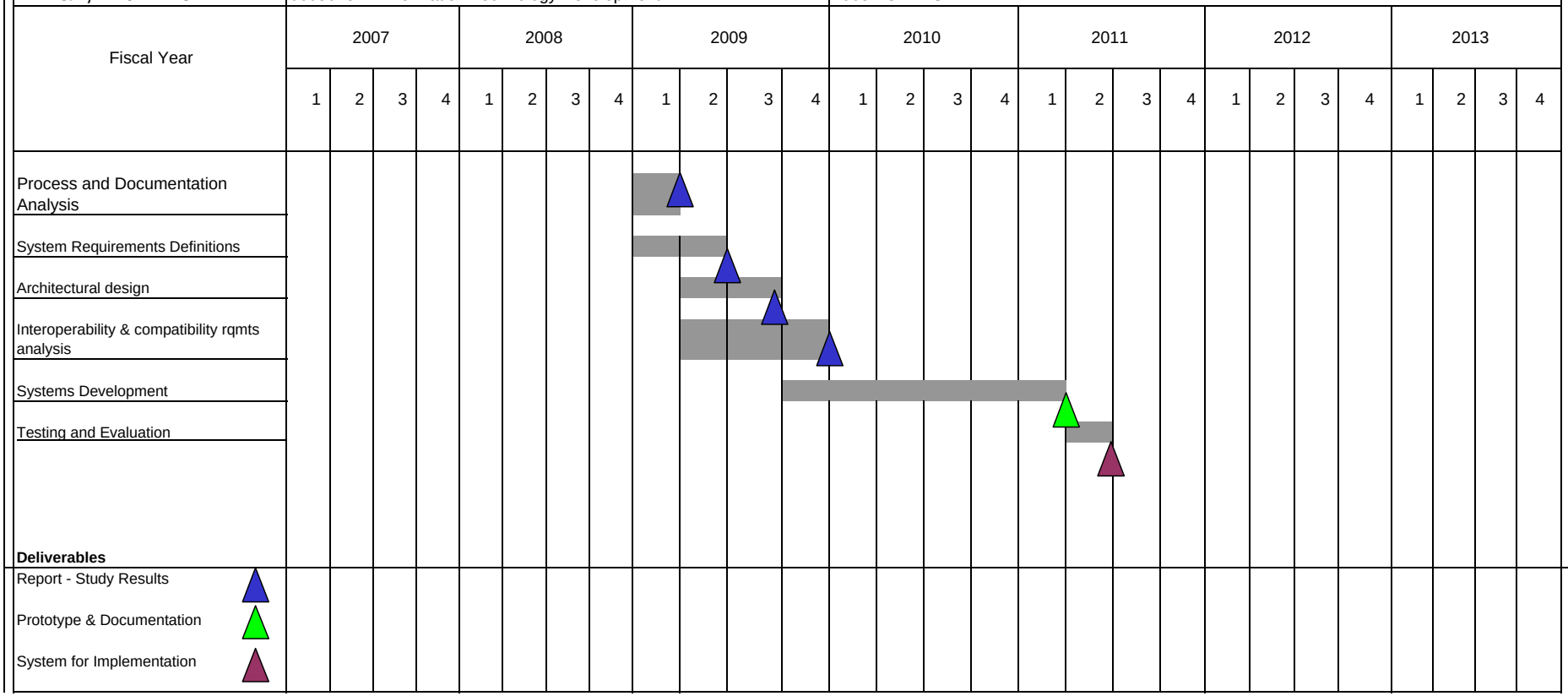
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)					DATE: February 2008					
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Info Tech Development			2905 BUPERS IT					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	Total Cost	Target Value of Contract
Developmental Test & Evaluation										
Operational Test & Evaluation										
Live Fire Test & Evaluation										
Test Assets										
Tooling										
GFE										
Award Fees										
Subtotal T&E										
Remarks:										
Contractor Engineering Support										
Government Engineering Support										
Program Management Support	TBD	TBD					TBD	1.000	1.000	1.000
Travel										
Transportation										
SBIR Assessment										
Subtotal Management						0.000		1.000	1.000	
Remarks: NMCTFS Management Support Costs										
Total Cost								6.500	6.500	
Remarks:										

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVI	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0605013N - Information Technology Development	2905 BUPERS IT	



CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 060501N Navy Info Tech Development			PROJECT NUMBER AND NAME 2905 BUPERS IT			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Process and Documentation Analysis			1Q				
System Requirements Definitions			1-2Q				
Architural design			2-3Q				
System/Software introperability and compatability requirements analysis			2-4Q				
Systems Development			4Q	1-4Q	1Q		
Testing and Evaluation					2Q		

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 2907 RESFOR IT (BUPERS AND SPAWAR)		

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**2.050**	**0.571**	**3.500**	**3.500**			
RDT&E Articles Qty							

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

2907 Joint Air Logistics Information System (JALIS) Funding: BuPers 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. The JALIS application is a multipurpose on-demand automated scheduling program for Operational Support Aircraft (OSA) and Navy Unique Fleet Essential Aircraft (NUFEA). JALIS is used to meet essential DoD requirements as well as to provide essential readiness training to support any wartime requirement. The JALIS application allows DoD Service personnel the ability to request airlift support and retrieve status information about the movement of DoD personnel and cargo. JALIS provides the airlift schedulers with a decision-support tool to develop efficient flight schedules based on the priority of requests and the availability of aircraft. JALIS provides the aircraft operators with an on-line tool to communicate the latest aircraft status, retrieve flight assignments, and enter post-mission reporting data. The United States Navy is designated as the lead agency for sponsoring and funding the JALIS program.

2907 Sea Warrior: SPAWAR Sea Warrior is the Human Resources component of the Chief of Naval Operation's (CNO) Sea Power 21 Transformation Roadmap, focused on maximizing human capital and improving fleet readiness by ensuring the right skills are in the right place at the right time. From an information technology perspective, Sea Warrior provides a comprehensive Web-based Career Management System (CMS) that implements the Navy's Single Integrated Human Resources Strategy (SIHRS) for stakeholders. CMS requirements originated over two years ago from a Cambridge Workshop that determined the Sea Warrior vision of distribution and the transformation of human resource processes. In prior years, this initiative was supported by Congressional RDTE funding from projects 9088N and 9783N. This funding is provided for Enterprise reengineering, integration and Web enablement of Manpower and Personnel legacy systems. Specifically, this funding is used by the Sea Warrior Systems Program Management Office in support of Sea Warrior Spiral 1. The Sea Warrior Systems Program Management Office was established by direction of ASN (RDA) in June 2006. The resourced Sea Warrior Systems Program Management Office stood up in June of 2007. In previous years funding from this project funded the re-engineering of the Total Force Manpower Management System (TFMMS). TFMMS, now Total Force Authorization and Requirements System (TFARS), was re-engineered in order to transition the Navy to a position based manpower management system, and provided the position based manpower functionality necessary to support Sea Warrior.

2907 DON eBusiness Solutions SPAWAR (Previously referenced as DASN ACQ or AAUSN-IT): 2907 DON eBusiness Solutions (Previously referenced as DASN ACQ or AAUSN-IT): To support the mandated DoD move to a paperless acquisition process efforts are required to move from paper to electronic data at specific points within the procurement/financial process. To support the DoD End-to-End procurement/financial business process transformation, mission critical systems must be developed and sustained. This effort encompasses two , Department of Defense (DoD) a electronic solutions which, when combined, will fully enable the DoN end-to-end procurement/financial management process.

Wide Area Work Flow – Receipt and Acceptance (WAWF-RA) is an invoicing application that will enable a Department of Navy (DoN) end-to-end procurement/financial management process (including receipt, acceptance and payment). Current and future R&D funded development focuses on interface design, Navy functional requirements and testing both interfaces and new functionality to allow electronic data and information to pass to and from WAWF and then seamlessly distribute the electronic data to other Federal and Department of Defense (DoD) systems requiring such information. WAWF implementation has been mandated for Navy by ASN RDA and ASN FMC which will require RDTE funding to achieve.

CARS/LNR SPAWARThe Chief of Naval Operations (CNO) had directed OPNAV N6 to take control of the Navy's Information technology (IT) investments to ensure Navy enterprise-wide IT security, interoperability and return on investment. The end result expected is the Navy will achieve adequate ashore IT asset visibility (cost and configuration) in preparation for post Navy Marine Corps Intranet (NMCI) environment in FY10.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	2907 RESFOR IT

(U) B. Accomplishments/Planned Program

JALIS	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.403	0.571	
RDT&E Articles Quantity			

(U) Joint Air Logistics Information System (JALIS)

BUPERS Extensive software development to support upgrading to the latest Oracle database and development tools, Version 10G, because the current environment will be supported by Oracle.

CARS/LNR	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.420		
RDT&E Articles Quantity			

(U) Cyber-Asset Resource Security/Legacy Network Reduction (CARS/LNR)

(U) FY 07: The Chief of Naval Operations (CNO) had directed OPNAV N6 to take control of the Navy's Information technology (IT) investments to ensure Navy enterprise-wide IT security, interoperability and return on investment. The end result expected is the Navy will achieve adequate ashore IT asset visibility (cost and configuration) in preparation for post Navy Marine Corps Intranet (NMCI) environment in FY10.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	2907 RESFOR IT

(U) B. Accomplishments/Planned Program

SEA WARRIOR	FY07	FY08	FY09	
Plans/Effort/Subtotal Cost	0.200		3.500	
RDT&E Articles Quantity				

SEA WARRIOR

FY07: Modifications were made to the Afloat Integrated Learning Environment (ILE), adding capabilities. The Enterprise Data Environment interface was developed.
FY09: Modifications to MPTE Systems for enterprise systems integration.

DoN e-Business Solutions	FY07	FY08	FY09	
Accomplishments/Effort/Subtotal Cost	1.027			
RDT&E Articles Quantity				

DoN e-Business Solutions

FY07: Released WAWF version 3.0.11 (multiple ACRNs per CLIN, commercial item financing payment, Navy Interfaces Phase II, Performance Based Payments, Progress Payments, Fast Pay for One Pay payments), 3.0.12 (construction payments, increased government property functionality). Modified entire acquisition system architecture to use UI or GEX or other integration engine as the integration broker for financial and contractual applications. Defined requirements for WAWF v3.0.12 and began requirements development for WAWF v4.0. Tested WAWF v3.012. Tested Navy ERP to WAWF Interface.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Navy Information Technology Dev/Mod	2907 RESFOR IT

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost

(U) E. ACQUISITION STRATEGY:

SEA WARRIOR: SPAWAR Systems Center New Orleans (SSC NOLA) supports Sea Warrior in the development of a fully integrated COTS capability . In order to attain the Sea Warrior objectives, incremental production capabilities that enhance the current capabilities and incorporate authoritative cleansed data will be developed.. To achieve this, the authoritative sources of data must be identified, data must be corrected (cleansed), and then the data must be converted to the new standard and format. To ensure data integrity once the authoritative data has been cleansed, it must be maintained and controlled in its new state. Similarly, while this cleansing and conversion process progresses, the personnel community must be able to maintain continuity of operations.

The Sea Warrior solution will address and rectify the issues and deficiencies currently being experienced by multiple legacy systems. Existing Manpower and Personnel (M&P) systems are not responsive enough to fully support current integrated operational requirements or to maintain cleansed data. Furthermore, the technological structure, which is extremely complex and programmer-dependent, does not provide the flexibility necessary to respond quickly to policy changes. A number of the systems are mainframe-based and batch-oriented, and would require a substantial upgrade to meet the data migration requirements of DIMHRS and to implement the enhanced capabilities to meet the requirements for distributed data and field-level processing. Therefore, to achieve these objectives the Sea Warrior solution will implement an integrated version of COTS, with extensions required by law, that is compatible with the DIMHRS core structure. To help ensure data integrity and maintain a single authoritative source of personnel data throughout the project life cycle, data shall be cleansed and migrated from legacy systems to the Sea Warrior solution. Once the data is consolidated, business processes must be in place to use and maintain the data. Then the associated legacy system will be retired. Current Sea Warrior development efforts are comprised of a number of related projects. Execution of the program strategy will achieve the goal of a fully integrated system that provides a single authoritative source of data for DIMHRS. These disparate efforts shall be integrated into a program structure using a disciplined program and system engineering approach. Moreover, each development effort shall follow a common set of plans, procedures, and development life cycle. One objective of Sea Warrior is to mitigate the high risk of cost and schedule impacts associated with migrating Navy personnel data to DIMHRS. These high-risk activities include, but are not limited to, data identification, data extraction, data cleansing, and data conversion and loading. In preparation for migrating this data to DIMHRS, the Sea Warrior solution is envisioned to establish a single source of input for providing a consolidated and cleansed set of all required Navy personnel data. A second objective is for the integrated system to support the enhanced capabilities required to meet the Sea Warrior vision of improved Navy Human Capital Management capabilities that are not provided by the implementation of DIMHRS. Moreover, the Navy is reorienting its personnel readiness strategy to focus on retention and force shaping. Naval strategy currently is based around adjusting the mission capability of a ship for a particular operation. The Sea Warrior strategy requires a seamlessly integrated management capability of manpower requirements and personnel inventory across the entire Navy.

DON eBusiness Solutions (Previously referenced as DASN ACQ or AAUSN-IT): This project funding is used in support of the Department of the Navy's responsibilities for Wide Area Workflow (WAWF). This software system is currently using DEV/MOD funding for software development, enhancements and testing. The Navy is not acquiring the code or hardware, but is using the funding to support Navy specific software requirements (the funding is provided to the WAWF program manager at the DISA) and to support the Navy testing.

CARS/LNR: The Chief of Naval Operations (CNO) had directed OPNAV N6 to take control of the Navy's Information technology (IT) investments to ensure Navy enterprise-wide IT security, interoperability and return on investment. The end result expected is the Navy will achieve adequate ashore IT asset visibility (cost and configuration) in preparation for post Navy Marine Corps Intranet (NMCI) environment in FY10.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT (Sea Warrior)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering	CPFF	SSC/New Orleans, LA		0.050	03/08			0.100	03/09	0.100	0.250	0.250
Systems Engineering BuPers	Various	Various		0.403	Various	0.571	Various				0.974	0.974
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	0.453		0.571		0.100		0.100	1.224	
Development Support												
Software Development	CPFF	SSC/New Orleans, LA		0.050	03/08			0.100	03/09	0.100	0.250	0.250
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			0.000	0.050		0.000		0.100		0.100	0.250	

Remarks:

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 2907 SPAWAR IT (Sea Warrior)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering		Various/New Orleans, LA						0.200	11/09	0.125	0.325	0.325
Licenses		Various/New Orleans, LA						0.130	11/09	0.130	0.260	0.260
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	0.000		0.000		0.330		0.255	0.585	
Remarks:												
Development Support	CPFF	Various/New Orleans, LA	0.820					0.200	11/09	0.076	1.096	0.276
Software Development	CPFF	Various/New Orleans, LA	2.805					1.040	11/09	0.250	4.095	1.290
Training Development	CPFF	Various/New Orleans, LA	0.030					0.250	11/09	0.119	0.399	0.369
Integrated Logistics Support	CPFF	Various/New Orleans, LA						0.200	11/09	0.065	0.265	0.265
Configuration Management	CPFF	Various/New Orleans, LA						0.080	11/09	0.038	0.118	0.118
Technical Data	CPFF	Various/New Orleans, LA						0.150	11/09	0.072	0.222	0.222
GFE												
Subtotal Support			3.655	0.000		0.000		1.920		0.620	6.195	

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT (Sea Warrior)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering	TBD	TBD						0.700	08/09	0.400	1.100	1.100
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	0.000		0.000		0.700		0.400	1.100	
Remarks:												
Development Support	TBD	TBD								0.175	0.175	0.175
Software Development	TBD	TBD								0.985	0.985	0.985
Training Development	TBD	TBD								0.200	0.200	0.200
Integrated Logistics Support	TBD	TBD								0.125	0.125	0.125
Configuration Management	TBD	TBD								0.090	0.090	0.090
Technical Data	TBD	TBD								0.050	0.050	0.050
GFE												
Subtotal Support			0.000	0.000		0.000		0.000		1.625	1.625	
Remarks:												

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT (Sea Warrior)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering								0.350	01/09	0.200	0.550	0.550
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	0.000		0.000		0.350		0.200	0.550	
Remarks:												
Development Support												
Software Development										0.200	0.200	0.200
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			0.000	0.000		0.000		0.000		0.200	0.200	
Remarks:												

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT (DON eBusiness Solutions)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering	FFP	BearingPoint/Alexandria, VA	0.170								0.170	0.170
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.170	0.000		0.000		0.000		0.000	0.170	
Remarks:												
Development Support	FFP	BearingPoint/Alexandria, VA	0.933								0.933	0.933
Software Development	Various	Various	1.551								1.551	1.551
Training Development												
Integrated Logistics Support												
Configuration Management												
Studies & Analysis	Various	Various		0.420							0.420	0.420
GFE												
Subtotal Support			2.484	0.420		0.000		0.000		0.000	2.904	
Remarks:												

CLASSIFICATION:

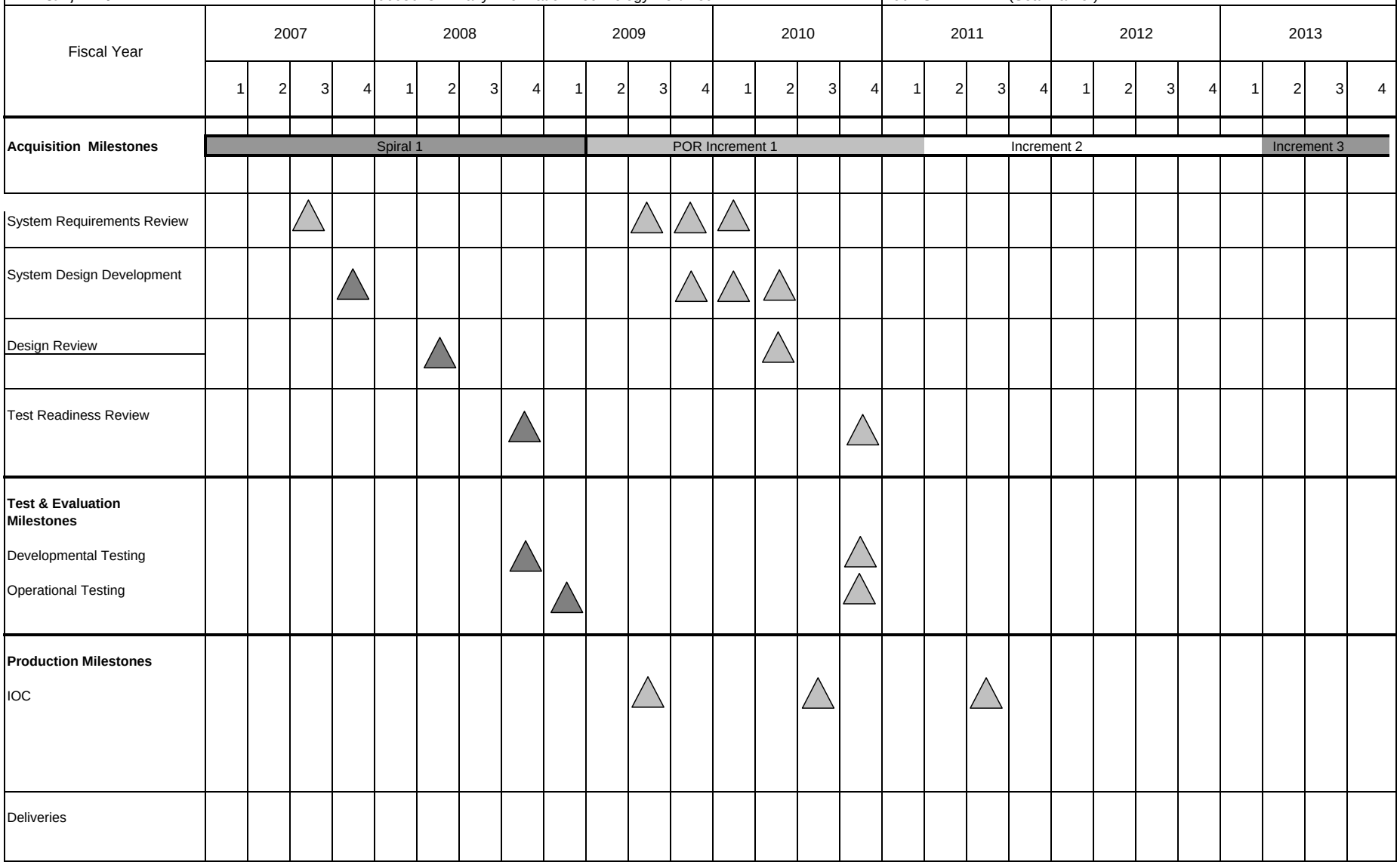
Exhibit R-3 Cost Analysis (page 2)											DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT (DON eBusiness Solutions)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	FFP	Universal Consulting Service, Inc./Fairfax, VA; CACI/Chantilly, VA	0.210	1.127	12/07						1.337	1.337
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Subtotal T&E			0.210	1.127		0.000		0.000		0.000	1.337	
Remarks: Funding required to support requirements development and operational testing of twice yearly releases of WAWF per BTA enterprise strategy.												
Contractor Engineering Support	Various	Various	0.420								0.950	0.950
Government Engineering Support	FFP	BearingPoint/Alexandria, VA	0.194								0.194	0.194
Program Management Support												
Travel												
Subtotal Management			0.614	0.000		0.000		0.000		0.000	0.614	
Remarks:												
Total Cost			7.133	2.050		0.571		3.500		3.500	16.754	
Remarks:												

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

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

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	0605013N Navy Information Technology Dev/Mod	2907 SPAWAR IT (Sea Warrior)



R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION: UNCLASSIFIED

Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT (Sea Warrior)			
Schedule Profile	FY2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Sea Warrior							
System Requirements Review (SRR)	3Q						
System Design Development	4Q						
Design Review		2Q					
Test Readiness Review (TRR)		4Q					
Developmental Testing (DT)		4Q					
Operational Testing (OT)			1Q				
CMS/ID MU1C							
System Requirements Review (SRR)			3Q				
System Design Development			4Q				
Design Review				2Q			
Test Readiness Review (TRR)				4Q			
Developmental Testing (DT)				4Q			
Operational Testing (OT)							
ETMDS							
System Requirements Review (SRR)			4Q				
System Design Development				1Q			
Design Review				2Q			
Test Readiness Review (TRR)				4Q			
Developmental Testing (DT)				4Q			
Operational Testing (OT)							
NROWS			4Q				
System Requirements Review (SRR)				1Q			
System Design Development				2Q			

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile																													DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /**					PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod												PROJECT NUMBER AND NAME 2907 SPAWAR IT (DON eBusiness Solutions)												
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Prototype Phase																												
System Development (WAWF	X	X	X																									
Equipment Delivery																												
Test & Evaluation																												
Operational Test (WAWF)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
Testing Support	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
Production Milestones																												
Software Delivery/ Implementation		X																										
Deployment WAWF			X			X			X		X		X		X													

Exhibit R-4

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA-5**	PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT (DON eBusiness Solutions)			
Schedule Profile	FY2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Development WAWF	1Q-3Q						
Software Delivery for WAWF	2Q						
Navy Operational Testing and Support for WAWF	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
Deployment	3Q	2Q	1Q, 3Q	1Q, 3Q			
Analysis of Alternatives SPS			1Q-4Q				
Acquisition Strategy SPS Replacement System				1Q-4Q			

Exhibit R-4a

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N, Information Technology Development	PROJECT NUMBER AND NAME 3026, ERP CONVERGENCE	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3026 ERP CONVERGENCE	78.223	32.890	32.787	25.414	3.000			
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Navy Enterprise Resource Planning (ERP) Program was established to achieve the overarching objectives of the Defense Reform Initiative of 1997, the OUSD (Comptroller) Business Management Modernization Program (BMMP), and the Chief Financial Officer's Act of1990. In 1998, the Navy's Revolution in Business Affairs (RBA) Commercial Business Practices Working Group established ERP pilots in each of the four major systems commands to investigate the applicability of using a Commercial-off-the-Shelf (COTS) ERP solution for the Navy's business. Each pilot (Sigma, Supply Maintenance Aviation Re-engineering Team (SMART), Navy Enterprise Maintenance Automated Information System (NEMAIS), and Cabrillo) used the SAP platform for different functional areas including Acquisition, Financial Management, and Logistics.

Converging and extending the proven pilot solutions across the Navy enterprise will integrate the functional capabilities of the proven pilot projects, upgrading the SAP ERP software suite as a single Navy platform that, within FYDP funding, will encompass financial and acquisition management, wholesale and retail supply, intermediate-level maintenance, and provide the mechanism for future technology insertion. The Navy ERP solution will provide a coherent and seamless Fleet focus that enables the Navy to standardize business processes using information technology that will result in accurate, timely, and efficient services to the Fleet, retirement of stove-piped data systems that are no longer sustainable, acceleration of financial transactions, and improved accountability for financial management.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N, Information Technology Development	PROJECT NUMBER AND NAME 3026, ERP CONVERGENCE

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Sub-total Cost	41.538	23.408	25.380
RDT&E Articles Qty			

ERP Convergence (Primary Development)
-Plan is to continue system development of ERP program functional solutions to support finance, workforce management, intermediate-level maintenance, and stock point development. Plan also funds system integration work, completes Release 1.0 development in FY08, continues Release 1.1 development in FY08, and begins I-level maintenance solution development in FY09.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Sub-total Cost	16.823	6.487	3.452
RDT&E Articles Qty			

ERP Convergence (Development Support)
-Provide program technical support, technical engineering services, and training development.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Sub-total Cost	19.862	2.995	3.955
RDT&E Articles Qty			

ERP Convergence (Test/Quality Assurance)
-Establish and manage Quality Assurance (QA) plans and system quality demonstrations. Continue testing in FY09 (developmental and operational testing) and resolve any deficiencies identified. Funding completes Operational Testing and Evaluation (OT&E) for Release 1.0 and begins Developmental/Operational Testing (DT/OT) for Release 1.1.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
8106 Command Support Equipment OPN	7.136	14.979	6.621	3.387	4.177	1.603	1.355	Continuing	Continuing

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N, Information Technology Development	PROJECT NUMBER AND NAME 3026, ERP CONVERGENCE

D. ACQUISITION STRATEGY:
The Navy Converged ERP Program definitized a Letter Contract (Cost Plus Award Fee (CPAF)) January 06 sole source basis, for design, development, and testing of financial and acquisition management. A competitive contract award for wholesale and retail supply functionality and I-level maintenance was awarded June 2007.

Core solution software contracts and develpment/production hardware contracts will be acquired utilizing appropriate Government contract vehicles available at the time needed (GSA, DoD Enterprise licenses, vendor direct contracts).

Exhibit R-3 Cost Analysis									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0605013N, Information Technology Development				PROJECT NUMBER AND NAME 3026, ERP CONVERGENCE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Award Fees	SS/CPAF	BEARINGPOINT, LLC, LEXINGTON PARK, MD	3.284	1.456	Nov 2006						4.740	4.740
Primary Development	SS/CPAF	BEARINGPOINT, LLC, LEXINGTON PARK, MD	110.960	30.882	Nov 2006	1.485	Nov 2007				143.327	143.327
Primary Development	C/CPAF	IBM, ANNAPOLIS, MD		8.739	Jun 2007	21.923	Dec 2007	25.380	Nov 2008	18.205	74.247	74.247
Award Fees	C/CPAF	IBM, ANNAPOLIS, MD		.461	Sep 2007						.461	0.461
SUBTOTAL PRODUCT DEVELOPMENT			114.244	41.538		23.408		25.380		18.205	222.775	
SUPPORT												
Software Development	C/CPAF	ENTERPRISE INTEG. INC, ALEXANDRIA, VA	1.217	1.105	Dec 2006						2.322	2.322
Software Development	C/CPAF	GENERAL DYNAMICS INFORMATION TECHNOLOGY (GDIT), FAIRFAX, VA		2.130	Dec 2006	.938	Dec 2007	.635	Oct 2008	.500	4.203	4.203
Software Development	C/CPAF	INTERNATIONAL BUSINESS MACHINES CORPORATE BETHESDA, MD	.781	8.820	Dec 2006	4.041	Dec 2007	.959	Oct 2008	1.393	15.994	15.994
Software Development	VARIOUS	VARIOUS	6.519	2.467	Sep 2007	1.508	Dec 2007	1.858	Oct 2008	1.708	14.060	14.060
Software Development	VARIOUS	VARIOUS	9.743	1.824	Nov 2006						11.567	11.567
Software Development	C/CPAF	UNIVERSAL CONSULTING SERVICES, INC., FAIRFAX, VA		.476	Nov 2006						.476	0.476
SUBTOTAL SUPPORT			18.260	16.823		6.487		3.452		3.601	48.623	
TEST & EVALUATION												
Dev Test & Eval	VARIOUS	VARIOUS	2.909	16.208	Nov 2006	1.490	Oct 2007	2.889	Oct 2008		23.496	23.496
Dev Test & Eval	C/CPAF	JITC CMD, FT HUACHUCA AZ		.202	Nov 2006						.202	0.202
Oper Test & Eval	VARIOUS	VARIOUS		.560	Sep 2007	.875	Oct 2007	1.066	Oct 2008		2.501	2.501
Oper Test & Eval	VARIOUS	VARIOUS		.623	Dec 2006						.623	0.623
Quality Assurance	C/CPAF	GENERAL DYNAMICS INFORMATION TECHNOLOGY FAIRFAX, VA		2.074	Dec 2006						2.074	2.074
Quality Assurance	C/CPAF	SPAWARSYSCOM CHARLESTON SC		.196	Dec 2006						.196	0.196
Quality Assurance	VARIOUS	VARIOUS	.566			.630	Dec 2007			6.608	7.804	7.804
SUBTOTAL TEST & EVALUATION			3.475	19.862		2.995		3.955		6.608	36.895	

Remarks: Test and Evaluation funding in the out-years parallels the scheduled testing of Wholesale and Retail Supply and the future years testing requirements of Intermediate-level maintenance.

MANAGEMENT												
All Management Costs	VARIOUS	VARIOUS	3.703								3.703	
SUBTOTAL MANAGEMENT			3.703								3.703	

Remarks: RDT&E,N management funding shifted to O&M,N as the program phase transitioned to deployment.

Supply functionality development began in Fiscal Year 2007. To date, approximately 81% of Award Fees have been awarded to Bearing Point, IBM and GDIT. Others are have not become eligible for award fees yet.

Total Cost			139.682	78.223		32.890		32.787		28.414	311.996	

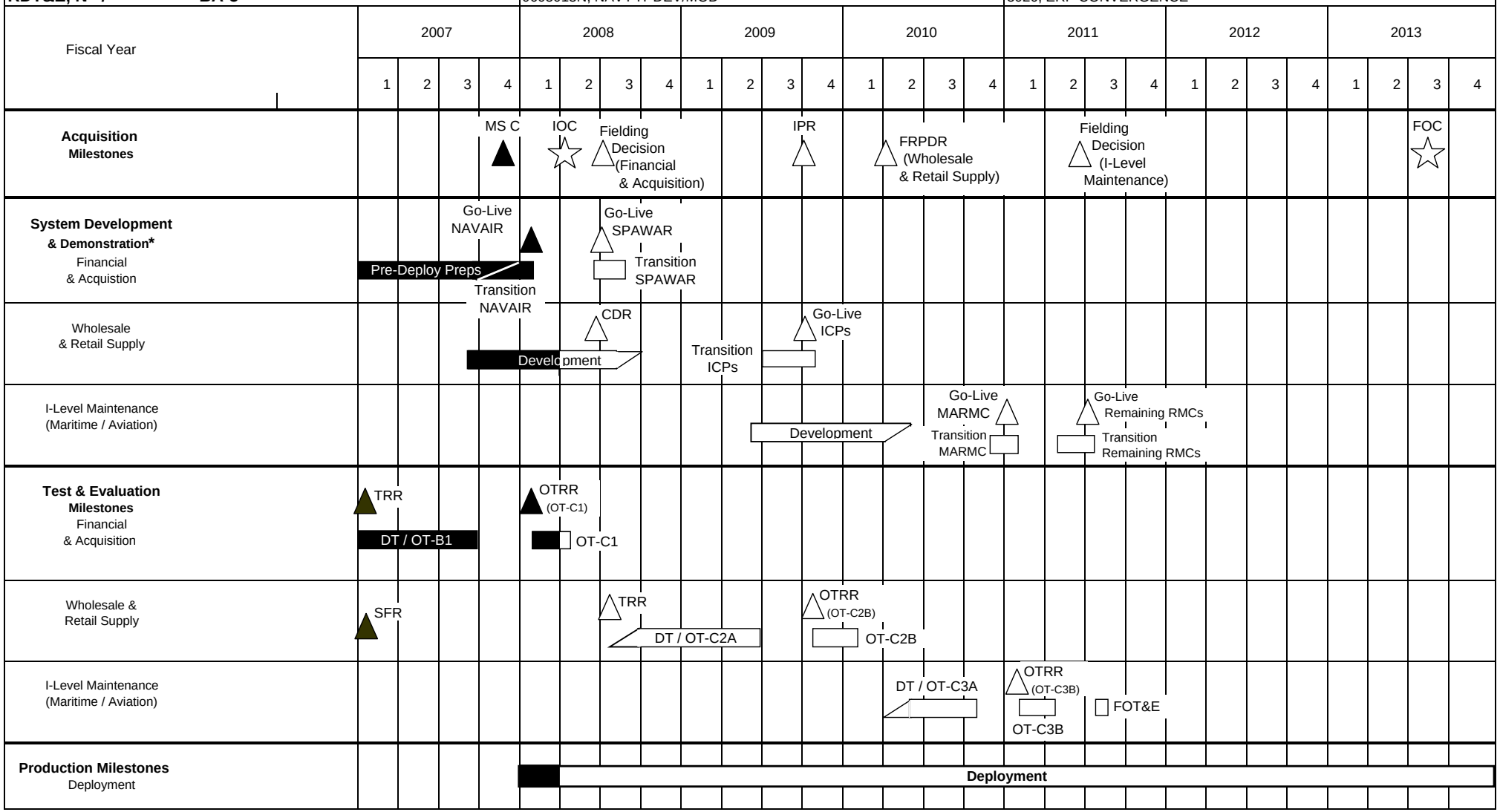
CLASSIFICATION:

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

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



* Concept and technology development effort conducted by four Pilot Projects (SIGMA, SMART, NEMAIS, CABRILLO) prior to ERP Convergence effort funded.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**		
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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SDD/Development -- Financial & Acquisition	1Q						
SDD/Pre-deployment Preps -- Financial & Acquisition	1Q-4Q						
T&E/ Dev/Op Testing (DT/OT-B1) -- Financial & Acquisition	1Q-3Q						
T&E/Test Readiness Review (TRR) -- Financial & Acquisition	1Q						
T&E/System Functional Rvw (SFR) -- Wholesale & Retail Supply	1Q						
SDD/Development -- Wholesale & Retail Supply	3Q-4Q						
SDD/Transition NAVAIR -- Financial & Acquisition	4Q	1Q					
Milestone C (MS C)	4Q						
SDD/Go-Live NAVAIR -- Financial & Acquisition		1Q					
Deployment		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
T&E/Op Test Readiness Rvw (OTRR)(OT-C1) -- Financial & Acquisition		1Q-2Q					
Initial Operational Capability (IOC)		2Q					
SDD/Concept Design Rvw (CDR) -- Wholesale & Retail Supply		2Q					
SDD/Transition SPAWAR -- Fin & Acq		2Q-3Q					
Fielding Decision (Financial & Acquisition)		3Q					
SDD/Go-Live SPAWAR -- Financial & Acquisition		3Q					
T&E/Test Readiness Review (TRR) -- Wholesale & Retail Supply		3Q					
T&E/Dev/Op Testing (DT/OT-C2A) -- Wholesale & Retail Supply		3Q-4Q	1Q-2Q				
SDD/Development -- I-Level Maintenance			2Q-4Q	1Q-2Q			
SDD/Transition ICPs -- Wholesale & Retail Supply			3Q - 4Q				
Independent Program Review (IPR)			4Q				
SDD/Go-Live ICPs -- Wholesale & Retail Supply			4Q				
T&E/Op Test Readiness Rvw (OTRR)(OT-C2B) -- Supply			4Q	1Q			
Full Rate Prod Decision Rvw (FRPDR) -- Wholesale & Retail Supply				2Q			
T&E/Dev/Op Testing (DT/OT-C3A) -- I-Level Maintenance				2Q-4Q			
SDD/Transition MARMC -- I-Level Maintenance				4Q	1Q		
SDD/Go-Live MARMC -- I-Level Maintenance					1Q		
T&E/Op Test Readiness Rvw (OTRR)(OT-C3B) -- I-Level Maintenance					1Q-2Q		
SDD/Transition Remaining RMCs -- I-Level Maintenance					2Q-3Q		
Fielding Decision -- I-Level Maintenance					2Q		
SDD/Go-Live Remaining RMCs -- I-Level Maintenance					3Q		
T&E/FOT&E -- I-Level Maintenance					3Q		
Full Operational Capability (FOC)							3Q

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N, NAVY IT DEV/MOD	PROJECT NUMBER AND NAME 3167, JOINT TECHNICAL DATA INTEGRATION (JTDI)	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3167 JOINT TECHNICAL DATA INTEGRATION (JTDI)	1.843	1.156	1.603	.996	1.616	1.688	1.759	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Joint Technical Data Integration (JTDI) Program: Funding supports the evaluation, testing and integration to develop a JTDI Commercial Off The Shelf (COTS) solution for installation on a Carrier (CV) and Amphibious Assault (L) class ships and up to 104 Navy/Marine Corp aviation activities. JTDI is a digital technical data access, delivery and local O&I level library management toolset and telemaintenance collaboration process enabler. It improves accuracy and timeliness of technical manual and other technical data delivery and minimizes the Fleet's library management burden. JTDI reduces maintenance workhours with saving Return on Investment (ROI) of 2.5:1. It facilitates the transition of the Joint Distance Support and Response (JDSR) Advanced Concept Technology Demonstration (ACTD) for telemaintenance and provides for process efficiencies to support ongoing Aviation Fleet Technical Representative reductions.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

JTDI Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.843	1.156	1.603
RDT&E Articles Qty			

Conduct development efforts associated with a major release of fully deployed COTS intensive JTDI system. Conduct COTS requirements definition, evaluation, integration and testing of annual baseline releases. Conduct technology insertion of the JTDI system.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN, L.I. No. 98, Other Aviation Support Equipment	4.160	3.777	3.564	3.719	1.164	3.839	3.944	Cont	Cont

D. ACQUISITION STRATEGY:

JTDI Program: The Management Approach includes the Program Management Office residing in the Naval Air Systems Command (NAVAIR) with Milestone Decision Authority (MDA) delegated to the NAVAIR Command Information Officer (CIO). The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded Indefinite Delivery - Indefinite Quantity (IDIQ) contracts.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0605013N, NAVY IT DEV/MOD				PROJECT NUMBER AND NAME 3167, JOINT TECHNICAL DATA INTEGRATION (JTDI)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
SUBTOTAL PRODUCT DEVELOPMENT												
SUPPORT												
Software Development	C-CPFF	Wyle Laboratories Inc, Huntsville,		.285	Feb 2007						.285	.285
Software Development	C-ID/IQ	Eyak Technology LLC, Reston, VA		.999	Jul 2007						.999	.999
Software Development	C-ID/IQ	Tyonek Mfg LLC, Anchorage, AK		.559	Jul 2007						.559	.559
Software Development	C-ID/IQ	Integraph Corp, Madison AL				1.156	Dec 2007	1.603	Jan 2009	6.059	8.818	8.818
SUBTOTAL SUPPORT				1.843		1.156		1.603		6.059	10.661	
TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												
MANAGEMENT												
SUBTOTAL MANAGEMENT												
Total Cost				1.843		1.156		1.603		6.059	10.661	

CPFF - Cost Plus Fixed Fee; ID/IQ - Indefinite Delivery/Indefinite Quantity

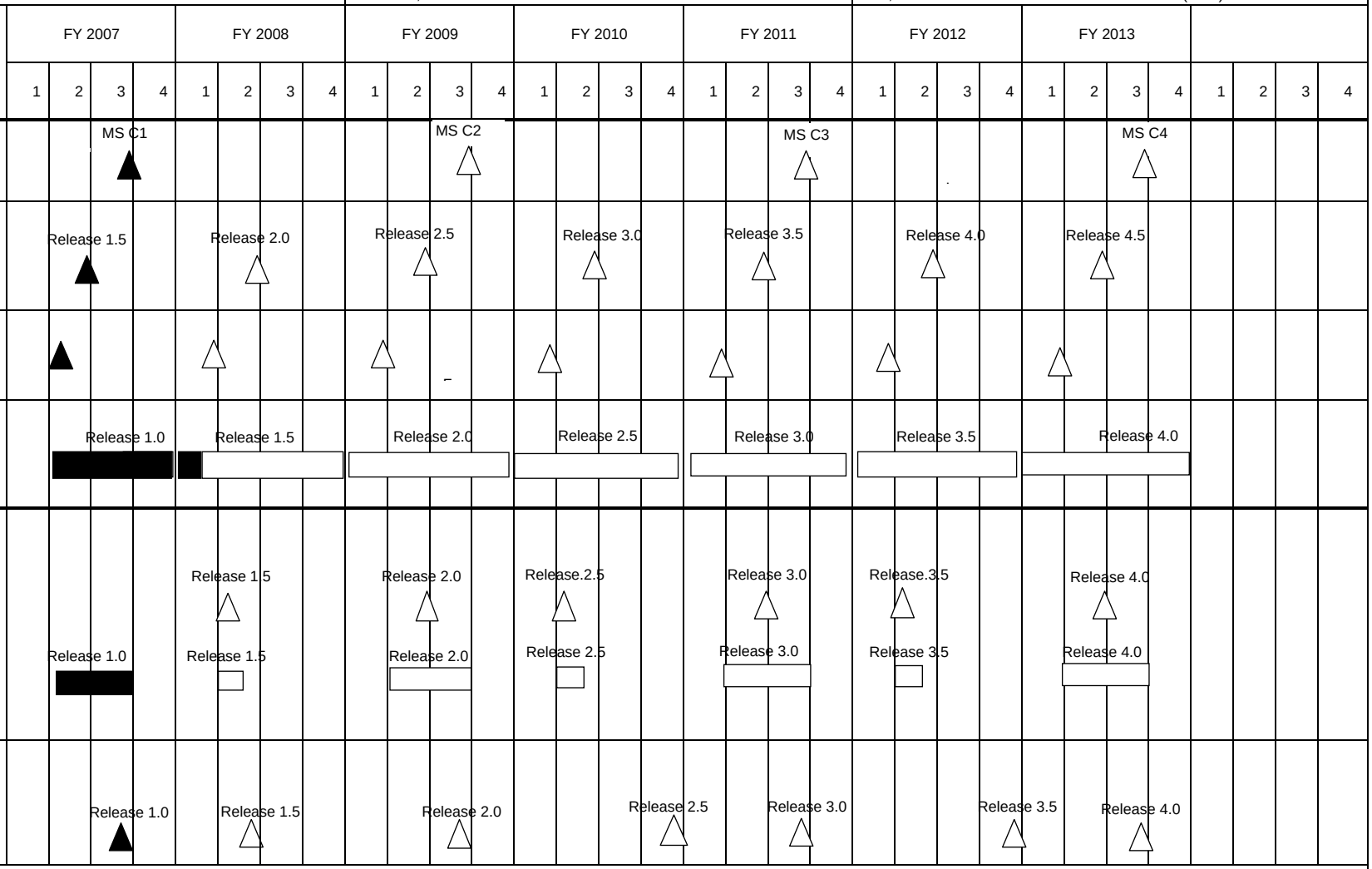
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N /555 BA-5**

PROGRAM ELEMENT NUMBER AND NAME: 0605013N, NAVY IT DEV/MOD

PROJECT NUMBER AND NAME: 3167, JOINT TECHNICAL DATA INTEGRATION (JTDI)



CLASSIFICATION:

Exhibit R-4a, Schedule Detail — DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&BA-5	0605013N, NAVY IT DEV/MOD	3167, JOINT TECHNICAL DATA INTEGRATION (JTDI)

Schedule Profile: **JTDI PROGRAM**	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Milestone C1 Release 1.0	3Q							
Service IPT/ECPs Release 1.5	2Q							
Contract Award	2Q							
Software Hardware Int Release 1.5 Deployments Release 1.0	2Q-4Q							
Functional Testing Release 1.0	2Q-3Q							
Engineering Change Package Release 1.0	3Q							
Service IPT/ECPs Release 2.0		2Q						
Contract Award		1Q						
Software Hardware Int Release 2.0 Deployments Release 1.5		1Q-4Q						
Risk Assessment Release 1.5		2Q						
Functional Testing Release 1.5		2Q						
Engineering Change Package Release 1.5		2Q						
Milestone C2 Release 2.0			3Q					
Service IPT/ECPs Release 2.5			2Q					
Contract Award			1Q					
Software Hardware Int Release 2.5 Deployments Release 2.0			1Q-4Q					
Risk Assessment Release 2.0			2Q					
Functional Testing Release 2.0			2Q-3Q					
Engineering Change Package Release 2.0			3Q					
Service IPT/ECPs Release 3.0				2Q				
Contract Award				1Q				
Software Hardware Int Release 3.0 Deployments Release 2.5				1Q-4Q				
Risk Assessment Release 2.5				2Q				
Functional Testing Release 2.5				2Q				
Engineering Change Package Release 2.5				4Q				
Milestone C3 Release 3.0					3Q			
Service IPT/ECPs Release 3.5					2Q			
Contract Award					1Q			
Software Hardware Int Release 3.0 Deployments Release 2.5					1Q-4Q			
Risk Assessment Release 3.0					2Q			
Functional Testing Release 3.0					2Q-3Q			
Engineering Change Package Release 3.0					3Q			
Service IPT/ECPs Release 4.0						2Q		
Contract Award						1Q		
Software Hardware Int Release 4.0 Deployments Release 3.5						1Q-4Q		
Risk Assessment Release 3.5						2Q		
Functional Testing Release 3.5						2Q		
Engineering Change Package Release 3.5						4Q		
Milestone C3 Release 4.0							3Q	
Service IPT/ECPs Release 4.5							2Q	
Contract Award							1Q	
Software Hardware Int Release 4.0 Deployments Release 4.5							1Q-4Q	
Risk Assessment Release 4.0							2Q	
Functional Testing Release 4.0							2Q-3Q	
Engineering Change Package Release 4.0							3Q	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	**0605013N Navy Information Technology Dev/Mod**	**3185 JOINT AIR LOGISTICS INFORMATION SYSTEM**

COST ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost			**0.414**	**0.426**	**0.436**	**0.444**	**0.453**	**0.463**
RDT&E Articles Qty								

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

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. Current and future RDT&E funding supports improvements to the current JALIS application and database by continuing to implement approved Joint Configuration Control Board enhancements, complying with DoD security requirements and mandates, and upgrading the application to utilize vender supported development software tools.

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 5**	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 9601 LAW ENFORCEMENT INFO SHARING			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	3.786						
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

NCIS LAW ENFORCEMENT INFORMATION EXCHANGE (LINX):

Law Enforcement Information Exchange: NCIS initiated two cornerstone initiatives to expand information sharing among local, state, and federal law enforcement agencies in Department of the Navy (DON) strategic locations. Recognizing that data is the key to detecting and neutralizing potential threats to the DON's strategic assets - principally the Navy's nuclear fleet and related infrastructure - NCIS launched these initiatives, known collectively as the Law Enforcement Information Exchange (LInX), in the Hampton Roads, Virginia, Puget Sound, Washington, and Hawaii areas. LInX has the potential to deliver a vast array of previously unavailable law enforcement information to NCIS, along with new tools to exploit it. These funds provide for continued development of the LInX system and capabilities and attainment of initial and full operating capability of the LInX program by the end of FY07 in a total of nine regions that include critical strategic Naval assets (in addition to Hampton Roads, Puget Sound and Hawaii: South Texas; Northeast Florida/Southeast Georgia; and tentatively, San Diego/Camp Pendleton; National Capital Region; New England (Newport, RI/Groton, CT); and New Mexico).

R-1 SHOPPING LIST - Item No. 128

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605013N Information Technology Development	9601 Navy Law Enforcement Information Exchange (LINX)

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.786		
RDT&E Articles Quantity			

NCIS LAW ENFORCEMENT INFORMATION EXCHANGE (LINX):
Law Enforcement Information Exchange: NCIS initiated two cornerstone initiatives to expand information sharing between local, state, and federal law enforcement agencies in Department of the Navy (DON) strategic locations. Recognizing that data is the key to detecting and neutralizing potential threats to the DON's strategic assets-principally the Navy's nuclear fleet and related infrastructure-NCIS launched these initiatives, known collectively as the Law Enforcement Information Exchange (LInX), in the Hampton Roads, Virginia and Puget Sound, Washington and Hawaii areas. LInX has the potential to deliver a vast array of previously unavailable law enforcement information to NCIS, along with new tools to exploit it.

FY 2007
$ 3.786M Contractor labor, equipment, and government travel/expenses for project management, systems engineering and software development staff for development of LinX.

R-1 SHOPPING LIST - Item No. 128

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N, NAVY IT DEV/MOD	PROJECT NUMBER AND NAME 9999 CONGRESSIONAL ADDS

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Congressional Adds	15.437	26.133					
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: CONGRESSIONAL ADDS

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

9259C Condition Based Maintenance	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.925		
RDT&E Articles Qty			

Conditioned Based Maintenance and Mission Readiness Assessment System - Conditioned Based Maintenance (CBM) Congressional Add funding provides research and development efforts for pursuing 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. Mission Readiness Assessment System represents a joint ONR and NAVSEA sponsor technology transition project to bring agent based decision support technology from ONR's Logistics Science and Technology (S&T) Programs into the Fleet through direct integration in the Navy's Distance Support Version 2 (DS Ver2) accelerated capabilities deployment initiative.

9781 Internet Relay Chat System	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1.909		
RDT&E Articles Qty			

Internet Relay Chat provided engineering support to continue to refine and upgrade the handling of network "jitter" (discontinuous communications flow) caused by ship and unit maneuvers, atmospheric interference, and limited signal power available to ship-based and tactical communications systems. Participated in preparations for Trident Warrior 08 (TW08) which is a major test during a Navy fleet exercise to confirm the robustness and maturity of network topology and architecture. Supported the development (via Technical Warrant Holder Forcenet Collaboration) of a continuous Navy-based authoritative body for the management of chat (and collaboration) capabilities at the network security level, research and development level, and test and evaluation level.

9783 SPAWAR Systems Center Information Technology Center (ITC)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	5.719		
RDT&E Articles Qty			

Provide critical joint Naval/university information systems research, development and technology transfer, in partnership with the University of New Orleans. The Information Technology Center (ITC) or SPAWAR System Center, New Orleans was established through a unique cost sharing arrangement between the State of Louisiana and the federal government to provide state-of-the-art facilities to develop ar maintain technology-based enterprise solutions for managing information within the Department of Navy and Department of Defense (DoD). The ITC continues as the primary support command and central design activity (CDA) for Navy and Naval Reserve manpower, personnel, training and education (MPT&E) applications, for the Navy's Program Executive Office for Enterprise Information Systems (PEO-EIS), for acquisition and development and lifecycle management of Navy and assigned Defense-wide enterprise solutions for information technology including the Navy Standard Integrated Personnel System (NSIPS and the Defense Integrated Military Human Resources System (DIMHRS). 9783C - Enterprise solutions for managing/migrating DoD/Naval personnel systems, and to conduct joint Naval/local university information systems research, development of homeland security/disaster preparedness tools, and for central design, migration, and integration activities for Naval Manpower, Personnel, Training and Education (MPT&E) systems at the SPAWAR systems Center, New Orleans.
Total Force Authorization and Requirements System (TFARS) - Spiral II will provide the following new functionally: business analytics modeling; additional reports; refined Inherently Governmental/Commercial Activity (IG/CA) inventory capability; additional business rules; a robust workflow; expansion of mass change capability; two-way communication for classified/unclassified data; Programmed Manpower Authorizations System (PMAS) redesign (Officer Programmed Authorizations/Enlisted Programmed Authorizations (OPA/EPA)); additional interfaces; Defense Civilian Personnel Data System (DCPDS) (Civilian People to Position), subspecialty system, Navy Organization Request Management System (NORMS), Defense Medical Human Resources System (DMHRS), Capability Based Requirements Determination System/Navy Manpower Requirements System (CBRDS/NMRS); watch-bill and collateral duty structure and usability upgrade; history archive and usability; on-line end user Help System; reserve manpower management (drilling and Individual Ready Reserve (IRR)); and integrating dollars into financial processing. End Product of Modernization: TFARS will be deployed, transitioning the Navy to a position based manpower system, which is necessary to support Sea Warrior.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N, NAVY IT DEV/MOD	PROJECT NUMBER AND NAME 9999 CONGRESSIONAL ADDS

9B18N National Terrorism Preparedness Institute	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	3.884		
RDT&E Articles Qty			

9B18N: SPAWAR System Center, New Orleans (SSC NOLA) participates in the Department of Defense Advance Concept Technology Demonstration for the Department of Homeland Security, Homeland Defense Command and Control. SSC NOLA provides development, testing, prototyping, deployment, and sustainment for the Area Security Operations Command and Control System (ASSOCC), and associated Homeland Security Online Services.

9999 Congressional Adds for 2008	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		26.133	
RDT&E Articles Qty			

Conditioned Based Maintenance and Mission Readiness Assessment System - Conditioned Based Maintenance (CBM) Congressional Add funding provides research and development efforts for pursuing 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. Mission Readiness Assessment System represents a joint ONR and NAVSEA sponsor technology transition project to bring agent based decision support technology from ONR's Logistics Science and Technology (S&T) Programs into the Fleet through direct integration in the Navy's Distance Support Version 2 (DS Ver2) accelerated capabilities deployment initiative.
National Terrorism Preparedness Institute - Department of Defense Advance Concept Technology Demonstration for the Department of Homeland Security, Homeland Defense Command and Control. SSC NOLA provides development, testing, prototyping, deployment, and sustainment for the Area Security Operations Command and Control System (ASSOCC), and associated Homeland Security Online Services.
SPAWAR System Center Information Technology CenterProvide critical joint Naval/university information systems research, development and technology transfer, in partnership with the University of New Orleans. The Information Technology Center (ITC) or SPAWAR System Center, New Orleans was established through a unique cost sharing arrangement between the State of Louisiana and the federal government to provide state-of-the-art facilities to develop and maintain technology-based enterprise solutions for managing information within the Department of Navy and Department of Defense (DoD). The ITC continues as the primary support command and central design activity (CDA) for Navy and Naval Reserve manpower, personnel, training and education (MPT&E) applications, for the Navy's Program Executive Office for Enterprise Information Systems (PEO-EIS), for acquisition and development and lifecycle management of Navy and assigned Defense-wide enterprise solutions for information technology including the Navy Standard Integrated Personnel System (NSIPS) and the Defense Integrated Military Human Resources System (DIMHRS). Enterprise solutions for managing/migrating DoD/Naval personnel systems, and to conduct joint Naval/local university information systems research, development of homeland security/disaster preparedness tools, and for central design, migration, and integration activities for Naval Manpower, Personnel, Training and Education (MPT&E) systems at the SPAWAR systems Center, New Orleans.
Total Force Authorization and Requirements System (TFARS) - Spiral II will provide the following new functionally: business analytics modeling; additional reports; refined Inherently Governmental/Commercial Activity (IG/CA) inventory capability; additional business rules; a robust workflow; expansion of mass change capability; two-way communication for classified/unclassified data; Programmed Manpower Authorizations System (PMAS) redesign (Officer Programmed Authorizations/Enlisted Programmed Authorizations (OPA/EPA)); additional interfaces; Defense Civilian Personnel Data System (DCPDS) (Civilian People to Position), subspecialty system, Navy Organization Request Management System (NORMS), Defense Medical Human Resources System (DMHRS), Capability Based Requirements Determination System/Navy Manpower Requirements System (CBRDS/NMRS); watch-bill and collateral duty structure and usability upgrade; history archive and usability; on-line end user Help System; reserve manpower management drilling and Individual Ready Reserve (IRR); and integrating dollars into financial processing. End Product of Modernization: TFARS will be deployed, transitioning the Navy to a position based manpower system, which is necessary to support Sea Warrior.
Condition Based Maintenance Enabling Technologies
Digitization of NCIS Investigative Files
Integration of Logistics Info for Knowledge Project

CLASSIFICATION:

EXHIBIT R-2, RDT&E, N Budget Item Justification					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E / BA-5**				R-1 ITEM NOMENCLATURE 0605172N Multinational Information Sharing (MNIS)			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**19.252**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
3147 Multinational Information Sharing (MNIS)	19.252	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles							

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

(U) The Department of Defense (DoD) Instruction 8110.1 signed on 6 February 2004 directed the establishment of the Multinational Information Sharing (MNIS) Program Management Office (PMO) within the Department of Defense (DoD). The MNIS program will improve sharing operational and intelligence information with multinational partners using the current capabilities: Combined Enterprise Regional Information Exchange System (CENTRIXS); the Griffin; and the Combined Federated Battle Lab Network (CFBLNet). In FY2007, functional responsibility was transferred from the Navy to the Defense Information Systems Agency (DISA).

(U) The DISA MNIS JPO will transition services and capabilities of the CENTRIXS and Griffin into pilot centralized operations that will support multinational infrastructure and services, guarding technologies, enhancements for Information Assurance and Computer Network Defense Systems, and services for expanded capabilities and increasing communities of interest. Griffin will continue to improve architectural design of the multinational infrastructure and services to support evolving operational architectures; pilot implementation and testing between national networks and supporting information sharing in a multi-tiered domain environment. CENTRIXS provides information sharing and secured, reliable means of communications with participating coalition nations. CFBLNet provided enhanced measurement, auditing, analysis, and development and test capabilities to support interoperability, multinational and cross-domain initiatives to improve coalition information exchange capabilities, experiments with emerging capabilities and resolution of deficiencies in existing applications, systems or equipment.

CLASSIFICATION:

EXHIBIT R-2, RDT&E, N Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E / BA-5**	R-1 ITEM NOMENCLATURE 0605172N Multinational Information Sharing (MNIS)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 07	FY 08	FY 09
FY2008 President's Budget	20.777	0.000	0.000
FY2009 President's Budget	19.252	0.000	0.000
	(1.525)	0.000	0.000
Summary of adjustments:			
SBIR	(0.525)		
Miscellaneous Adjustments	(1.000)		
Subtotal	(1.525)	0.000	0.000

(U) Schedule:

(U) Technical:

(U) D. OTHER PROGRAM FUNDING SUMMARY:

(U) E. ACQUISITION STRATEGY:

In FY 2004, the Secretary of Defense directed the establishment of the Multinational Information Sharing (MNIS) program. This direction includes the continuation of existing legacy systems supporting the MNIS concepts and includes the development of a transition plan to consolidate the legacy activities to meet the challenges of the dynamic requirements for appropriate information sharing. Prior to FY 2005, funding for these legacy actions was provided from Office of the Secretary of Defense (OSD) direct and from supplemental resources in FY 2004. In FY 2005, pending EA designation, funding was held by the Air Force. Beginning in FY 2006, the Department of the Navy (DoN) was designated the Executive Agent (EA) and all funding was transferred to DoN. In FY 2007, OSD transferred functional responsibility to DISA. In FY 2006-2007, the program began development of acquisition documentation for the initial phase of the MNIS integration.

(U) F. Major Performers:

(U) G. Metrics

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	0605172N Multinational Information Sharing (MNIS)	3147 Multinational Information Sharing (MNIS)

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	19.252	0.000	0.000
RDT&E Articles Quantity			

FY 2007 ACCOMPLISHMENTS:

MNIS - Provided ongoing engineering and technical support for the centralization of services.

GRIFFIN - Provided support for the development, operation, and ongoing efforts to integrate, develop and support necessary enhancements to meet operational requirements. Research, design, develop, prototyping and testing of collaborative capabilities required for email, web, file-sharing, Chat, Common Operating Picture (COP), and Information Assurance (IA). Expansion of additional user communities, information domains, circuit costs, SIPRNet-wide coalition directory services, cross domain chat, Web and Computer operations.

Combined Enterprise Regional Information Exchange System (CENTRIXS) - Provided Information Sharing and secured, reliable means of communications with participating coalition nations to improve allied and coalition information sharing with multinational partners.

Combined Federated Battle Lab Network (CFBLNet) - Provided the infrastructure of choice for International Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Research, Development, Trial and Assessments to explore, promote and confirm Coalition/Combined capabilities for participants to support CFBLNet Initiatives with respect to interoperability, multinational and cross-domain solutions such as Multinational Experiments (MNE), Coalition Warrior Interoperability Demonstration (CWID), Empire Challenge, Coalition Aerial Surveillance and Reconnaissance (CAESAR), and Multinational Interoperability Council (MIC) peer interoperability testing targeted for Griffin Implementation.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**			PROGRAM ELEMENT 0605172N Multinational Information Sharing (MNIS)					PROJECT NUMBER AND NAME 3147 Multinational Information Sharing (MNIS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	FF	TBD		3.702							3.702	3.702
Hardware												
Systems Engineering	C/VAR	Various	1.160								1.160	1.160
System Egnineering	CPFF			4.617							4.617	4.617
System Egnineering/Integration	CPFF			2.600							2.600	2.600
Subtotal Product Development			1.160	10.919							12.079	12.079
Remarks:												
Development Support			5.240	0.000						5.240	10.480	10.480
Engineering/Tech Support	T&M			2.290							2.290	2.290
Subtotal Support			5.240	2.290						5.240	12.770	12.770
Remarks:												

Exhibit R-3, Project Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**			PROGRAM ELEMENT 0605172N Multinational Information Sharing (MNIS)					PROJECT NUMBER AND NAME 3147 Multinational Information Sharing (MNIS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VAR	Various	0.400								0.400	0.400
IAVA/STIG Test	CPFF			1.374							1.374	1.374
Lab T&E	T&M			1.200							1.200	1.200
T&E				0.812							0.812	0.812
Subtotal T&E			0.400	3.386							3.786	3.786
Remarks:												
Program Management Support												
Contractor Engineering Support	VAR	Various	3.831	2.657							6.488	6.488
Program Management Support												
Travel												
Subtotal Management			3.831	2.657							6.488	6.488
Remarks:												
Total Cost			10.631	19.252		0.000		0.000			35.123	35.123
Remarks:												

Exhibit R-3, Project Cost Analysis

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0605212N, CH-53K RDTE		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	338.087	388.380	570.484	590.243	538.025	365.021	459.530
3059 CH-53K Development	338.087	388.380	570.484	590.243	538.025	365.021	459.530

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

The CH-53E is the only marinized heavy-lift helicopter in the world and is the Marine Corps only heavy-lift helicopter. An improved CH-53E is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53E mission is the conduct of expeditionary heavy-lift assualt transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. The CH-53K, an upgraded variant of the CH-53E, will provide improvements in range and payload, performance, cargo handling and turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatabilities, at Initial Operational Capability (IOC) in Fiscal Year (FY) 2015. The CH-53K will replace the CH-53E, with Full Operational Capability (FOC) achieved by FY 2021.

Total aircraft quantities for the CH-53K program are 161 helicopters. This includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for SDD, to be purchased with RDT&E funds. Of the remaining 156 Production-representative and Production aircraft, the first six will be procured as Low Rate Initial Production (LRIP) Lot 1 aircraft with RDT&E and APN funds, with the four RDT&E aircraft to be used for Initial Operational Test and Evaluation (IOT&E) and the two APN aircraft establishing the IOC production base.

FY08 and FY09 RDT&E efforts focus on CH-53K System Development and Demonstration (SDD) activities that accomplish a successful FY 2008 Preliminary Design Review (PDR) and promote a successful FY 2009 Critical Design Review (CDR).

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget:	350.322	417.161	615.999
FY 2009 President's Budget:	338.087	388.380	570.484
Total Adjustments	-12.235	-28.781	-45.515
Summary of Adjustments			
Congressional Reductions		-20.000	
Congressional Undistributed	-8.236	-8.781	
Economic Assumptions			-3.997
Miscellaneous Adjustments	-3.999		-41.518
Subtotal	-12.235	-28.781	-45.515

Schedule:

Not Applicable

Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605212N, CH-53K RDTE			PROJECT NUMBER AND NAME 3059, CH-53K Development			

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3059 CH-53K Development	338.087	388.380	570.484	590.243	538.025	365.021	459.530	
RDT&E Articles Qty		1	2	2			4	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The CH-53E is the only marinized heavy-lift helicopter in the world and is the Marine Corps only heavy-lift helicopter. An improved CH-53E is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53E mission is the conduct of expeditionary heavy-lift assualt transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. The CH-53K, an upgraded variant of the CH-53E, will provide improvements in range and payload, performance, cargo handling and turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatabilities, at Initial Operational Capability (IOC) in Fiscal Year (FY) 2015. The CH-53K will replace the CH-53E, with Full Operational Capability (FOC) achieved by FY 2021.

Total aircraft quantities for the CH-53K program are 161 helicopters. This includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for SDD, to be purchased with RDT&E funds. Of the remaining 156 Production-representative and Production aircraft, the first six will be procured as Low Rate Initial Production (LRIP) Lot 1 aircraft with RDT&E and APN funds, with the four RDT&E aircraft to be used for Initial Operational Test and Evaluation (IOT&E) and the two APN aircraft establishing the IOC production base.

FY08 and FY09 RDT&E efforts focus on CH-53K System Development and Demonstration (SDD) activities that accomplish a successful FY 2008 Preliminary Design Review (PDR) and promote a successful FY 2009 Critical Design Review (CDR).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

AIR VEHICLE DEVELOPMENT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	283.859	339.924	517.019
RDT&E Articles Qty		1	2

System Development and Demonstration (SDD) activities for the CH-53K air vehicle and its associated subsystems and components, and CH-53K ancillary systems.

INTEGRATED LOGISTICS SUPPORT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	16.991	10.320	11.400
RDT&E Articles Qty			

In-house, field activities, and contractors support of Integrated Logistic support, including but not limited to planning, preparations, and management of data, support equipment, Government Furnished Equipment (GFE), Studies & Analysis, and training elements of CH-53K development.

SYSTEMS ENGINEERING & PROJECT MANAGEMENT	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	37.237	38.136	42.065
RDT&E Articles Qty			

In-house, field activities, and contractors support of Integrated Product Teams (IPTs) to allow for the preparation of acquisition strategy, examination of equipment and avionics for the CH-53K, and development of aquisition documentation. Efforts include, but are not limited to, government development support, engineering support, program management support, systems engineering support, and travel for the CH-53K program.

D. ACQUISITION STRATEGY:

On 31 October 2005, the Defense Acquisition Board reviewed the CH-53K program for a Milestone (MS) B decision on entry to System Development and Demonstration (SDD). The Under Secretary of the Defense (Acquisition, Technology and Logistics) (USD(AT&L)) signed the Acquisition Decision Memorandum (ADM) allowing the program to proceed with SDD on 22 December 2005.
The CH-53K program was initiated as an Acquisition Category (ACAT) ID program, based on total estimated costs for Research, Development, Test and Evaluation (RDT&E), and Aircraft Procurement, Navy (APN).
The CH-53K program will use a single-step acquisition approach to meet an Initial Operational Capability (IOC) of FY 2015.

Exhibit R-3 Cost Analysis												DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0605212N, CH-53K RDTE				PROJECT NUMBER AND NAME 3059, CH-53K Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Award Fees	CPAF	SIKORSKY A/C CORP, STRATFORD, CT	7.410	7.998	Dec 2007	25.045	Dec 2008	26.721	Dec 2009	165.005	232.180	246.898
GFE	VARIOUS	TBD	4.521	2.778	VARIOUS	15.149	VARIOUS	3.911	VARIOUS	22.657	49.017	
Primary Hdw Development	CPAF	SIKORSKY A/C CORP, STRATFORD, CT	282.851	273.082	Feb 2007	299.730	Dec 2007	486.387	Dec 2008	2,009.620	3,351.670	3,386.424
SUBTOTAL PRODUCT DEVELOPMENT			294.782	283.859		339.924		517.019		2,197.282	3,632.866	

Remarks: Award Fee obligation occurs 3 months after end of award fee period.
Award Fee earned in FY 2006 by Sikorsky Aircraft Corporation equaled sixty-three percent of available award fee pool.
Award Fee earned in FY 2007 by Sikorsky Aircraft Corporation equaled thirty-five percent of available award fee pool.
Primary Hardware Development Target Value of Contract includes FY13 LRIP 1 RDT&E contract not yet negotiated.
Amounts may not add due to rounding.

SUPPORT												
Develop Support Equip	WX	TBD								48.600	48.600	
Integrated Logistics Sup	WX	VARIOUS	6.474	7.724	VARIOUS	5.750	Dec 2007	6.100	Dec 2008	51.772	77.820	
Studies & Analyses	VARIOUS	VARIOUS	7.130	8.267	VARIOUS	.950	VARIOUS	.700	VARIOUS	.900	17.947	
SUBTOTAL SUPPORT			13.604	15.991		6.700		6.800		101.272	144.367	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD				2.600	Dec 2007	3.600	Dec 2008	69.250	75.450	
Dev Test & Eval	WX	NAWCWD, PT MUGU CA	.500	1.000	Dec 2006						1.500	
Dev Test & Eval	MP	ARMY, ADELPHI, MD	.097								.097	
Live Fire Test & Eval	WX	NAWCWD, CHINA LAKE CA				1.020	Jan 2007	1.000	TBD	12.450	14.470	
Oper Test & Eval	WX	TBD								25.000	25.000	
SUBTOTAL TEST & EVALUATION			.597	1.000		3.620		4.600		106.700	116.517	

Remarks:

MANAGEMENT												
Contractor Eng Sup	VARIOUS	VARIOUS	2.856	2.569	Dec 2006	1.103	Dec 2007	1.303	Dec 2008	9.198	17.027	
Government Eng Sup	WX	VARIOUS	34.241	25.818	Dec 2006	25.977	Dec 2007	28.673	Dec 2008	177.365	292.074	
Program Mgmt Sup	VARIOUS	VARIOUS	14.094	8.301	Dec 2006	10.477	Dec 2007	11.479	Dec 2008	93.606	137.957	
Travel	WX	NAWCAD, PATUXENT RIVER MD	.543	.550	VARIOUS	.580	VARIOUS	.610	VARIOUS	5.177	7.461	
SUBTOTAL MANAGEMENT			51.734	37.237		38.136		42.065		285.346	454.519	

Remarks: Amounts may not add due to rounding.

Total Cost			360.717	338.087		388.380		570.484		2,690.600	4,348.268	

Exhibit R-4, Schedule Detail																															
																								DATE: February 2008							
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5									PROGRAM ELEMENT NUMBER AND NAME 0605212N, CH-53K RDTE														PROJECT NUMBER AND NAME 3059, CH-53K Development							
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Acquisition Milestones										DRR															MS C						
	System Integration									System Demonstration															LRIP / IOT&E						
RDT&E Contract Awards																									LRIP 1						
Engineering Milestones			SFR				PDR			CDR						FRR							PRR								
Logistics Milestones										ILA													ILA								
Test & Evaluation Milestones																		IT-B1	FIRST FLIGHT						IT-B2	IT-C1		IT-C2			
																									OT-B1			OT-C1			
													ALFT&E (components)												ALFT&E (system)						
Production Milestones															GTV			EDM 1	EDM 2	EDM 3	EDM 4				LRIP 1 Production						
Deliveries															GTV			1	1	1	1										

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0605212N, CH-53K RDTE				PROJECT NUMBER AND NAME 3059, CH-53K Development		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Integration phase	1Q-4Q	1Q-4Q	1Q-2Q				
System Functional Review (SFR)	3Q						
Preliminary Design Review (PDR)		3Q					
Critical Design Review (CDR)			2Q				
Independent Logistics Assessment (ILA)			2Q				
USD(AT&L) Design Readiness Review (DRR)			3Q				
System Demonstration phase			3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q
Alternative Live Fire T&E (ALT&E) (Comp.)				1Q-4Q	1Q-4Q	1Q-4Q	
Ground Test Vehicle (GTV) delivery				4Q			
Flight Readiness Review (FRR)					1Q		
Engineering Dev't Model (EDM) #1 delivery					3Q		
Integrated Test & Eval (IT) B1 (IT-B1)					3Q-4Q	1Q-4Q	1Q
EDM #2 delivery					4Q		
EDM #3 delivery						1Q	
First Flight						1Q	
EDM #4 delivery						2Q	
Production Readiness Review (PRR)						4Q	
Independent Logistics Assessment (ILA)						4Q	
Operational Test & Eval (OT) B1 (OT-B1)							1Q
ALFT&E (System)							1Q-4Q
IT-B2							1Q
MS C							1Q
Low-Rate Initial Production (LRIP) phase							2Q-4Q
LRIP 1 Kt Award							2Q
LRIP 1 production							2Q-4Q
IT-C1							2Q-4Q
IT-C2							4Q
OT-C1							4Q

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**					R-1 ITEM NOMENCLATURE 0605430N, C/KC-130 AVIONICS MODERNIZATION PROGRAM (AMP)			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost				**24.407**	**28.969**			
3199/Avionics Modernization				**24.407**	**28.969**			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) C-130 Avionics Modernization Program (AMP): The mission of the C/KC-130T is to provide aerial refueling service in support of fleet USN and USMC air operations and provide assault air transport for personnel, equipment, and supplies. The forty-eight (48) C/KC-130T aircraft are operating with avionics systems that require immediate attention to the issues of equipment obsolescence, supportability, commercial standardization, global navigation and flight safety. The Secretary of Defense and Regulatory Agencies are imposing initiatives and mandates for precision navigation and improved flight safety requirements for aircraft operating as air transport and troop carriers in the U.S. and abroad. These issues have significant impact on cost, reliability and maintainability. The present state of these aircraft is that they will not be operable assets by the latter half of the next decade without a major upgrade to the avionics suite and the electrical systems. Current reliability data indicates an increase in maintenance actions will be required unless an upgrade to existing systems is accomplished. Unless an avionics modernization program is implemented, aircraft availability and the ability to respond to critical missions will be decreased. To ensure global airspace access, joint service solutions in CNS/ATM are required. These improvements are driven by major restructure of airspace architecture and Air Traffic Control (ATC) procedures worldwide. CNS/ATM enhancements are categorized into three areas: navigation, communication and surveillance. The CNS/ATM C-130 AMP modification will allow the C-130 to operate within the ATM environment and comply with Euro-control standards. Communication upgrades are required to allow continued operation in all theater airspace, including data link and digitized voice capacity. Surveillance functions will identify aircraft position for ATM purposes.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0605430N, C/KC-130 AVIONICS MODERNIZATION PROGRAM (AMP)

B. PROGRAM CHANGE SUMMARY: 0605430 is a new Program Element (PE). Funds were transferred from previous PE 0604215N.

Funding: Not Applicable	FY 07	FY 08	FY 09
Previous President's Budget:			0.000
Current BES Budget			24.407
Total Adjustments			24.407

Summary of Adjustments: Not Applicable

Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions			
Congressional Increases			
Economic Assumptions			
Miscellaneous Adjustments			24.407
Subtotal			24.407

Schedule: Not Applicable

Technical: Not Applicable

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0605430N, C/KC-130 AVIONICS MODERNIZATION PROGRAM (AMP)				PROJECT NUMBER AND NAME 3199/Avionics Modernization			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009				
Project Cost				**24.407**				
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) C-130 Avionics Modernization Program (AMP): The mission of the C/KC-130T is to provide aerial refueling service in support of fleet USN and USMC air operations and provide assault air transport for personnel, equipment, and supplies. The forty-eight (48) C/KC-130T aircraft are operating with avionics systems that require immediate attention to the issues of equipment obsolescence, supportability, commercial standardization, global navigation and flight safety. The Secretary of Defense and Regulatory Agencies are imposing initiatives and mandates for precision navigation and improved flight safety requirements for aircraft operating as air transport and troop carriers in the U.S. and abroad. These issues have significant impact on cost, reliability and maintainability. The present state of these aircraft is that they will not be operable assets by the latter half of the next decade without a major upgrade to the avionics suite and the electrical systems. Current reliability data indicates an increase in maintenance actions will be required unless an upgrade to existing systems is accomplished. Unless an avionics modernization program is implemented, aircraft availability and the ability to respond to critical missions will be decreased. To ensure global airspace access, joint service solutions in CNS/ATM are required. These improvements are driven by major restructure of airspace architecture and Air Traffic Control (ATC) procedures worldwide. CNS/ATM enhancements are categorized into three areas: navigation, communication and surveillance. The CNS/ATM C-130 AMP modification will allow the C-130 to operate within the ATM environment and comply with Euro-control standards. Communication upgrades are required to allow continued operation in all theater airspace, including data link and digitized voice capacity. Surveillance functions will identify aircraft position for ATM purposes.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605430N, C/KC-130 AVIONICS MODERNIZATION PROGRAM (AMP)	3199/Avionics Modernization

B. Accomplishments/Planned Program

Avionics Modernization Engineering Events		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				24.407
RDT&E Articles Quantity Not Applicable				

Avionics Modernization - Critical Design Review (CDR), Test Readiness Review (TRR), Operational Test Readiness Review (OTRR), Conduct Integrated Development and Operational Tests

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605430N, C/KC-130 AVIONICS MODERNIZATION PROGRAM (AMP)	3199/Avionics Modernization

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009
*C-130 Series, APN Line Item 056000 PE 0502504M, 0502379N 0604215N Standards Development		31.305	

* FY 10 & Out.

D. ACQUISITION STRATEGY: Avionics Modernization

The USN/USMC Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) C-130 Avionics Modernization Program (AMP) will issue a Request for Proposal for full and open competition to modify its 48 C/KC-130T aircraft. The strategy is to utilize a single contract to perform both system integration and production. Market research has revealed several contractors with developed systems and experience in integration and installation providing significant competition for the AMP to leverage off an existing commercial base. The requirements of the program can be met with Commercial Off the Shelf/Non-Developmental Items (COTS/NDI) subsystems integrated into an AMP system. The program will enter the acquisition framework post MS-B for integration and test kit installation on one aircraft. Integrated Testing will be utilized with a Full Rate Production Decision following successful test and MS-C decision.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0605430N, C/KC-130 AVIONICS MODERNIZATION PRO			PROJECT NUMBER AND NAME 3199/Avonics Modernizaton						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Aircraft Integration	C/CPIF	TBD						15.810	04/09	15.390	31.200	31.200
Ship Integration												
Ship Suitability												
Systems Engineering												
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development								15.810		15.390	31.200	
Remarks:												
Development Support												
Software Development	WX	NADEP, Cherry Point NC						0.563	11/08	0.573	1.135	
Integrated Logistics Support	Various	Various						1.446	Various	1.562	3.008	3.008
Configuration Management	SS-CPAF	NTA, Alexandria, VA						0.192	11/08	0.202	0.394	0.394
Technical Data	Various	Various						1.845	Various	2.352	4.197	4.197
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support								4.045		4.689	8.734	
Remarks: Dollars may not add due to rounding.												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0605430N, C/KC-130 AVIONICS MODERNIZATION PRO			PROJECT NUMBER AND NAME 3199/Avonics Modernizaton							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, Patuxent River MD						0.634	11/08		0.634	
Operational Test & Evaluation	WX	NAWCAD, Patuxent River MD								4.398	4.398	
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E								0.634		4.398	5.032	
Remarks:												
Contractor Engineering Support	Various	Various						0.361	Various	0.378	0.739	0.739
Government Engineering Support	Various	Various						3.223	Various	3.797	7.020	7.020
Program Management Support	Various	Various						0.334	Various	0.317	0.651	0.651
Travel												
Transportation												
SBIR Assessment												
Subtotal Management								3.918		4.492	8.410	
Remarks: Dollars may not add due to rounding.												
Total Cost								24.407		28.969	53.376	
Remarks:												

CLASSIFICATION:

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

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

PROGRAM ELEMENT NUMBER AND NAME: 0605430N, C/KC-130 AVIONICS MODERNIZATION PROGRAM (AMP)

PROJECT NUMBER AND NAME: 3199/Avionics Modernization

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
USN/USMC FRP																			USN/USMC	MS C	FRP											
Contract Events																																
RFP/SDD Contract Award																																
Test Kit Procurement Test Kit Installation													Test Kit Installation																			
Engineering Events																																
SRR/PDR/CDR/TRR/OTRR													CDR				TRR			OTRR												
Test & Evaluation Milestones																																
Integrated Development Test																			Integrated Development Test												
Operational Test																				Operational Test												
Deliveries																																
Production Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0605430N, C/KC-130 AVIONICS MODERNIZATION PROGRAM (AMP)					PROJECT NUMBER AND NAME 3199/Avionics Modernization		
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Test Kit Installation				2Q-4Q				
Critical Design Review (CDR)				1Q				
Test Readiness Review (TRR)					1Q			
Integrated Development Test					1Q-3Q			
Operational Test Readiness Review (OTRR)					3Q			
Operational Test					3Q-4Q			
USN/USMC Milestone C FRP					4Q			

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0605450N, JOINT AIR TO GROUND MISSILE		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		*	62.324	79.880	112.951	134.159	118.589
2211 JOINT AIR TO GROUND MISSILE		*	62.324	79.880	112.951	134.159	118.589

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) JOINT AIR TO GROUND MISSILE (JAGM): JAGM is an Army-led close-air-support missile program that will utilize tri-mode seeker technology and be employed against land and maritime stationary and moving targets. Navy platform integrations will occur on the F/A-18E/F, AH-1Z, and MH-60R platforms.

*FY 2008 funds are budgeted under R-1 # 78, Program Element 0604450N, Project Unit 2211.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:			0.000
Current President's Budget :			62.324
Total Adjustments			62.324

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions			
Congressional Increases			
Economic Assumptions			
Miscellaneous Adjustments			62.324
Subtotal			62.324

Schedule: Not Applicable.

Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605450N, JOINT AIR TO GROUND MISSILE	PROJECT NUMBER AND NAME 2211, JOINT AIR TO GROUND MISSILE	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2211 JOINT AIR TO GROUND MISSILE		*	62.324	79.880	112.951	134.159	118.589
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) JOINT AIR TO GROUND MISSILE:
JAGM is an Army-led close-air-support missile program that will utilize tri-mode seeker technology and be employed against land and maritime stationary and moving targets. Navy platform integrations will occur on the F/A-18E/F, AH-1Z, and MH-60R platforms.

*FY 2008 funds are budgeted under R-1 # 78, PE 0604450N, Project Unit 2211.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

JOINT AIR TO GROUND MISSILE	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			62.324
RDT&E Articles Qty: Not Applicable.			

Funding to be used towards a 4-year SDD period (Phase 2). Funding will be used to support the Navy's program management and integration efforts on 3 threshold platforms. This includes support of all acquisition, system engineering and test reviews. Navy integration efforts are focused on the following threshold platforms: F/A-18E/F, AH-1Z and MH-60R.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
RDT&E, NAVY P. E. 0604450N		14.680							14.680
WEAPONS PROCUREMENT, Navy BLI 224800							22.809	2,663.461	2686.270
RDT&E ARMY P. E. 0643460A		53.160							53.160
RDT&E ARMY P. E. 0655450A			119.281	130.325	134.000	132.000	94.997	108.577	719.180
Missile Procurement, ARMY P. E. (TBD)							7.300	3423.300	3430.600

D. ACQUISITION STRATEGY: Pre-Decisional Information (Awaiting Acquisition Strategy approval and OSD signature). Final RFP will be issued NLT 30 days after final Acquisition strategy signature.

Exhibit R-3 Cost Analysis									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0605450N, JOINT AIR TO GROUND MISSILE				PROJECT NUMBER AND NAME 2211, JOINT AIR TO GROUND MISSILE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Aircraft Integration	Various	Various						1.072	10/08	48.853	49.925	
Systems Eng - WD	Various	Various						17.972	10/08	89.937	107.909	
Pre-Milestone B Activities	TBD	TBD						12.867	12/08	20.060	32.927	32.927
SD&D	TBD	TBD								200.124	200.124	200.124
SUBTOTAL PRODUCT DEVELOPMENT								31.911		358.974	390.885	

Remarks:

SUPPORT												
SW SUPP	Various	Various						3.050	12/08	113.946	116.996	
Logistics	Various	Various						.015	10/08	9.996	10.011	
SUBTOTAL SUPPORT								3.065		123.942	127.007	

Remarks:

TEST & EVALUATION												
T&E (NAWCAD)	Various	Various						13.183	10/08	67.772	80.955	
SUBTOTAL TEST & EVALUATION								13.183		67.772	80.955	

Remarks:

MANAGEMENT												
Contr Eng Sup - ETS (NON-FFRDC)	TBD	TBD						.180	11/08	1.400	1.580	
Contractor Eng Supt - Other	TBD	TBD						.285	11/08	6.300	6.585	
Government Eng Sup	Various	Various						3.000	10/08	15.000	18.000	
Program Mgmt Sup	Various	Various						10.590	10/08	126.799	137.389	
Travel - Internal	TO	NAVAIR, PAXTUXENT RIVER MD						.100	10/08	.500	.600	
Travel - Other	MIPR	USA MISSILE CMD, REDSTONE ARS AL						.010	10/08	.100	.110	
SUBTOTAL MANAGEMENT								14.165		150.099	164.264	

Remarks:

Total Cost								62.324		700.787	763.111	

Remarks: FY08 funded under PE: 0604450N, BA-4.

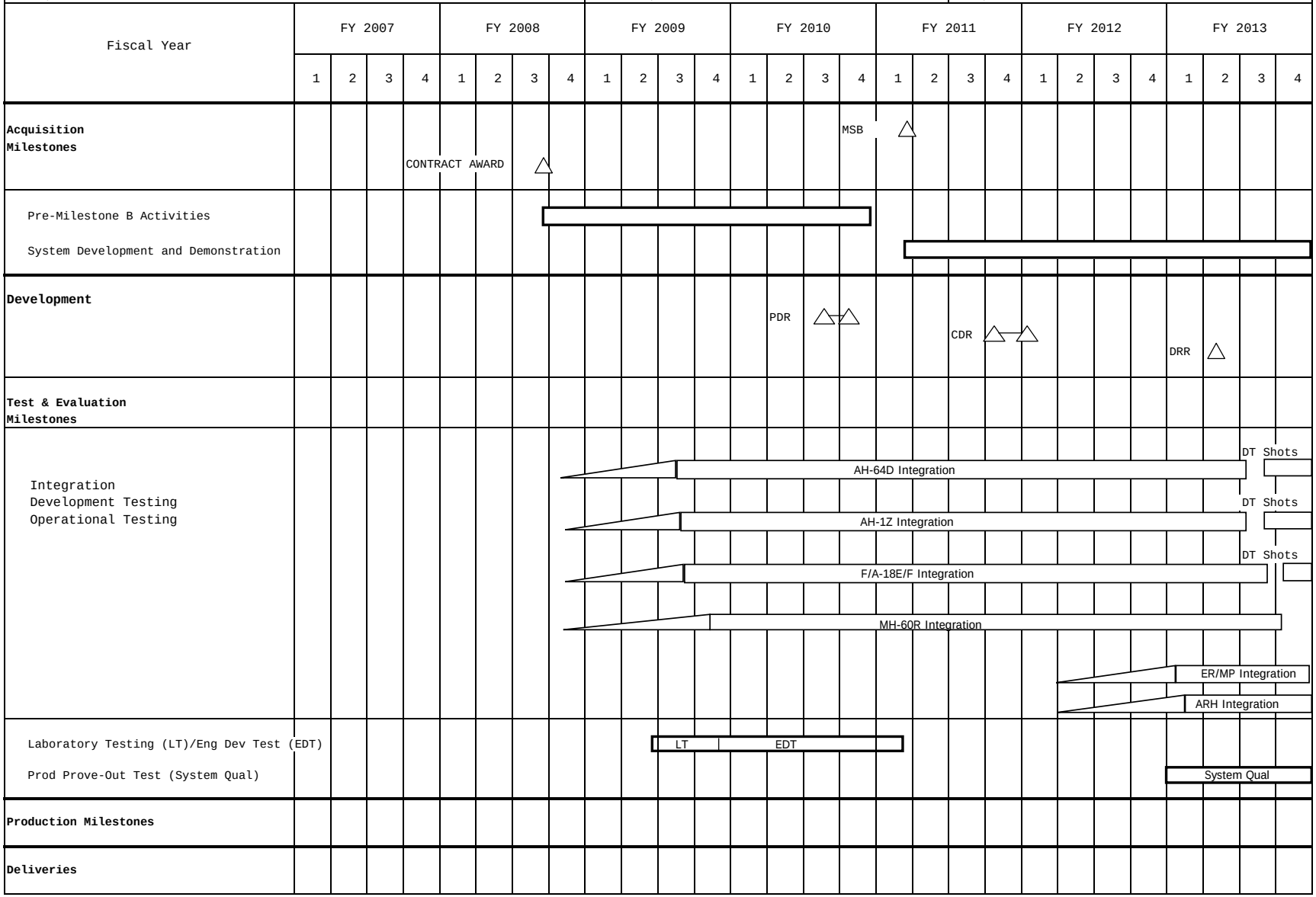
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2008

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

PROGRAM ELEMENT NUMBER AND NAME: 0605450N, JOINT AIR TO GROUND MISSILE

PROJECT NUMBER AND NAME: 2211, JOINT AIR TO GROUND MISSILE



Note: FY08 funded under PE: 0604450N, BA-4. FY09 thru completion funded under PE: 0605450N, BA-5.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0605450N, JOINT AIR TO GROUND MISSILE				PROJECT NUMBER AND NAME 2211, JOINT AIR TO GROUND MISSILE		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B					1Q		
Contract Award		3Q					
Pre-Milestone B Activities		3Q-4Q	1Q-4Q	1Q-4Q			
SD&D					1Q-4Q	1Q-4Q	1Q-4Q
AH-64D Integration		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
AH-64D DT Shots							3Q-4Q
AH-1Z Integration		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
AH-1Z DT Shots							3Q-4Q
F/A-18 E/F Integration		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
F/A-18 E/F DT Shots							4Q
MH-60R Integration		4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
ERMP Integration						2Q-4Q	1Q-4Q
ARH Integration						2Q-4Q	1Q-4Q
Program Decision Review				3Q-4Q			
Critical Design Review					4Q	1Q	
Design Readiness Review							2Q
Laboratory Test			2Q-4Q				
Engineering Design Test			4Q	1Q-4Q	1Q		
Prod Prove-Out Test (System Qual)							1Q-4Q

Note: FY08 FUNDED UNDER PE: 0604450N, BA-4. FY09 thru completion funded under PE: 0605450N, BA-5.

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	1,099.998	862.303	1,132.026	1,136.267	796.013	313.805	54.380	
2696 P-8A MULTI-MISSION MARITIME AIRCRAFT	1,099.998	853.737	1,117.122	1,106.151	761.072	277.386	30.404	
3181 P-8A SPIRAL ONE DEVELOPMENT		7.573	14.904	30.116	34.941	36.419	23.976	
9999 CONGRESSIONAL ADD		.993						

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

The Multi-mission Maritime Aircraft (MMA) will replace the aging P-3 aircraft. The MMA program was initiated in response to the Joint Requirements Oversight Council (JROC) validated Mission Needs Statement (MNS), "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA Operational Requirements Document (ORD)/ Capability Development Document (CDD), validated and approved by JROC on 08 December 2003. 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 Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) approved the program Acquisition Strategy on 8 February 2002. Approval to enter System Demonstration and Development (SDD) was attained at the Defense Acquisition Board (DAB) on 28 May 2004. At the DAB approval was granted to award the SDD contract. The contract was awarded to Boeing on 14 June 2004.

The primary objectives of SDD are to: perform the system detailed design, develop and produce Systems Integration Labs,develop and build ground and flight test articles and prepare for Milestone C. Six flight test aircraft will be built during SDD. These test aircraft will be grouped into two stages based on which phase of the test program the aircraft will support. SDD Stage I flight test aircraft (FY06/Qty-3) will support initial combined Developmental/Operational Testing (DT/OT). SDD Stage II flight test aircraft (FY09/Qty-3) will support the completion of combined DT/OT and Initial Operational Test and Evaluation (IOT&E) after being updated to the production configuration. The SDD contract includes the development and initial builds of training devices to support IOT&E. MMA plans to enter Production and Deployment (PD) in the 3rd quarter of FY10 after completing the Milestone C DAB.

The P-8A Spiral One Development will allow the P-8A to keep pace with the threat. It is based on an evolutionary acquisition strategy consisting of sequential spirals that will retain cost-wise effectiveness for winning major combat operations through 2020. In order to pace the threat, the first spiral will incorporate the following capabilities into the P-8A: Advanced Extended Echo Ranging Sonobuoy, Automatic Identification System, Acoustic Rapid Commercial-Off-The-Shelf Insertion, Integrated Broadcast Services, and updates to the Tactical Support Center. These capabilities and other emergent capability requirements will be investigated during the Technology Development phase of Spiral #1.

Congressional Add for Military Aircraft Loss of Control Training.

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	1,127.376	880.106	1,109.540
FY2009 President's Budget:	1,099.998	862.303	1,132.026
Total Adjustments	-27.378	-17.803	22.486
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-27.378	-5.601	
Congressional Increases		1.000	
Economic Assumptions			-7.333
Miscellaneous Adjustments		-13.202	29.819
Subtotal	-27.378	-17.803	22.486

Schedule:

Project 2696: Increased effort to get to detailed design in FY07 has driven increased costs and resulted in an Over Target Baseline (OTB) request in January 2007. The Navy has approved the OTB request and has adjusted the scheduling of planned work and the scope of future work to remain within overall program budget. The revision includes a delay in the completion of building the Stage I flight test aircraft; the delay in the conduct of the Test Readiness Review (TRR) from 1Q/FY09 to 3Q/FY09; the start of build for the System Development and Demonstration Stage II flight test aircraft from FY08 to FY09; and the reduction of Stage II flight test aircraft from four to three. The changes in test aircraft deliveries and quantities are achievable due to the efficiencies identified through the Integrate Test Team approach that is documented in the program Test and Evaluation Management Plan, Change 1, approved on 09 Mar 2007. These adjustments will allow continued attainment of program schedule milestone, test and evaluation plans, and planned Initial Operational Capability (IOC) in FY13.

Project 3181: The P-8A ground testing was deleted as a line item in the R-4 and R-4a since it will be included as part of the integrated testing schedule. Milestone B and SDD moved one quarter to align with the main programs Interim Program Review (IPR). Concept Refinement, Technical Development moved one quarter due to late release of funding for FY08. This is a new start program in FY08 and funds were not released until Dec.

Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT	PROJECT NUMBER AND NAME 2696, P-8A MULTI-MISSION MARITIME AIRCRAFT	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
2696 P-8A MULTI-MISSION MARITIME AIRCRAFT	1,099.998	853.737	1,117.122	1,106.151	761.072	277.386	30.404	
RDT&E Articles Qty			3					

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 was initiated in response to the Joint Requirements Oversight Council (JROC) validated Mission Needs Statement (MNS), "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA Operational Requirements Document (ORD)/ Capability Development Document (CDD), validated and approved by JROC on 08 December 2003. 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 Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) approved the program Acquisition Strategy on 8 February 2002. Approval to enter System Demonstration and Development (SDD) was attained at the Defense Acquisition Board (DAB) on 28 May 2004. At the DAB approval was granted to award the SDD contract. The contract was awarded to Boeing on 14 June 2004.

The primary objectives of SDD are to: perform the system detailed design, develop and produce Systems Integration Labs,develop and build ground and flight test articles and prepare for Milestone C. Seven flight test aircraft will be built during SDD. These test aircraft will be grouped into two stages based on which phase of the test program the aircraft will support. SDD Stage I flight test aircraft (FY06/Qty-3) will support initial combined Developmental/Operational Testing (DT/OT). SDD Stage II flight test aircraft (FY09/Qty-3) and (FY10/Qty-1) will support the completion of combined DT/OT and Initial Operational Test and Evaluation (IOT&E) after being updated to the production configuration. The SDD contract includes the development and initial builds of training devices to support IOT&E. MMA plans to enter Production and Deployment (PD) in the 3rd quarter of FY10 after completing the Milestone C DAB.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Continue System Development and Demonstration (SDD)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	1,060.948	808.920	1,055.904
RDT&E Articles Qty			3

System Development and Demonstration (SDD) phase. Scope of effort includes: design, develop, build, and test P-8A aircraft, avionics, mission systems, Systems Integration Lab(s), wind tunnel test models, ground and flight test articles (SDD Stage I, FY06, Qty-3; SDD Stage II, FY09, Qty-3, other test articles, integration of Unmanned Aerial Vehicle (UAV) Tactical Control System (TCS), modifications to the Tactical Support Center (TSC), and development and initial builds of training devices to support IOT&E. Critical Design Review (CDR) conducted 11-13 June, 2007. Conduct the periodic cost and schedule performance reviews associated with Earned Value Management and prepare for and conduct technical, test and logistic reviews. Work effort will continue until the end of the SDD contract planned in FY13.

Continue Engineering and Technical Development and Test for SDD contracts	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	39.050	44.817	61.218
RDT&E Articles Qty			

Test, GFE, Engineering and Technical Development for the SDD contract: Effort includes: analysis of contracted deliverables; refine UAV system integration requirements and evaluate UAV concept of operations; direct technical and logistic support of system development and delivery; assessment of contractors readiness to proceed in design/development; evaluate contract cost, schedule, and performance; test preparations, provide necessary government furnished equipment and test articles, risk assessment/mitigation; program control; performance status; and plan and prepare for future Milestone/Decision Reviews and develop associated documentation. Modeling & Simulation tools will be developed to assess proposed risk mitigations. Conduct and support Integrated Test and Evaluation (combined Development and Operational Test and Evaluation) and Live Fire Test and Evaluation. Work effort will continue until the end of the SDD contract planned in FY13.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT	2696, P-8A MULTI-MISSION MARITIME AIRCRAFT

C. OTHER PROGRAM FUNDING SUMMARY:	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total Cost
APN PE 0204251N BLI 019300 MMA			110.568	1,784.263	2,050.982	2,350.590	2,919.851	15,846.753	25,063.007
APN BLI 060510 Initial Spares - MMA				112.254	103.147	92.351	164.335	187.005	659.092
MILCON PE 0805376 - Project P-146, P-147 & P-623	16.316		48.220						64.536

D. 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 Analysis of Alternatives (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 Acquisition Strategy 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 occurred at MS B decision review on 28 May 2004. The contract was awarded to Boeing on 14 June 2004. The SDD phase is being used to design, develop and test the MMA system. The MMA program was initiated in response to the JROC validated MNS, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA Operational Requirements Document (ORD)/ Capability DevelopmentDocument (CDD), validated and approved by JROC on 08 December 2003. MMA IOC objective is FY 2013.

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT 0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT				PROJECT NUMBER AND NAME 2696, P-8A MULTI-MISSION MARITIME AIRCRAFT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Award Fee for Primary HW	C-CPAF	THE BOEING COMPANY, SEATTLE, WA	53.127	47.954	10/06	23.267	10/07	68.560	10/08	112.468	305.376	305.376
Info. Assurance	WX	NAWCAD, PATUXENT RIVER MD	.282	.350	11/06	.350	11/07	.350	11/08	1.004	2.336	
Primary HW Dev - Boeing	C-CPAF	THE BOEING COMPANY, SEATTLE, WA	1,302.536	997.671	10/06	771.124	10/07	974.259	10/08	1,827.732	5,873.322	5,873.322
Primary HW Dev - SPAWAR	WX/RX	SPAWARSYSCOM, SAN DIEGO CA	5.682	5.173	02/07	6.107	02/08	6.500	02/09	16.100	39.562	
Sys Eng (Gov)	WX	VARIOUS	21.399	9.800	11/06	8.072	11/07	6.235	11/08	19.505	65.011	
All other PY Product Developmer	VARIOUS	VARIOUS	70.538								70.538	
SUBTOTAL PRODUCT DEVELOPMENT			1,453.564	1,060.948		808.920		1,055.904		1,976.809	6,356.145	

Remarks: The total award fee issued to date was 3.8% of the total budget.

SUPPORT												
Int. Log Gov	WX	NAWCAD, PATUXENT RIVER MD	8.468	4.951	11/06	5.814	11/07	6.736	11/08	19.976	45.945	
SAE (NON-FFRDC)	C-FFP	VARIOUS	7.930	1.247	01/07	.594	01/08	.616	01/09	.610	10.997	10.997
Tech Dev Gov	WX	NAWCAD, PATUXENT RIVER MD	37.298	9.092	11/06	4.892	11/07	8.932	11/08	16.183	76.397	
All other PY Support Cost	VARIOUS	VARIOUS	4.868								4.868	
SUBTOTAL SUPPORT			58.564	15.290		11.300		16.284		36.769	138.207	

Remarks:

TEST & EVALUATION												
Dev T&E - Gov	WX	VARIOUS	4.936	4.331	11/06	3.156	11/07	12.948	11/08	45.099	70.470	
GFE & GFI	VARIOUS	VARIOUS	.579	4.546	11/06	19.000	11/07	15.700	11/08	58.100	97.925	
LFT&E - Gov	WX	VARIOUS	7.628	3.224	11/06	1.967	11/07	5.449	11/08	5.206	23.474	
Oper Test & Eval - TBD	WX	VARIOUS								16.484	16.484	
All other PY Test & Evaluation	VARIOUS	VARIOUS	5.187								5.187	
SUBTOTAL TEST & EVALUATION			18.330	12.101		24.123		34.097		124.889	213.540	

Remarks:

MANAGEMENT												
Mgnt Suppt Serv (NON-FFRDC)	C-PFF	RBC, INCORPORATED, ALEXANDRIA, VA	7.237	5.673	12/06	3.982	12/07	4.507	12/08	15.819	37.218	37.218
Program Mgmt Support	WX	NAWCAD, PATUXENT RIVER MD	8.466	5.436	11/06	5.108	11/07	5.780	11/08	18.527	43.317	
Travel - EOB	TO	NAWCAD, PATUXENT RIVER MD	1.231	.550	11/06	.304	11/07	.550	11/08	2.200	4.835	
All other PY Management Cost	VARIOUS	VARIOUS	19.060								19.060	
SUBTOTAL MANAGEMENT			35.994	11.659		9.394		10.837		36.546	104.430	

Remarks:

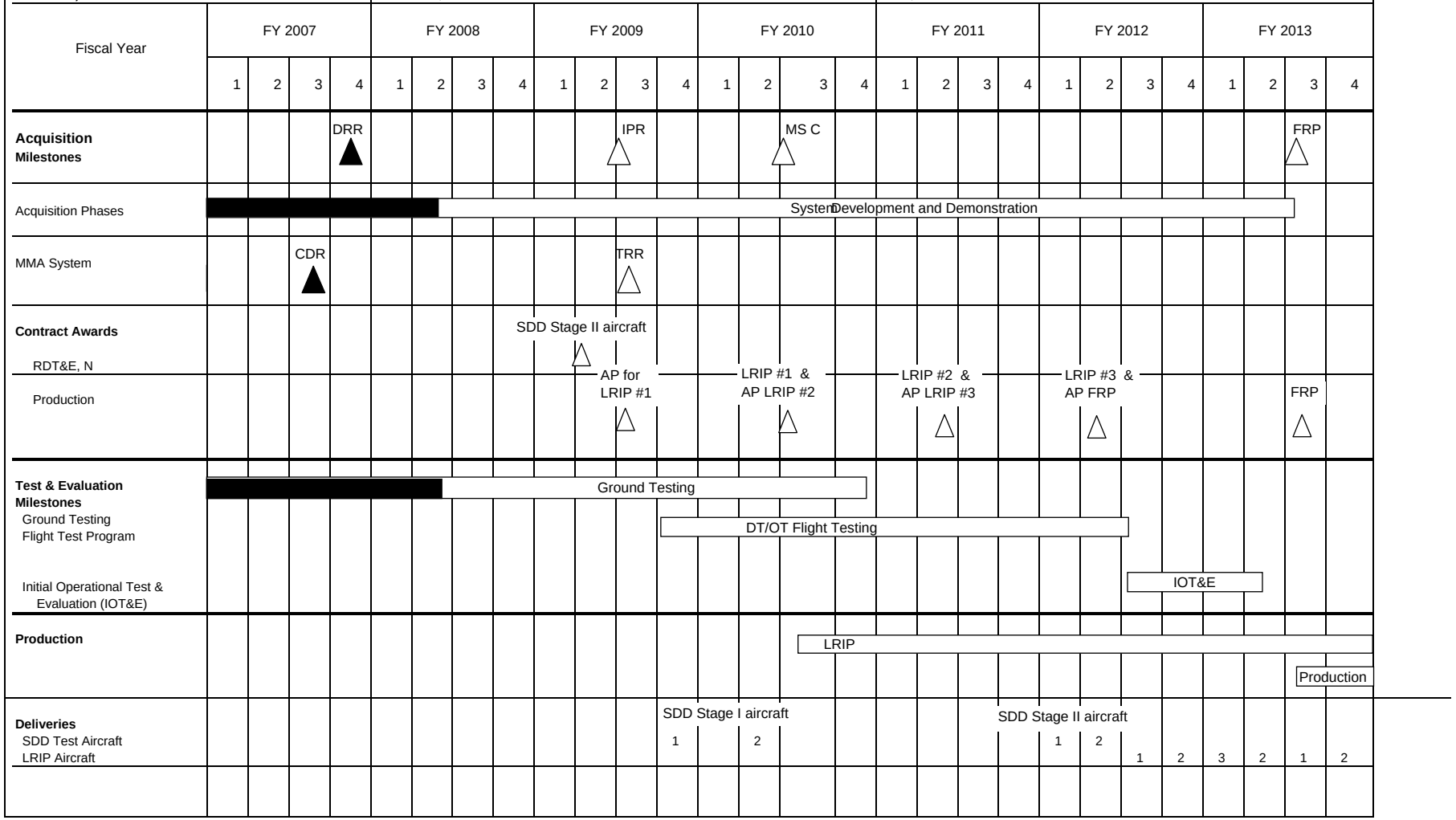
Total Cost			1,566.452	1,099.998		853.737		1,117.122		2,175.013	6,812.322	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT	2696, P-8A MULTI-MISSION MARITIME AIRCRAFT



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT 0605500N P-8A MULTI-MISSION MARITIME AIRCRAFT				PROJECT NUMBER AND NAME 2696 P-8A MULTI-MISSION MARITIME AIRCRAFT		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Development and Demonstration Phase	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
Ground Testing	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
Critical Design Review (CDR)	3Q						
Design Readiness Review (DRR)	4Q						
Test Readiness Review (TRR)			3Q				
SDD Stage II Test Aircraft Contract award			2Q				
Interim Program Review (IPR)			3Q				
Advance Procurement (AP) for LRIP#1 Contract award			3Q				
Developmental Testing/Operational Testing (Flight Test)			4Q	1Q-4Q	1Q-4Q	1Q-3Q	
Milestone C				3Q			
LRIP Lot #1 and AP LRIP#2 Contract award				3Q			
Low Rate Initial Production				3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
LRIP Lot #2 and AP LRIP#3 Contract award					2Q		
LRIP Lot #3 and AP FRP Contract award						2Q	
Initial Operational Test and Evaluation (IOT&E)						3Q-4Q	1Q-2Q
Full Rate Production Decision							3Q
Full Rate Production Contract award							3Q

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT	PROJECT NUMBER AND NAME 3181, P-8A SPIRAL ONE DEVELOPMENT

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3181 P-8A SPIRAL ONE DEVELOPMENT		7.573	14.904	30.116	34.941	36.419	23.976	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy consisting of sequential spirals that will retain cost-wise effectiveness for winning major combat operations through 2020. In order to pace the threat, the first spiral will incorporate the following capabilities into the P-8A: Advanced Extended Echo Ranging Sonobuoy, Automatic Identification System, Acoustic Rapid Commercial-Off-The-Shelf Insertion, Integrated Broadcast Services, and updates to the Tactical Support Center. These capabilities and other emergent capability requirements will be investigated during the Technology Development phase of Spiral #1.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

analyses of proposed new capabilities	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		3.098	12.732
RDT&E Articles Qty - Not Applicable			

Multiple technology demonstrations and analyses of the proposed new P-8A capabilities to ascertain the most affordable, military useful, most mature technological solution. Initiate design for integrating new capabilities into P-8A Tactical Support Center and associated trainers.

analysis of proposed technologies	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost		4.475	2.172
RDT&E Articles Qty			

Conduct technical, cost, risk and logistics analysis of proposed technologies. Evaluate system requirements through cost/performance trade-off analysis. Provide technical and management support for the development of Milestone B acquisition documentation. Provide engineering and management of technical development effort.

C. OTHER PROGRAM FUNDING SUMMARY:

	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total Cost
Not Applicable									

D. ACQUISITION STRATEGY:

The Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy consisting of sequential spirals that will retain cost-wise effectiveness for winning major combat operations through 2020. In order to pace the threat, the first spiral will incorporate the following capabilities into the P-8A: Advanced Extended Echo Ranging Sonobuoy, Automatic Identification System, Acoustic Rapid Commercial-Off-The-Shelf Insertion, Integrated Broadcast Services, and updates to the Tactical Support Center. These capabilities and other emergent capability requirements will be investigated during the Technology Development phase of Spiral #1.

Exhibit R-3 Cost Analysis (page 1) | DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E,N / BA-5	0605500N, MULTI-MISSION MARITIME AIRCRAFT	3181, P-8A SPIRAL ONE DEVELOPMENT

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Ancillary Hdw Development	VARIOUS	VARIOUS						.508	01/09	11.667	12.175	12.175
Primary HW Dev - TBD	VARIOUS	VARIOUS				.674	03/08	7.377	03/09	19.353	27.404	27.404
Primary Hdw Dev - BOEING	TBD	THE BOEING COMPANY, SEATTLE, WA				.489	03/08	3.054	03/09	81.024	84.567	84.567
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD				1.935	01/08	1.793	11/08	8.329	12.057	
SUBTOTAL PRODUCT DEVELOPMENT						3.098		12.732		120.373	136.203	

Remarks:

SUPPORT												
Integrated Logistics Sup	WX	NAWCAD, PATUXENT RIVER MD				.207	01/08	.353	11/08	2.481	3.041	
Studies & Analyses	VARIOUS	VARIOUS				3.635	03/08	.470	01/09		4.105	
SUBTOTAL SUPPORT						3.842		.823		2.481	7.146	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD				.050	01/08	.210	11/08	5.586	5.846	
GFE/GFI/GFP	VARIOUS	NAWCAD, PATUXENT RIVER MD								2.950	2.950	
Oper Test & Eval	WX	NAWCAD, PATUXENT RIVER MD								3.191	3.191	
Test Assets	VARIOUS	NAWCAD, PATUXENT RIVER MD								2.870	2.870	
SUBTOTAL TEST & EVALUATION						.050		.210		14.597	14.857	

Remarks:

MANAGEMENT												
Eng Tech Serv (Non-FFRDC)	VARIOUS	TBD				.200	01/08	.300	01/09	1.600	2.100	2.100
Mgmt Suppt Serv (NON-FFRDC)	VARIOUS	VARIOUS				.200	01/08	.600	01/09	1.600	2.400	2.400
Program Mgmt Sup	WX	NAWCAD, PATUXENT RIVER MD				.153	01/08	.179	01/08	1.665	1.997	
Travel	WX	NAWCAD, PATUXENT RIVER MD				.030	01/08	.060	11/08	.585	.675	
SUBTOTAL MANAGEMENT						.583		1.139		5.450	7.172	

Remarks:

Total Cost						7.573		14.904		142.901	165.378	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																												
																				DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5					PROGRAM ELEMENT NUMBER AND NAME 0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT												PROJECT NUMBER AND NAME 3181, P-8A SPIRAL ONE DEVELOPMENT												
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones											**MS-B** △																	
Acquisition Phases		Concept Refinement				■	Technical Development						System Development and Demonstration (SDD)															
Design Reviews																												
Contract Awards System Development Production							△ Tech Dev				△ SDD																	
Test & Evaluation Milestones Integration Testing (IT)																									IT			
Production Milestones																												
Deliveries																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT				PROJECT NUMBER AND NAME 3181, P-8A SPIRAL ONE DEVELOPMENT		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Concept Refinement		2Q-3Q					
Technology Development		3Q-4Q	1Q-2Q				
Milestone B			3Q				
Contract Award (SDD)			3Q				
System Development			3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Developmental Testing (Integration Testing)							1Q-4Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME **0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT**				PROJECT NUMBER AND NAME 9999, CONGRESSIONAL ADDS			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost		**0.993**						
RDT&E Articles Qty - Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	**0605500N, P-8A MULTI-MISSION MARITIME AIRCRAFT**	9999, CONGRESSIONAL ADDS

B. Accomplishments/Planned Program

XXXXX	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.993	
RDT&E Articles Quantity - Not Applicable			

MILITARY AIRCRAFT LOSS OF CONTROL TRAINING

The Military Aircraft Loss of Control Training will initiate the research for integrating new capabilities into associated trainers.

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5			R-1 ITEM NOMENCLATURE 0304785N TACTICAL CRYPTOLOGIC SYSTEMS				
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**32.720**	**39.819**	**16.678**	**15.550**	**15.389**	**16.442**	**16.763**
2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT	**25.444**	**21.268**	**12.642**	**14.550**	**14.889**	**16.442**	**16.763**
3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)	**2.993**	**16.962**	**4.036**	**1.000**	**0.500**	**0.000**	**0.000**
9999/CONGRESSIONAL ADDS	**4.283**	**1.589**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Quantity of RDT&E Articles							

Shipboard Information Warfare (IW) was realigned from PE 0604721N BA 5 (Battle Group Passive Horizon Extension System) beginning FY 2007.

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

The Shipboard Information Warfare (IW) line includes the following programs: Ships Signal Exploitation Equipment (SSEE) and the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21). 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.

Ships Signal Exploitation Equipment (SSEE) is a classified tactical cryptologic Information Warfare/Command and Control Warfare (IW/C2W) system that provides critical tactical intelligence, Situational Awareness (SA)/Battlespace Awareness (BA), Indications and Warning (I&W), and hostile threat assessment. As a spiral acquisition program, SSEE funding is required to have new technologies and associated new operational capabilities rapidly developed and transitioned as Pre-Planned Product Improvement (P3I) upgrades into the system's hardware configuration.

Automatic Identification System (AIS) is an International Maritime Very High Frequency (VHF) Communication system that allows any ship to exchange information (machine to machine) on Navigation (Position, Course, Speed, etc), Ship Info (Ship Name, Call Sign, Length/Beam), Cargo Info (Draft, Type, Destination, Route, Estimated Time of Arrival (ETA)), and Messaging (Safety, Text). This technology will improve capability in three diverse areas: (a) Situational Awareness/Common Operational Picture (COP) (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation. Research, Development, Test & Evaluation (RDT&E) will fund the integration of Commercial off-the-shelf (COTS) AIS equipment into the existing Global Command and Control - Maritime (GCCS-M)/COP, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search / weapons systems and intelligence / cryptologic capabilities.

Military Intelligence Program (MIP), formerly Tactical Intelligence and Related Activities (TIARA) (DOD 7000.14) is reported to Congress in the MIP Congressional Justification Book (CJB).

Congressional Adds:

COOPERATIVE OUTBOARD LOGISTICS UPGRADE (COBLU) - NETWORK CENTRIC WARFARE ENHANCEMENTS - The COBLU system will provide enhanced capabilities which will facilitate the integration of Control and Coordination Software that enables multiple COBLU systems to be operated remotely in compliance within the FORCEnet constructs; coordinate resources and reduce system manning; and enable the distributed operation of COBLU systems allowing operators to be remotely located at an Regional Security Operations Center (RSOC) or a COBLU operator on one platform to task and utilize a second COBLU on another platform. As part of this effort, interface software between COBLU and Distributed Information Operations Service (DIO-S) will be provided and an at-sea technology demonstration will be conducted.

TREXIMILDEC TACTICAL TARGET GENERATOR SYSTEM - MILDEC Tactical Target Generator (TTG) will provide both offensive and defensive Information Operations (IO) and Military Deception (MILDEC) capabilities for military aircraft against current and future hostile air defense systems. In the offensive mode, the TTG will provide a tactical IO capability for airborne platforms to electronically stimulate hostile air defense acquisition and tracking radars so they can be detected and located by National and tactical sensors, and then be destroyed by US or coalition forces. In the defensive mode, the TTG will enable tactical airborne platforms (manned, unmanned, fixed wing or rotary) to successfully enter, transit and egress hostile territory by appearing as a non-threatening air contact.

FY 2007 funding includes $5M received for GWOT supplemental.
FY2008 funding totals do not include $13.0M in pending request for current FY2008 GWOT requirements.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0304785N TACTICAL CRYPTOLOGIC SYSTEMS

Shipboard Information Warfare (IW) was realigned from PE 0604721N BA 5 (Battle Group Passive Horizon Extension System) beginning FY 2007.

Congressional Adds Continued:

ANS/SSQ-137 (v) SHIPS SIGNAL EXPLOITATION EQUIPMENT - ANS/SSQ supports effort to develop the latest Pre-Planned Product Improvements (P3I) enhancements upgrades to maintain the systems operational capability against evolving modern and future digital communications signals. P3I technology upgrades include: development of Communications Intelligence (COMINT) mapping and task synchronization; development of Time Differential Multiplexing (TDM) and Networked High Frequency (HF)/ Direction Finding (DF) capability; and Radio Frequency Distribution Unit (RFDU) enhancements. These upgrades will improve SSEE Increment E and F capability to collect, process and analyze hostile threat communications emitters in order to provide tactical intelligence, Situational Awareness (SA), Indications and Warning, and hostile threat assessment to deployed Carrier Strike Group (CSG)/Expeditionary Strike Group (ESG) forces.

SCAN EAGLE UNMANNED AERIAL VEHICLE (UAV) ADVANCED DATALINK AND SENSOR DEVELOPMENT- RDT&E funds the development of a ScanEagle high capacity data link compatible with the Common Data Link (CDL) waveform and North Atlantic Treaty Organization (NATO) Standardization Agreement (STANAG) 4586 to enhance interoperability and networked imagery distribution with US Navy Fleet assets. The integration of a Commercial-off-the-Shelf (COTS) Automatic Identification System (AIS) transceiver into ScanEagle and data integration into the Navy's Integrated AIS Rapid Deployment Capability (RDC). This AIS RDC in turn provides AIS sensor data to the Global Command and Control - Maritime (GCCS-M) Common Operational Picture, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search / weapons systems and intelligence / cryptologic capabilities. Integration of this AIS technology will improve capability in three diverse areas: (a) Situational Awareness/Common Operational Picture (COP) (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation.

Global War on Terrorism (GWOT) Supplemental:
RDT&E Midway funding is provided to initiate development and testing of counter-targeting capabilities in accordance with stated Fleet requirements and prior assessments. As part of Navy counter-targeting efforts, the Chief of Naval Operations (CNO) has directed that the funding support the Long-range Multi-mission Optical System (LMOS) Joint Capability Technology Demonstration (JCTD).

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5	R-1 ITEM NOMENCLATURE 0304785N TACTICAL CRYPTOLOGIC SYSTEMS

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2007	FY 2008	FY 2009
FY08/09 President's Budget	27.720	39.053	16.708
FY09 President's Submit	32.720	39.819	16.678
Total Adjustments	5.000	0.766	-0.030
Summary of Adjustments			
Misc. Congressional Adjustments	5.000	1.342	0.000
Misc. Adjustments	0.000	0.000	-0.030
SBIR	0.000	-0.576	0.000
Subtotal	5.000	0.766	-0.030

(U) Schedule:

AIRS schedule updated to include Milestone C, Operational Test and Evaluation, Operational Test Readiness Review (OTTER), Integrated Shipboard Network Systems (SINS) Increment 1 Test and Evaluation and Server refresh. Ships Signal Exploitation Equipment Increment E and F schedules separated. Ships Signal Exploitation Equipment Increment F Milestone C moved from FY08 4QTR to FY10 1QTR.

(U) Technical:

Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS			PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**25.444**	**21.268**	**12.642**	**14.550**	**14.889**	**16.442**	**16.763**
RDT&E Articles Qty							

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

The Shipboard Information Warfare (IW) line includes the following programs: Ships Signal Exploitation Equipment (SSEE) and the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21). 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.
Military Intelligence Program (MIP), formerly Tactical Intelligence and Related Activities (TIARA) (DOD 7000.14)

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA 5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS	2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT

(U) B. Accomplishments/Planned Program

Ship Signal Exploitation Equipment (SSEE) Inc E	FY 07	FY08	FY 09
Accomplishments/Effort/Subtotal Cost	4.270	3.409	1.974
RDT&E Articles Quantity			

FY07 - Continued to expand Signals of Interest (SOI) processing capability to priority signal sets. Fully tested improved software. Modified Cryptologic On-Line Trainer (COLT) server to upgrade current software releases. Continued development and integration of Cryptologic Unified Build (CUB) software. As a spiral acquisition program Ship Signal Exploitation Equipment (SSEE) Inc F began in FY 06 with the development contract award date of April 2006. SSEE Inc F program information will be provided in separate exhibits.

FY 08 - Continue to expand Signals of Interest (SOI) processing capability to allow, collection of the newest high priority modern technology threat signals for processing and analysis for timely and accurate situational awareness for Force protection and for support to time critical strike military operation. Develop and integrate upgrades to Hostile Force Integration Targeting Subsystems (HITS) to integrate both national and tactical Intelligence, Surveillance, and Reconnaissance (ISR) sensor data to provide geolocation of intercepted communication signals. Fully test improved software. Execute Follow-on Test and Evaluation.

FY 09 - Continue to expand Signals of Interest (SOI) processing capability to allow collection of the newest high priority modern technology threat signals for processing and analysis. This will allow the strike group to have timely and accurate situational awareness for force protection, support for Maritime Domain Awareness (MDA), and for support to time critical strike military operation. Development and integration of Cryptologic Unified Build (CUB) software to support battlegroup interoperability. Fully test improved software.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA 5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS	2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT

(U) B. Accomplishments/Planned Program

Ship Signal Exploitation Equipment (SSEE) Inc F	FY 07	FY08	FY 09
Accomplishments/Effort/Subtotal Cost	12.642	17.859	10.668
RDT&E Articles Quantity		2	

Ship Signal Exploitation Equipment (SSEE) Inc F is a spiral development of the SSEE program. Milestone B occurred Q2FY06 and a combined development and production contract was awarded Q3FY06. Development will include system design, integration and testing of hardware and software for Engineering Development Models (EDMs), and support to integrated developmental and operational testing. Inc F will provide the warfighter with a robust Information Operations (IO) capability across surface Navy platforms. Inc F provides a fully scalable system dependent upon ship platform IO requirements; system will provide remote/autonomous operating capabilities to meet CNO's goals for reduced shipboard manning and maintenance personnel. Inc F will be fully FORCEnet capable, meet all Net-Centric Enterprise Solutions for Interoperability (NESI) requirements, and will meet all joint interoperability requirements for operations in the Global Information Grid (GIG).

FY07 - Continued Ship Signal Exploitation Equipment (SSEE) Inc F system development and demonstration to support the delivery of two Engineering Development Models (EDMs). Continued additional development efforts for remoting of manned and unmanned platforms. The FY07 System Development and Demonstration phase constructed new shipboard antennas, Radio Frequency (RF) distribution, threat detection, geolocation, signal recognition, sensor data management, information operations, suitability, embedded training, communications and interfaces, automation, remoting, manning, information management, sensor tasking, and EDM #1 Integration, Assembly and Test. Operator training plans, processes, and material development occurred. SSEE Inc F FY07 major milestones were System Requirements Review (SRR), Preliminary Design Review (PDR), Critical Design Review (CDR), Design Readiness Review (DRR), and Test Readiness Reviews (TRR).

FY 08 - Complete Ship Signal Exploitation Equipment (SSEE) Inc F development and system design of two Engineering Development Models (EDMs). Integrate, test and deliver EDMs. Continue development efforts for remoting of manned and unmanned platforms. Continue development in the areas of Signal Recognition, Suitability, and Net-Centric Enterprise Solutions for Interoperability (NESI). Conduct EDM #2 interoperability testing, platform integration efforts, and operational assessment. The majority of technical publication development will commence during this period as well. Complete engineering and management data. SSEE Inc F FY08 major milestones will include EDM First Article Testing (FAT), Integrated Testing (IT) Decisional Report, and Milestone C.

FY 09 - Continue development efforts for remoting of manned and unmanned platforms. Expand Signals of Interest (SOI) processing capability to allow collection of the newest high priority modern technology threat signals for processing and analysis for timely and accurate situational awareness for force protection and for support to time critical strike military operation. The two EDMs previously represented are contractor assets for hardware and software upgrade development and testing.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT

(U) B. Accomplishments/Planned Program

Specific Emitter Identification (SEI)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.512	0.000	0.000
RDT&E Articles Quantity			

FY07 - Continued development of updated software for existing fielded Specific Emitter Identification (SEI) systems with new algorithms and software. Continued improvements to network based SEI data distribution and utilization. Continued SEI software enhancements to maximize automation of SEI collection & reporting. Ensured SEI software is fully certified and tested. Continued integration of geolocation, SEI, and other data. Continued incorporation of SEI into Electronic Intelligence (ELINT) and the overall Navy Electronic Warfare (EW) and Maritime Cryptologic architecture with the goal of SEI being absorbed into ELINT. Enhanced Tactical Data Processors (TDPs) and other fielded systems to support new SEI capabilities and data types. Continued to pursue enhanced SEI algorithms and techniques, SEI-based de-interleaving, and other SEI applications. Included support for Maritime Domain Awareness.

Antenna & Radio Finder (RF) Distribution	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.020	0.000	0.000
RDT&E Articles Quantity			

FY07 - Completed development of antenna & Radio Frequency (RF) tools to enhance future capabilities via new technologies, Engineering Development Model (EDM) development, testing and certification.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA 5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS	2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT

(U) B. Accomplishments/Planned Program

Global War on Terrorism Midway Supplemental	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	5.000	0.000	0.000
RDT&E Articles Quantity			

FY07 - Global War on Terrorism Supplemental:

RDT&E Midway funding is provided to initiate development and testing of counter-targeting capabilities in accordance with stated Fleet requirements and prior assessments. As part of Navy counter-targeting efforts, Chief of Naval Operations (CNO) has directed that the funding support the Long-range Multi-mission Optical System (LMOS) Joint Capability Technology Demonstration (JCTD).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN Line 2360	116.854	51.028	83.408	103.529	84.732	91.549	93.019

(U) D. ACQUISITION STRATEGY:

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to a Prime Contractor and SPAWAR Systems Center (SSC) - Charleston, SSC - San Diego and miscellaneous contractors, with management oversight by SPAWAR.

(U) E. MAJOR PERFORMERS:

N/A

(U) F. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

Exhibit R-3 Cost Analysis (page 1)												DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5			PROGRAM ELEMENT 0304785N TACTICAL CRYPTOLOGIC SYSTEMS			PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT						
Cost Categories	Contract Method & Type	Performing Activity and Location	Total PY Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	49.299	11.139	11/06	8.494	11/07	4.631	11/08	Continuing	Continuing	Continuing
Ancillary Hardware Development												
Systems Engineering	Various	Various	16.140	2.250		1.231		1.141	11/08	Continuing	Continuing	Continuing
Training Development	WX	SSC SD	0.336	0.100		0.055		0.086	11/08	Continuing	Continuing	Continuing
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			65.775	13.489		9.780		5.858		Continuing	Continuing	Continuing

Remarks:
1. PY funding reflects PE 0604721N. PE 0604721N migrated (Battle Group Passive Horizon Extension System) into PE 0304785N in FY 2007.

Development Support												
Software Development	Various	Various	18.098	8.643	11/06	8.373	11/07	4.410	11/08	Continuing	Continuing	Continuing
Training Development								0.079	11/08	Continuing	Continuing	Continuing
Integrated Logistics Support	Various	Various	0.751	0.375		0.227		0.339	11/08	Continuing	Continuing	Continuing
Configuration Management	WX	SSC CH	0.436	0.125		0.199		0.251	11/08	Continuing	Continuing	Continuing
Technical Data						0.264					0.264	0.264
GFE												
Subtotal Support			19.285	9.143		9.063		5.079		Continuing	Continuing	Continuing

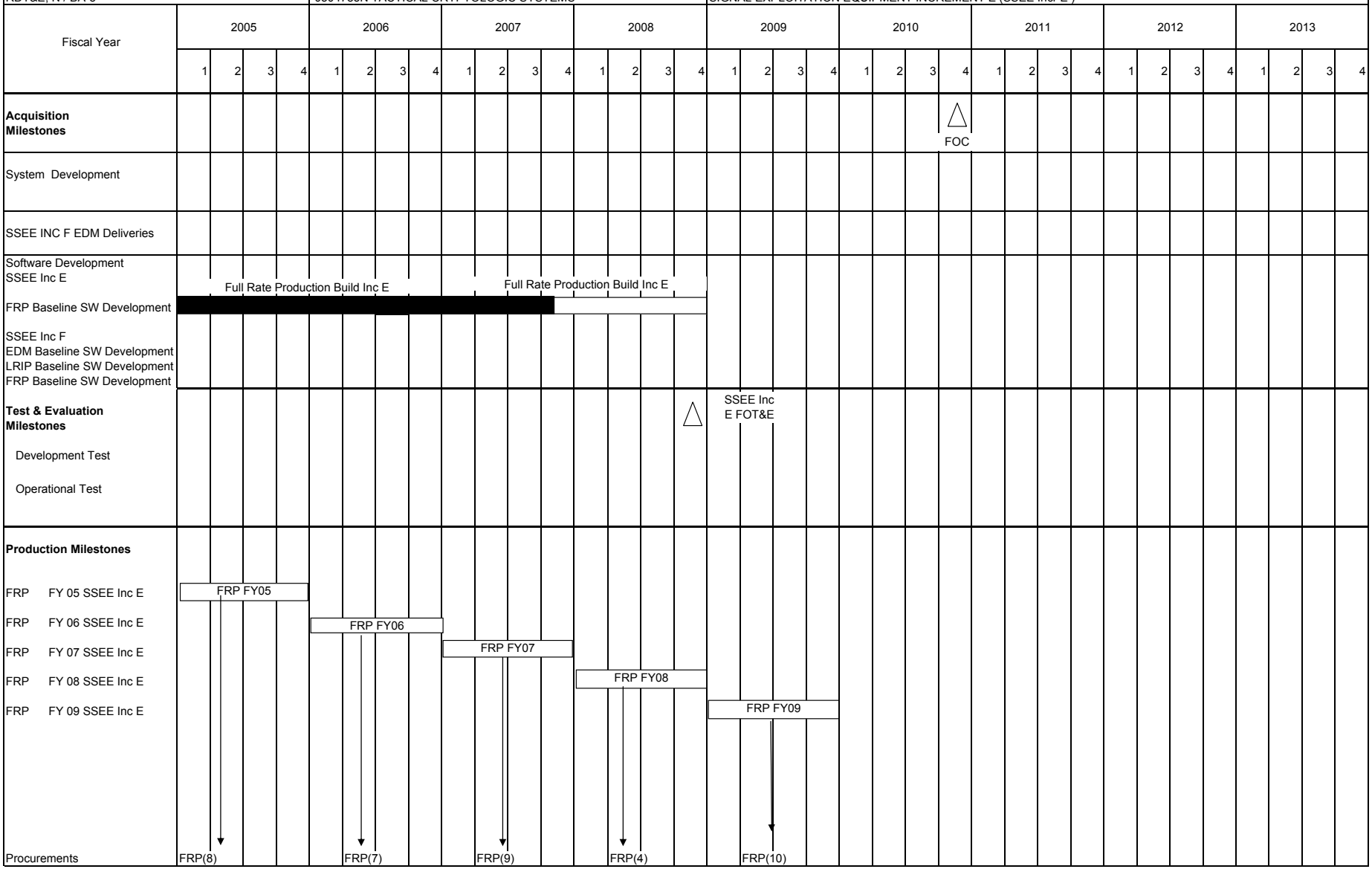
Remarks:
1. PY funding reflects PE 0604721N. PE 0604721N migrated (Battle Group Passive Horizon Extension System) into PE 0304785N in FY 2007

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0304785N TACTICAL CRYPTOLOGIC SYSTEMS			PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT						
Cost Categories	Contract Method & Type	Performing Activity and Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	5.722	0.450		0.372		0.100	11/08	Continuing	Continuing	Continuing
Operational Test & Evaluation	WX	OPTEVFOR	1.532	0.100		0.428		0.331	11/08	Continuing	Continuing	Continuing
Live Fire Test & Evaluation												
Test Assets	WX	SSC SD	1.597	0.150		0.000				Continuing	Continuing	Continuing
Tooling												
GFE												
Subtotal T&E			8.851	0.700		0.800		0.431		Continuing	Continuing	Continuing
Remarks: 1. PY funding reflects PE 0604721N. PE 0604721N migrated (Battle Group Passive Horizon Extension System) into PE 0304785N in FY 2007												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	Various	Various	11.149	1.960		1.487		1.015	11/08	Continuing	Continuing	Continuing
Travel	DTS	SPAWAR	0.551	0.152		0.138		0.259	11/08	Continuing	Continuing	Continuing
Subtotal Management			11.700	2.112		1.625		1.274		Continuing	Continuing	Continuing
Remarks: 1. PY funding reflects PE 0604721N. PE 0604721N migrates (Battle Group Passive Horizon Extension System) into PE 0304785N beginning in FY 07.												
Total Cost			105.611	25.444	0.000	21.268	0.000	12.642		Continuing	Continuing	Continuing
Remarks: 1. PY funding reflects PE 0604721N. PE 0604721N migrated (Battle Group Passive Horizon Extension System) into PE 0304785N in FY 2007												

EXHIBIT R4, Schedule Profile
SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT E (SSEE Incr E)

DATE:
February 2008

APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA-5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS	2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT E (SSEE Incr E)



Remarks:
1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

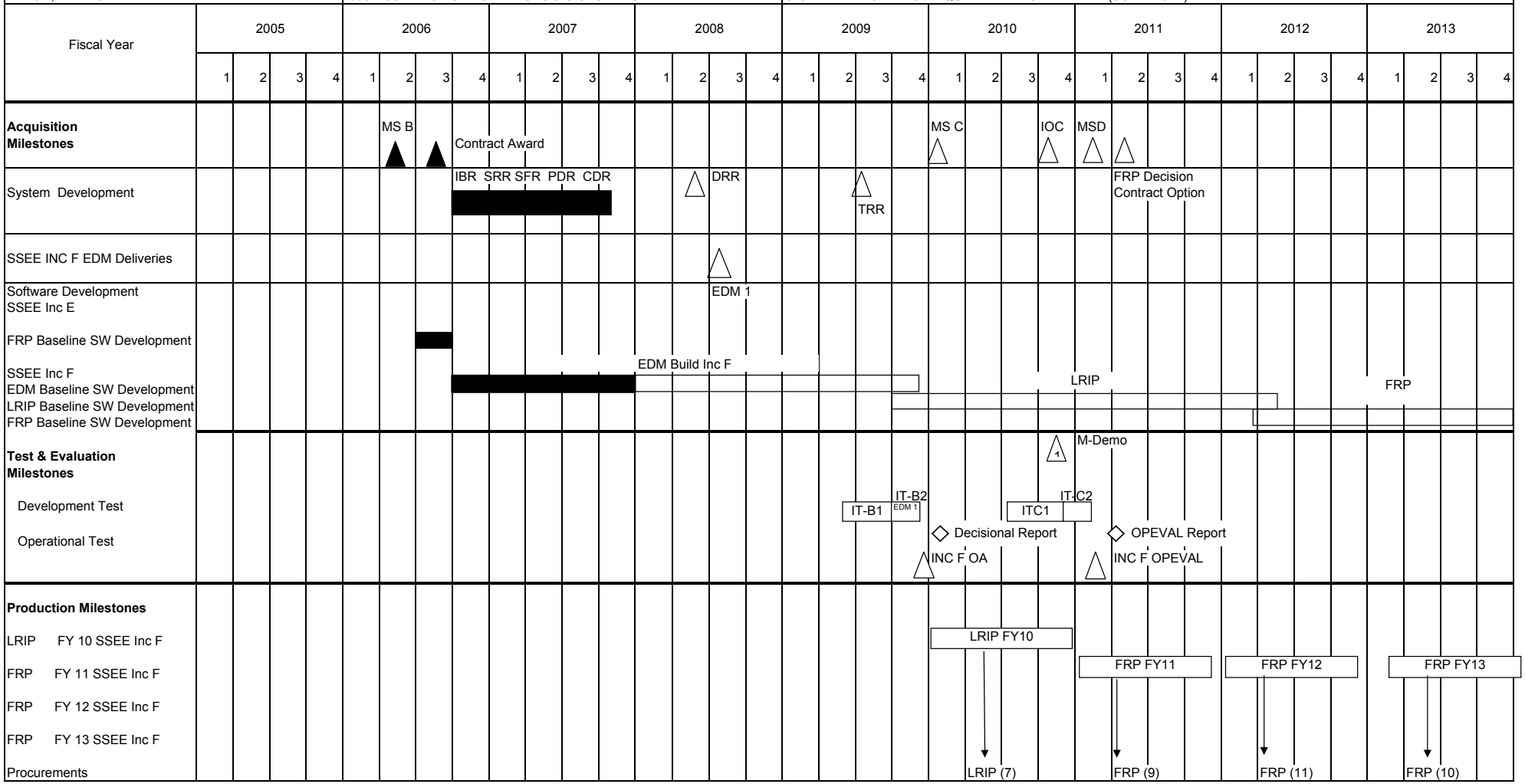
Exhibit R-4a, Schedule Detail							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E,N / BA 5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS				2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCR E (SSEE Incr E)				
Schedule Profile	FY2005	FY2006	FY2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Increment E									
Full Operational Capability						Q4			
Follow-On Test & Evaluation (FOTE)				Q4					
Full Rate Production	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4				
Pre-Planned Improvements (P3I)	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4				

Remarks:
1. SSEE is a spiral development program.
2. FY09 will introduce a future Increment with new antenna design and P3I.
3. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
4. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

EXHIBIT R4, Schedule Profile
SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT F (SSEE Incr F)

DATE:
February 2008

APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E,N / BA-5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS	2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT F (SSEE Incr F)



Remarks:
1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

Exhibit R-4a, Schedule Detail							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT 0304785N TACTICAL CRYPTOLOGIC SYSTEMS				PROJECT NUMBER AND NAME 2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCR F (SSEE Incr F)				
Schedule Profile	FY2005	FY2006	FY2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Increment F									
Milestone B		Q2							
Contract Award		Q3							
IBR/SBR/SFR/PDR/CDR/DRR/TRR		Q4	Q1-Q4	Q2	Q3				
Developmental Testing					Q2-Q4	Q3-Q4	Q1		
Operational Testing					Q4		Q1		
EDM SSEE Deliveries					Q3				
Milestone C (LRIP)						Q1			
LRIP Contract Award						Q1			
FRP Decision							Q2		
FRP Contract Award							Q2		
Material Support Date							Q1		
IOC						Q4			

Remarks:
1. SSEE is a spiral development program.
2. FY09 will introduce a future Increment with new antenna design and P3I.
3. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
4. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/ANTENNA RF DISTRIBUTION (ARFD)	

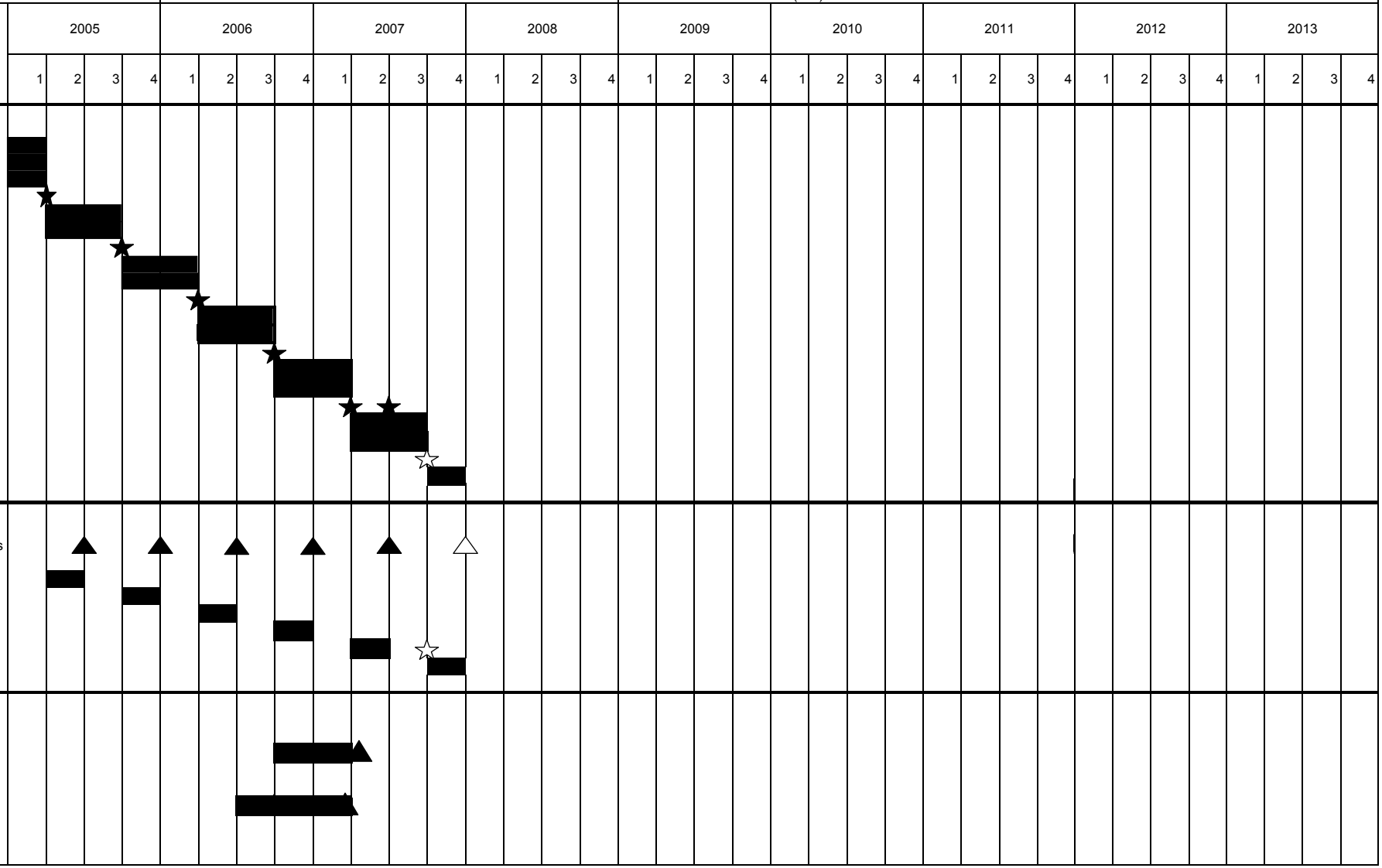
Fiscal Year	2005				2006				2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones	Award Contract ▲																																			
Prototype Phase	■	■	■	■	■	■	■	■	■	■	■	■	■																							
System Development				SDR ▲				SDR ▲				SDR △																									
EDM Delivery Four EDMs				EDM ▲				EDM ▲				EDM △																									
Test & Evaluation Milestones FAT Developmental Test			FAT ▲				FAT ▲	DT ▲			FAT △																									
Production Milestones Deliver Design Package to SSEE													Design Package △																							
Deliveries																																				

Remarks:
1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

Exhibit R-4a, Schedule Detail							DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT 0304785N TACTICAL CRYPTOLOGIC SYSTEMS				PROJECT NUMBER AND NAME 2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/ANTENNA RF DISTRIBUTION (ARFD)				
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Contract Award	1Q								
Prototype Phase	Q1-Q4	Q1-Q4	Q1-Q4						
EDM Delivery	4Q	4Q	4Q						
System Design Review (SDR)	4Q	4Q	4Q						
Factory Acceptance Testing	3Q	3Q	3Q						
Developmental Test		4Q							
Deliver Design Package to SSEE				1Q					

Remarks:
1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA 5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS	2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)	



Remarks:
1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

Exhibit R-4a, Schedule Detail							**DATE:** February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA 5	**PROGRAM ELEMENT** 0304785N TACTICAL CRYPTOLOGIC SYSTEMS				**PROJECT NUMBER AND NAME** 2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)				
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SURPAS Development									
Phase 1 - Software Delivery	Q2								
Phase 2 - Software Delivery	Q4								
Phase 3 - Software Delivery		Q2							
Phase 4 - Software Delivery		Q4							
Phase 5- Software Delivery			Q2						
Phase 6 - Software Delivery			Q4						
Software Maintenance Release			Q4						
Technical Information Meeting	Q1 & Q3	Q1 & Q3	Q2 - Q4	Q1					
Developmental Testing (DT-IIA)	Q2 & Q4	Q2 & Q4	Q2 & Q4						
Integration at TSC		Q4	Q1						
IOC at TSC			Q2						
Integration with PARAGON		Q4	Q2						
Interim PARAGON Demo		Q4							
PARAGON Demo			Q2						

Remarks:
1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS			PROJECT NUMBER AND NAME 3165 AUTOMATIC IDENTIFICATION SYSTEM (AIS)			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 20010	FY 2011	FY 2012	FY 2013
Project Cost	2.993	16.962	4.036	1.000	0.500	0.000	0.000
RDT&E Articles Qty							

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

AUTOMATIC IDENTIFICATION SYSTEM (AIS): AIS is an International Maritime Very High Frequency (VHF) Communication system that allows any ship to exchange information (machine to machine) on Navigation (Position, Course, Speed, etc), Ship Info (Ship Name, Call Sign, Length/Beam), Cargo Info (Draft, Type, Destination, Route, Estimated Time of Arrival (ETA)), and Messaging (Safety, Text). This technology will improve capability in three diverse areas: (a) Situational Awareness/Common Operational Picture (COP) (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation. RDT&E will fund the integration of Commercial off-the-shelf (COTS) Automatic Identification System (AIS) equipment into the existing Global Command and Control - Maritime/Common Operational Picture (GCCS-M)/COP, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search / weapons systems and intelligence / Cryptologic capabilities.

The warfighting enhancement is to achieve an all-source Maritime Domain Awareness (MDA) capability, the Chief of Naval Operations (CNO) endorsed requirements for an unclassified (a) shipboard track management and (b) operational and tactical aggregation services capability for AIS data, organic shipboard sensors (including radar and EO/IR), and airborne surface search radar. This capability must be exportable to those countries that have the capability to participate in MDA, with minimum additional manning and technical expertise. Finally, cross domain solutions that provide multi-layer security while allowing access to information across classified domains is needed to complete the fusion of AIS data with other data sources. These must be initially deployable in FY08, requiring minimum additional development. This effort will improve current capability in three diverse areas: (a) future integration of AIS receivers on Unmanned Aerial Systems (UASs), to increase the AIS Situational Awareness of deployed United States Navy (USN) ships (b) improve situational awareness, navigation and safety of ship by fusing AIS data with organic ship sensors (and airborne radars), and (c) providing a cross domain solution for integration of AIS data with other forms of unclassified data from a variety of platforms (including classified domains).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA 5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS	3165 AUTOMATIC IDENTIFICATION SYSTEM (AIS)

(U) B. Accomplishments/Planned Program

AUTOMATIC IDENTIFICATION SYSTEM (AIS):	FY 07	FY08	FY 09
Accomplishments/Effort/Subtotal Cost	2.993	16.962	4.036
RDT&E Articles Quantity			

FY 07: Efforts included the integration of Commercial off-the-shelf (COTS) Automatic Identification System (AIS) equipment into the existing Global Command and Control - Maritime (GCCS-M)/Common Operating Picture (COP), Navigation Sensor System Interface (NAVSSI), navigation and bridge capabilities, surface search/weapons systems and intelligence/Cryptologic capabilities in support of AIS Phase 2 procurement efforts. Demonstrated additional aspects of the AIS Fleet Concept of Operation (CONOP) that can be included in an AIS Phase 3 configuration via participation in the FORCEnet v2.0, the Maritime Domain Awareness (MDA) Community of Interest (CoI) Pilot demonstration, and Trident Warrior (TW) 07. Environmental testing required to install units on ships.

FY 08: Funds will design and develop the Engineering Change Proposal (ECP) to the unclassified MDA CoI Data Sharing (DS) CoI pilot effort (phase 3) AIS implementation. Further define the global AIS architecture, and its relation to emerging US Navy and National MDA CONOP.

The warfighting enhancement will fund the integration of COTS AIS equipment into unmanned aerial systems (b) implementation of Government off-the-shelf (GOTS software) on US Navy ships (c) for aggregation of fused track management data, and (d) for acceleration and transition of cross-domain solutions.

FY 09: Funds will design and develop a Net-Centric Enterprise Solution (NESI)-compliant AIS, within a service oriented architecture (SOA). Additionally, funds will consolidate and streamline data sharing between the US Navy/Department of Defense (DoD) AIS capability and other agencies, such as the Department of Transportation emerging Maritime Security and Safety Information System (MSSIS). Funds will also continue the refinement of the Global AIS architecture, and its relation to the overall US Navy MDA effort and CONOP as well as the National MDA CONOP. This will provide a secure end-to-end AIS data sharing capability in-line with National MDA CONOPs and current DoD guidance and policies.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 3165 AUTOMATIC IDENTIFICATION SYSTEM (AIS)

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN Line 2360	116.854	51.028	83.408	103.529	84.732	91.549	93.019

(U) D. ACQUISITION STRATEGY:

Acquisition management and contracting strategies are to support the integration of Commercial off-the-shelf (COTS) Automatic Identification System (AIS) data into the existing and emerging US Navy Command and Control and Network infrastructure capabilities, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search/weapons systems and intelligence/cryptologic capabilities. COTS will be procured from a contractor with government over sight from Space and Naval Warfare (SPAWAR) Systems Center (SSC) - Charleston, SSC - San Diego with management oversight by SPAWAR .

(U) E. MAJOR PERFORMERS:

N/A

(U) F. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5			PROGRAM ELEMENT 0304785N TACTICAL CRYPTOLOGIC SYSTEMS					PROJECT NUMBER AND NAME 3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various				0.500				Continuing	Continuing	Continuing
Ancillary Hardware Development	CPFF	CSIC		0.130	11/06	0.600	11/06	0.000		Continuing	Continuing	Continuing
Systems Engineering	WX	SSC SD		0.100		0.900				Continuing	Continuing	Continuing
Training Development	WX	SSC SD		0.100		0.100				Continuing	Continuing	Continuing
Subtotal Product Development				0.330		2.100		0.000		Continuing	Continuing	Continuing
Remarks:												
Development Support												
Software Development	Various	Various		1.989		12.661		1.536	11/08	Continuing	Continuing	Continuing
Training Development	WX	SSC SD				0.500		0.300	11/08	Continuing	Continuing	Continuing
Integrated Logistics Support	Various	Various		0.100		0.600		0.300	11/08	Continuing	Continuing	Continuing
Configuration Management	Various	Various		0.100		0.400		0.300	11/08	Continuing	Continuing	Continuing
Technical Data	Various	Various						0.225	11/08	Continuing	Continuing	Continuing
Subtotal Support				2.189		14.161		2.661		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3 Cost Analysis (page 2)								**DATE:** February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5			**PROGRAM ELEMENT** 0304785N TACTICAL CRYPTOLOGIC SYSTEMS					**PROJECT NUMBER AND NAME** 3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC SD		0.104		0.200				Continuing	Continuing	Continuing
Operational Test & Evaluation	Various	Various		0.130				0.400	11/08	Continuing	Continuing	Continuing
Subtotal T&E				0.234		0.200		0.400		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support	Various	Various		0.100		0.100		0.300	11/08	Continuing	Continuing	Continuing
Government Engineering Support	Various	Various				0.100		0.300	11/08	Continuing	Continuing	Continuing
Program Management Support	Various	Various		0.100		0.201		0.300	11/08	Continuing	Continuing	Continuing
Travel	DTS	SPAWAR		0.040		0.100		0.075	11/08	Continuing	Continuing	Continuing
Subtotal Management				0.240		0.501		0.975		Continuing	Continuing	Continuing
Remarks:												
Total Cost				2.993		16.962		4.036		Continuing	Continuing	Continuing
Remarks:												

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)	

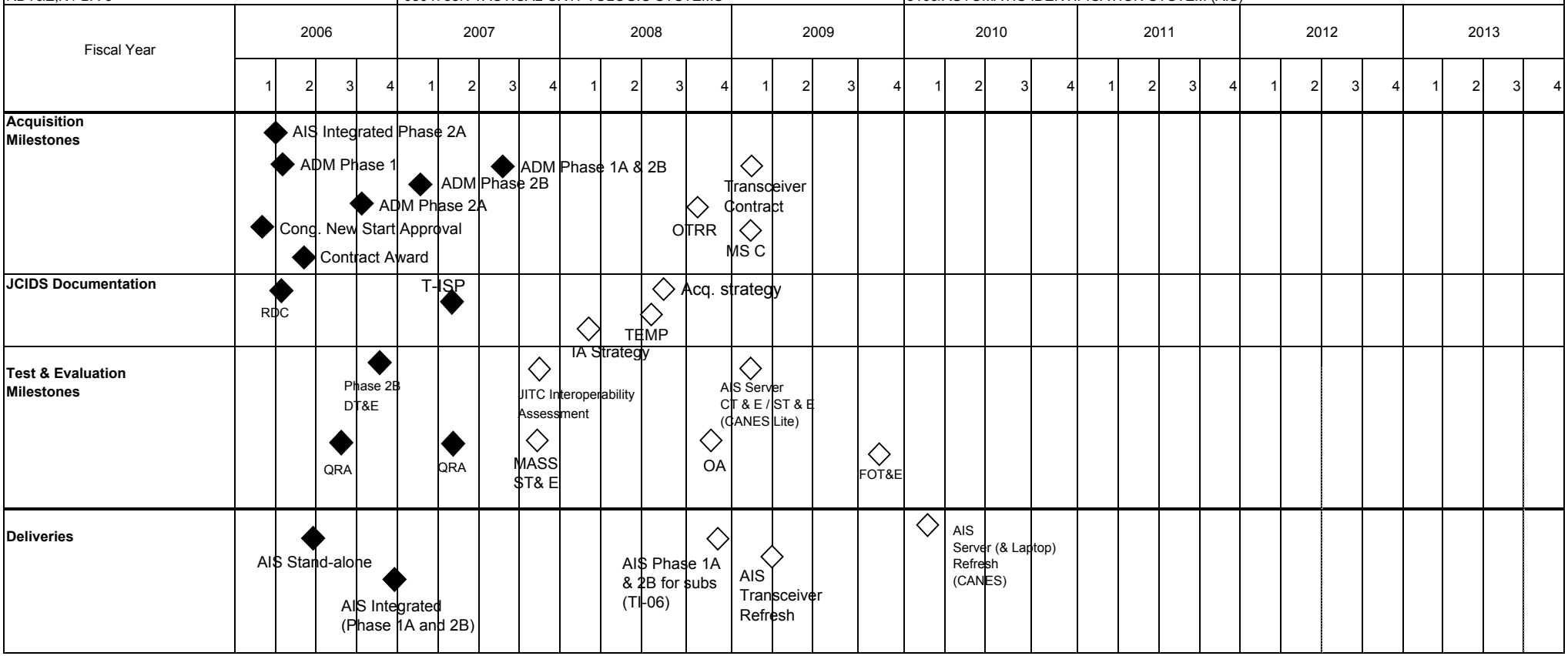


Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA 5	**PROGRAM ELEMENT** 0304785N TACTICAL CRYPTOLOGIC SYSTEMS				**PROJECT NUMBER AND NAME** 3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AIS Integrated Phase 2A	Q2							
ADM Phase 1	Q2							
ADM Phase 2A	Q4							
ADM Phase 2B		Q1						
ADM Phase 1A & 2B		Q3						
Congressional New Start Approval	Q1							
Contract Award	Q2							
Operational Test Readiness Review (OTRR)			Q4					
Milestone C (MS C)				Q1				
Transceiver Contract				Q1				
Rapid Deployment Capability (RDC)	Q2							
T-ISP		Q2						
Information Assurance (IA) Strategy			Q1					
Acquisition Strategy			Q3					
TEMP			Q3					
Quick Reaction Assessment (QRA)	Q3	Q2						
DT&E Phase 2B	Q4							
MASS ST&E		Q4						
JITC Interoperability Assessment		Q4						
Operational Assessment			Q4					
AIS Server CT & E/ST&E (CANES Lite)				Q1				
Ful Operation Test & Evaluation (FOT&E)				Q4				
AIS Stand-alone Deliveries	Q2							
AIS Integrated Phase 1A and 2B Deliveries	Q4							
AIS Integrated Phase 1A and 2B Deliveries subs			Q4					
AIS Transceiver Refresh Deliveries				Q1				
AIS Server (& Laptop) Refresh (CANES)					Q1			

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME Various Congressional Increases

(U) B. Accomplishments/Planned Program

9242 COBLU - NETWORK CENTRIC WARFARE ENHANCEMENTS	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.996		
RDT&E Articles Quantity			

COOPERATIVE OUTBOARD LOGISTICS UPGRADE (COBLU) - NETWORK CENTRIC WARFARE ENHANCEMENTS - Funds were used to build upon the current direction finding (DF) enhancement prototype by reducing the amount of computational hardware required for an enhanced scanning high frequency (HF) DF system. This was a cost effective way to reduce the computational hardware by placing the computer intensive portion of the process into industry standard Field Programmable Gate Arrays (FPGAs). This upgrade increased the US Navy's ability to process threat signals and provide an order of magnitude increase to the number of direction finding results produced per second. This enhancement also allowed for a feed of critical information into the Distributed Information Operations - Services (DIO) architecture employing the currently funded COBLU Net Centric Warfare upgrade.

9901 TREXIMILDEC TACTICAL TARGET GENERATOR SYSTEM	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.996		
RDT&E Articles Quantity			

TREXIMILDEC TACTICAL TARGET GENERATOR SYSTEM - MILDEC Tactical Target Generator (TTG) provided both offensive and defensive Information Operations (IO) and Military Deception (MILDEC) capabilities for military aircraft against current and future hostile air defense systems. In the offensive mode, the TTG will provide a tactical IO capability for airborne platforms to electronically stimulate hostile air defense acquisition and tracking radars so they can be detected and located by national and tactical sensors, and then be destroyed by US or coalition forces. In the defensive mode, the TTG will enable tactical airborne platforms (manned, unmanned, fixed wing or rotary) to successfully enter, transit and egress hostile territory by appearing as a non-threatening air contact.

9A29 ANS/SSQ-137 (v) SHIPS SIGNAL EXPLOITATION EQUIPMENT	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.295	1.589	
RDT&E Articles Quantity			

ANS/SSQ-137 (v) SHIPS SIGNAL EXPLOITATION EQUIPMENT - ANS/SSQ supported efforts to develop the latest Pre-Planned Product Improvements (P3I) enhancements upgrades to maintain the systems operational capability against evolving modern and future digital communications signals. P3I technology upgrades include; development of Communications Intelligence (COMINT) mapping and task synchronization, development Time Differential Multiplexing (TDM) and Networked High Frequency (HF)/ Direction Finding (DF) capability, and Radio Frequency Distribution Unit (RFDU) enhancements. These upgrades will improve SSEE Increment E and F capability to collect, process and analyze hostile threat communications emitters in order to provide tactical intelligence, Situational Awareness (SA), indications and warning, and hostile threat assessment to deployed Carrier Strike Group (CSG)/Expeditionary Strike Group (ESG) forces.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E,N / BA 5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS	Various Congressional Increases

(U) B. Accomplishments/Planned Program

9A30 SCAN EAGLE UAV ADVANCED DATALINK AND SENSOR DEV	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.996		
RDT&E Articles Quantity			

SCAN EAGLE UAV ADVANCED DATALINK AND SENSOR DEVELOPMENT- RDT&E funds the development of a Scan Eagle high capacity data link compatible with the Common Data Link (CDL) waveform and NATO STANAG 4586 to enhance interoperability and networked imagery distribution with US Navy Fleet assets. The integration of a Commercial-off-the-Shelf (COTS) Automatic Identification System (AIS) transceiver into Scan Eagle and data integration into the Navy's Integrated AIS Rapid Deployment Capability (RDC). This AIS RDC in turn provides AIS sensor data to the Global Command and Control - Maritime (GCCS-M) COP, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search / weapons systems and intelligence/cryptologic capabilities. Integration of this AIS technology will improve capability in three diverse areas: (a) Situational Awareness/COP(b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation.