

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				
COST (in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	220.203	178.304	142.810	132.101	158.783	137.595	104.669	98.572
1447/Surface Combatant Combat System Improvements	197.233	140.669	142.810	132.101	158.783	137.595	104.669	98.572
3044/Solid State Spy Radar/AN/SPY-1 Radar System Readiness Improvement	10.931	35.294	0.000	0.000	0.000	0.000	0.000	0.000
9999/Congressional Adds	12.039	2.341	0.000	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The AEGIS Combat System (ACS) provides immediate and effective capability to counter the current and expected air, surface, and sub-surface threats. Changes in the threat capability and advances in technology such as fiber optics, local area networks, and high performance computing require corresponding AEGIS Weapon System (AWS) and ACS changes. This program provides the ACS engineering and weapon system developments necessary for a continued increase in the capability of AEGIS Cruisers and Destroyers. In addition to developing and integrating improvements to the AWS, this program integrates combat capabilities developed in other Navy R&D programs into the ACS. Modifications of AWS computer programs must be made to integrate these capabilities into the ACS so that battle effectiveness and ACS performance will be retained against the evolving threat. Selected AWS and ACS upgrades will be backfitted into CG 47 Class and DDG 51 Class ships already in the Fleet, providing new key warfighting capability while reducing life cycle maintenance costs. In addition, 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 DDG Modernization Program will identify and introduce OA Category-3 compliant hardware and software. As part of the Naval Integrated Fire Control Counter Air (NIFC-CA) program, SM-6 integration efforts will begin in FY06.

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 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.

FY06 includes the following Congressional Adds: 1.930M for Silicon Carbide, 3.280M for AN/SPY-1 Radar Improvement, .958M for Smart Integrate Data Environment, 4.885M for Integrated Display Enhanced Architecture. >986M for Smart link Planann Scanner Antenna.

FY07 includes the following Congressiona l Adds: 0.996M for Smart Integrated Data Environment, 1.345M for Gas Turbine Electric Start System.

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget: (FY07 PB Controls)	228.932	190.059	209.311	218.081
Current President's Budget: (FY08 PB Controls)	220.203	178.304	142.810	132.101
Total Adjustments	-8.729	-11.755	-66.501	-85.980
Summary of Adjustments				
Reprogrammings	0.000	0.000	-66.098	-85.840
Undistributed General reductions	-0.923	-0.696	-3.136	-3.137
Program Adjustment	-7.806	-11.059	2.733	2.997
Pricing Adjustment	0.000	0.000	0.000	0.000
Subtotal	-8.729	-11.755	-66.501	-85.980

Schedule:

- 1447
- 1) Replace DDG 103 ALO with DDG 104 ALO; event remains in 2Q FY07
- 2) CG Modernization TPR moved to 3Q FY07
- 3) CG Modernization PAR moved to 4Q FY07
- 4) Replace Navy Demo with Navy Integrated Test Period for CG Modernization 2Q FY08 though 1Q FY09
- 5) CG Modernization Initial Certification moved to 1Q FY09
- 6) Addition of Multi Mission Signal Processor
- 7) Aegis Modernization (CR3) will be applicable to DDG Modernization
- 8) Revised Aegis Modernization (CR3) schedule
- 9) Addition of COTS Obsolescence
- 10) Addition of Rapid Capability Insertion Process (RCIP)
- 11) Inclusion of Final QA in 3Q FY08, Interim Certification in 1Q FY09, and Certification in 4Q FY09 for AOA
- 12) Further definitization of NIFC-CA schedule including IPRs, LORs, LARs, EAs, Demo & Certification Milestones

Technical:

- 1447
- 1) Application of Aegis Modernization (CR3) to DDG Modernization
- 2) Inclusion of JLENS Integration into Aegis NIFC-CA efforts

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT NAME AND NUMBER AEGIS COMBAT SYS ENG PE 0604307N			R-1 ITEM NOMENCLATURE 1447 Surface Combatant Combat System Improvements				
COST (\$ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Surface Combatant Combat Sys/1447		197.233	140.669	142.810	132.101	158.783	137.595	104.669	98.572
RDT&E Articles Qty Not Applicable									

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 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 1 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, A/N-SQQ-89(V)15, and the Remote Mine Hunting System. The Cruiser Modernization Program will upgrade cruisers to provide enhanced Air Dominance and C4I improvements, enhanced Gun Weapon system capability, improved force protection, replaces UYA-4 consoles with COTS consoles, replaces obsolete UYK-7 computers with COTS computing architecture to introduce Open Architecture. Experience with COTS equipment in baselines 6 Phase 1 through Baseline 7 has shown that COTS equipment will require a nominal four year cyclical refresh (periodic replacement) plan. This is a fact of life introduced by COTS because industry stops supporting older COTS components as it progresses to the next version. Currently, these refresh efforts are not "plug and play;" rather they require additional developmental efforts that will necessitate replacement of new components with updated operating systems, device drivers, and interfaces. This program introduces a CG/DDG Open Architecture (OA) effort, including rearchitected computer program components, in accordance with Navy Open Architecture guidance and standards. CG/DDG OA positions the cruisers and destroyers for maximum warfighting improvements and life cycle support benefit to meet evolving threats. It produces a system, which is considerably less difficult to maintain and modernize and mitigates the cost of inevitable, required, and repetitive technology refreshes. The CG Modernization program will identify and introduce an OA Category-3 compliant hardware and operating environment. OA Category-3 compliant computer programs will be identified and introduced as a part of the DDG Modernization program. As part of the Naval Integrated Fire Control Counter Air (NIFC-CA) program, SM-6 integration efforts will begin in FY06. Due to FY05 Congressional action, the B/L 7 Phase 1C effort originally targeted for fielding in FY06 has been replanned as Cruiser Modernization CR2 (CGM CR2) for fielding in FY08 on B/L 2 CGs and highly leverages AOA efforts and funding. The Aegis Modernization CR3 (AMOD CR3) Program will be applicable for DDG Modernization. AMOD CR3 will be introduced commencing with the first ship, a Baseline 3 Aegis Cruiser, in the FY11 timeframe. AMOD CR3 will be applicable to all Aegis surface combatants with backfit capability of computer program to B/L 2 CGs. AMOD CR3 will include a superset computer program supporting DDG Modernization warfighting improvements, and a COTS Refresh 3 equipment configuration. AMOD CR3 introduces BMD, Multi Mission Sig Pro, Integrated Architecture Behavioral Model (IABM), SM-6/NIFC-CA, and potentially Sea Based Terminal (SBT) BMD.

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING	PROJECT NUMBER AND NAME 1447 Surface Combatant Combat System Improvements

B. Accomplishments/Planned Program (Cont.)

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	22.820	18.518	6.200	0.000
RDT&E Articles Quantity				

Accomplishments/Planned: Continued design of Cruiser Modernization CGM CR2 effort now targeted for Baseline 2 Cruisers in FY08 and applicable to Baseline 3/4 Cruisers in FY11. Completed product definition and selection of COTS Refresh 2 computing environment that will integrate both legacy and Open Architecture (OA) computer programs for CGM CR2 . Effort highly leveraged to Aegis Open Architecture. Developed preliminary Pre Award Review (PAR) entrance and exit criteria, this is a critical Milestone for CGM CR2. Implemented Early Specification Change Review & Implementation Baseline Evaluation (SCRIBE) for CGM CR2, this allows for real time computer program changes. CGM C&D computer program was tested with the AOA computer program in Spiral 2 Event 4 successfully.
Planned near term events for CGM CR2 include: Test Program Review, Program Assessment Review, Risk Reduction Missile Event, and AOA Spiral 3 Engineering Assessment.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	18.020	18.891	10.881	9.016
RDT&E Articles Quantity				

Accomplishments/Planned: Continued to provide the RDT&E share of operations and maintenance of the Combat System Engineering Development Site (CSEDS), Program Generation Center, Computer Program Test Site, and Land Based Test Site.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	7.621	11.475	6.727	4.834
RDT&E Articles Quantity				

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 NSWC-DD ensure effective management of COTS. 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.

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B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	1.000	0.000	38.690	31.500
RDT&E Articles Quantity				

Accomplishments/ Planned: The Multi-Mission Capable Signal Processor is a COTS-based signal processor that brings an improved littoral capability to the modernized fleet, as well as the capability to perform Aegis BMD Signal Processing. Multi-Mission Signal Processor capability will be implemented through the DDG Modernization program. Significant PEO IWS Collaboration with Aegis Ballistic Signal Processor (BSP) development to date includes; Radio Frequency (RF) Processor designs, Digital Processor architecture, and Readiness tasks. Successfully Testing of Narrow Band (AAW) Channel High Dynamic Range 16-bit ADC.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	16.197	0.000	0.000	0.000
RDT&E Articles Quantity				

Accomplishments/Planned: Delivered Baseline 7 Phase 1 R computer program for Certification testing; concluding the Navy Integrated Test Event which began in 2Q FY06, with initial certification of Baseline 7 Phase 1 Refresh in 4Q FY06.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	97.200	73.000	37.356	8.730
RDT&E Articles Quantity				

Accomplishments/ Planned: This effort re-architects Aegis computer program for the following elements: 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) (Baseline 2 Cruisers). Demonstrated Spiral 2 development progress in focused engineering events for the SPY OA, Weapons OA, Display OA, and System Services product areas. Completed the following milestone events: Spiral 2 Engineering Assessment (EA). Spiral 3 Lifecycle Objectives Review (LOR), and Delivered Weapons OA build to White Sands Missile Range program. Transitioned from Spiral 2 to Spiral 3. Conducted Spiral 3 Lifecycle Architecture Review (LAR) in December 2006.
Planned: Demonstrate functionality in a series of engineering events and configuration managed builds. Perform an Engineering Assessment (EA) in August 2007. Support CGM CR2 integration and test.

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B. Accomplishments/Planned Program (Cont.)

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	11.039	6.100	32.611	46.660
RDT&E Articles Quantity				

Accomplishments/Planned: Defining CR3 Technical Architecture (TA) by providing design, development, and test efforts to establish a Category 3 Open Architecture Computing Environment (OACE) that will host the Open Architecture Computer Program developed as an Aegis superset that will operate on any DDG or Baseline 3 or 4 CG equipped with CR3 computing infrastructure leveraging Cruiser Modernization (CR2) activity as the point of departure. Issued Superset Definition white paper, CR3 Complexities white paper, and Multi-Mission Signal Processor (MMSP) with B/L 4 Cruisers white paper.

Planned: Develop an Aegis Modernization (CR3) Technical Architecture (TA) applicable to Baseline 3 and 4 Cruisers for Cruiser Modernization availabilities in FY11 and follow, as well as for DDG Modernization ships with availabilities in FY12 and follow. The Aegis Modernization (CR3) computer program would be able to run in a CR2 computing environment.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	23.336	12.685	9.186	12.341
RDT&E Articles Quantity				

Accomplishments/Planned: Began development efforts for Naval Integrated Fire Control Counter Air (NIFC-CA), SM-6/AEGIS integration. Conducted Initial Process Reviews and working toward completion of initial requirements definition. Performance Analyses and Trade studies, Modeling and Simulation studies and SM-6 algorithmic studies completed to assist in design development. Planned activities include continuing analysis and design efforts to achieve Initial Process Review 3 in FY 07. Effort in FY08 and out supports systems engineering, integration, and test of US Army Joint Land Elevated Network Sensors (JLENS) into NIFC-CA "From the Sea" (FTS) kill chain.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	0.000	0.000	1.159	6.649
RDT&E Articles Quantity				

Planned: Begin identification, integration, Computer Program modifications, and testing of replacement parts for In-Service Aegis Ships driven by COTS Obsolescence and align with Advanced Processing Builds (APB). First Diminishing Manufacturing Supply (DMS) COTS Refresh is targeted for Baseline 6.3 Destroyers (DDG's 79-90).

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B. Accomplishments/Planned Program (Cont.)

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Efforts/Subtotal Cost	0.000	0.000	0.000	12.371
RDT&E Articles Quantity				

Planned: Begin identification, development, and integration of Navy directed warfighting capabilities suitable for fielding via the Rapid Capability Insertion Process (RCIP).

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2007				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 1447 Surface Combatant Combat System Improvements				
C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>
SCN LI2122 - DDG 51	147.4	354.3	78.1						Cont.	Cont.
OPN LI2980 - Multi Mission Signal Processor	19.6	22.4	40.8	55.4	48.1	70.5	57.4	58.9	Cont.	Cont.
OPN LI0960 - CG Modernization	125.5	232.7	267.8	299.3	361.2	454.5	463.7	472.9	Cont.	Cont.
OPN LI5246 - AEGIS Supt. Eqp	99.4	76.8	93.8	102.4	120.9	118.5	118.1	113.0	Cont.	Cont.
OPN LI0900 - DDG Mod	3.0	32.0	50.0	180.0	190.8	350.8	359.3	384.1	Cont.	Cont.
R&D 0603879N 3031 - SIAP (Inc. IABM Int. for DDG Mod)	34.6	39.8	46.5	42.7	44.0	27.3	24.2	16.2	Cont.	Cont.
D. ACQUISITION STRATEGY:										
<p>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 will fund all remaining Aegis Baseline Upgrade Development efforts. After the baseline has been completed and tested, the computer program and associated equipment are delivered to the new construction shipbuilders 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.</p>										
E. MAJOR PERFORMERS:										
<p>Lockheed Martin, Moorestown, NJ (Combat System Design Agent/Prime Contractor) NSWC/DD, Dahlgren, VA (Lifetime Support Engineering Agent)</p>										

Exhibit R-3 Cost Analysis (page 1)												DATE:		
APPROPRIATION/BUDGET ACTIVITY												February 2007		
RDT&E, N / BA-5			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
			0604307NAEGIS COMBAT SYSTEM ENGINEERING				1447 Surface Combatant Combat System Improvements							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	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
Systems Engineering	SS/CPAF	Lockheed, Moorestown, NJ	976.644	141.443	01/06	98.629	01/07	100.669	01/08	95.049	01/09	Cont.	Cont.	
Systems Engineering	SS/CPFF	APL, Baltimore MD	27.743	0.617	10/05	0.817	11/06	0.760	11/07	0.742	11/08	Cont.	Cont.	
Systems Engineering	WR/RCP	NSWC, Dahlgren VA	164.501	12.748	11/05	7.915	11/06	7.714	11/07	6.748	11/08	Cont.	Cont.	
Systems Engineering	SS/CPAF	BAE Systems, Rockville, MD	6.089	6.855	03/06	5.089	02/07	5.572	02/07	4.987	02/08			
Systems Engineering	WR	NSWC, PHD CA	24.815	7.328	11/05	1.848	11/06	1.952	11/07	1.725	11/08	Cont.	Cont.	
Systems Engineering	WR/RCP	NWAS, Corona CA	19.129	1.650	11/05	1.325	11/06	1.315	11/07	1.159	11/08	Cont.	Cont.	
Systems Engineering	WR	SPAWAR	5.516	0.591	11/05	0.840	11/06	0.905	11/07	0.864	11/08	Cont.	Cont.	
Systems Engineering	WR/RCP	Dam Neck	7.053	0.100	11/05	0.000	11/06	0.000	11/07	0.000	11/08	Cont.	Cont.	
Systems Engineering	WR/RCP	Miscellaneous	39.225	2.494	11/05	0.670	11/06	0.576	11/07	0.534	11/08	Cont.	Cont.	
Award Fees	SS/CPAF	Lockheed, Moorestown, NJ	128.617	11.536	07/06	13.600	07/07	13.900	07/08	12.598	07/09	Cont.	Cont.	
Award Fees	SS/CPAF	BAE Systems, Rockville, MD	0.830	0.250		0.250		0.250		0.250		Cont.	Cont.	
Award Fees	SS/CPAF	Anteon, Washington, DC	0.250	0.250		0.250		0.250		0.250		Cont.	Cont.	
Award Fees	WR/RCP	Miscellaneous	2.790	0.000		0.000		0.000		0.000		Cont.	Cont.	
Subtotal Product Development			1403.202	185.862		131.233		133.863		124.906		Cont.	Cont.	

Exhibit R-3 Cost Analysis (page 2)												DATE:					
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT			PROJECT NUMBER AND NAME		
RDT&E, N / BA-5												0604307N/AEGIS COMBAT SYSTEM ENGINEERING			1447 Surface Combatant Combat System Improvements		
Cost Categories	Contract Method & Type	Performing Activity & Location	Total P Y s Cost	FY 06 Cost	FY 06 Award Date	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 and Evaluation	SS/CPAF	Lockheed, Moorestown, NJ	23.012	4.218	07/06	2.838	07/07	2.767	07/08	2.135	07/09	Cont.	Cont.				
Test and Evaluation	WR	NSWC, Pt. Hueneme, CA	8.387	0.760	11/05	0.724		0.689		0.643		Cont.	Cont.				
Test and Evaluation	CPFF	APL, Baltimore MD	3.500	0.000		0.000		0.000		0.000		Cont.	Cont.				
Test and Evaluation	WR/RCP	Miscellaneous	13.356	1.984	Various	1.523		1.257		1.119		Cont.	Cont.				
												Cont.	Cont.				
												Cont.	Cont.				
												Cont.	Cont.				
Subtotal T&E			48.255	6.962		5.085		4.713		3.897		Cont.	Cont.				
Remarks:																	
Program Management Support	SS/CPAF	Anteon, Washington, DC	4.300	4.000	03/06	4.000	02/07	3.897	02/08	2.979	02/09	Cont.	Cont.				
	WR/RCP	Miscellaneous	8.209	0.409	Various	0.351	Various	0.337	Various	0.319	Various	Cont.	Cont.				
												Cont.	Cont.				
												Cont.	Cont.				
SBIR Assessment												Cont.	Cont.				
Subtotal Management			12.509	4.409		4.351		4.234		3.298		Cont.	Cont.				
Remarks:																	
Total Cost			1,463.966	197.233		140.669		142.810		132.101		Cont.	Cont.				
Remarks:																	

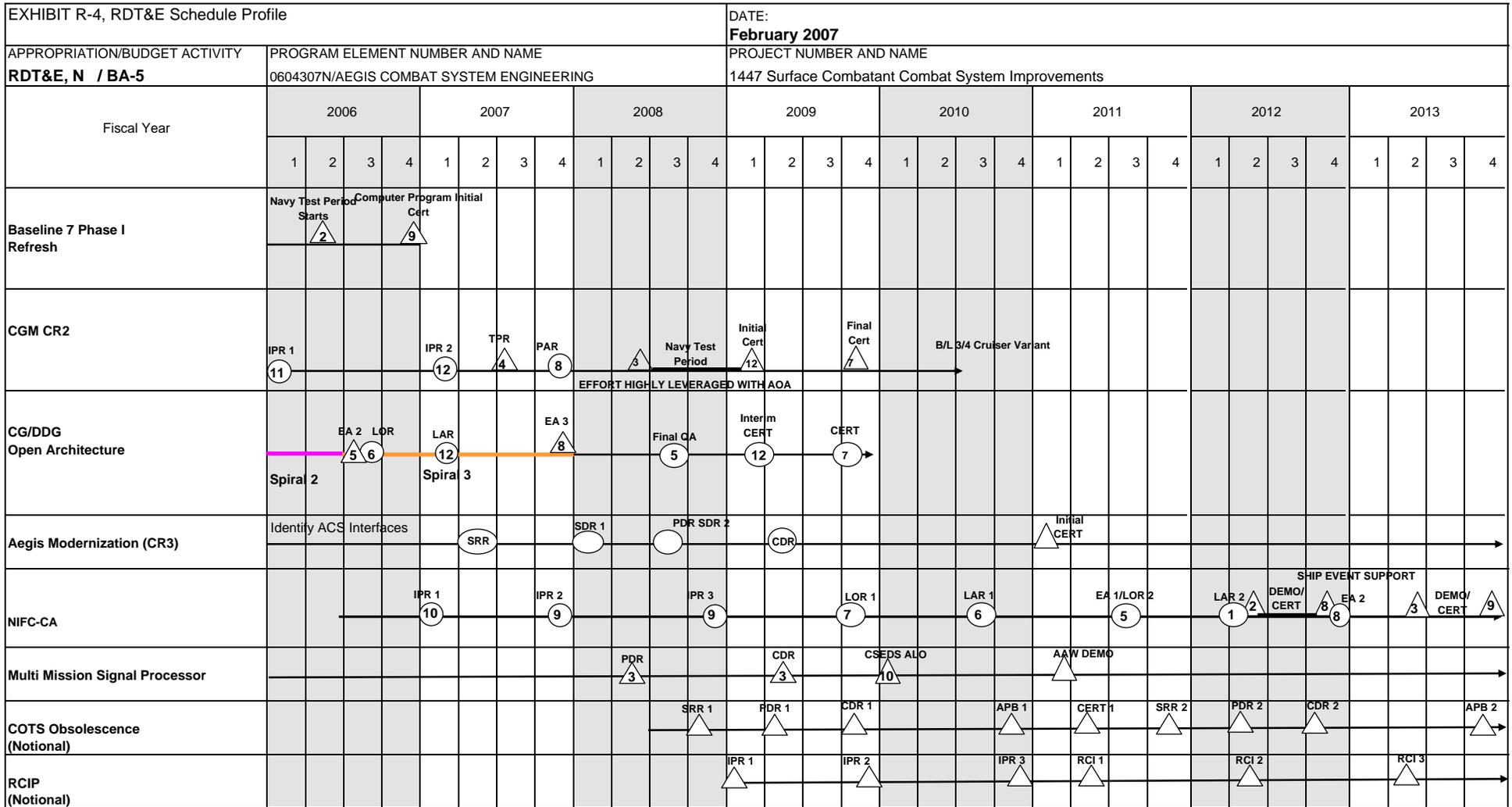


Exhibit R-4a, Schedule Detail					DATE: February 2007			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING				1447 Surface Combatant Combat System Imp.			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
7 Phase I Refresh								
Navy Integrated Test Period	2Q-4Q							
Computer Program Initial Cert	4Q							
CGM CR2								
Initial Process Review (IPR) 1	1Q							
Initial Process Review (IPR) 2		1Q						
Test Program Review (TPR)		3Q						
Program Assessment Review (PAR)		4Q						
Navy Integrated Test Period			2Q through	1Q				
Initial Certification				1Q				
Final Certification				4Q				
CG/DDG Open Architecture								
Spiral 2 Engineering Assessment (EA) 2	3Q							
Spiral 3 LOR	3Q							
Spiral 3 Lifecycle Architecture Review (LAR)		1Q						
Spiral 3 Engineering Assessment (EA) 3		4Q						
Final Quality Assurance (QA)			3Q					
Interim Certification				1Q				
Certification (CERT)					4Q			
Aegis Modernization (CR3)								
System Readiness Review (SRR)		2Q						
System Design Review (SDR)			1Q					
Preliminary Design Review/SDR-2			3Q					
Critical Design Review				2Q				
Computer Program Initial Cert						2Q		
NIFC-CA								
Initial Process Review (IPR) 1		1Q						
Initial Process Review (IPR) 2		4Q						
Initial Process Review (IPR) 3			4Q					
Lifecycle Objective Review (LOR) 1				4Q				
Lifecycle Architecture Review (LAR) 1					3Q			
Engineering Assessment (EA) 1						3Q		
Lifecycle Objective Review (LOR) 2						3Q		
Demo/Certification Period 1							2Q-4Q	
Lifecycle Architecture Review (LAR) 2							2Q	
Engineering Assessment (EA) 2							4Q	
Demo/Certification Period 2								2Q-4Q
Multi Mission Signal Processor								
Preliminary Design Review (PDR)			2Q					
Critical Design Review (CDR)				2Q				
CSEDS AEGIS Light Off (ALO)					1Q			
AAW Demo						1Q		
COTS Obsolescence								
System Readiness Review (SRR) 1			4Q					
Preliminary Design Review (PDR) 1				2Q				
Critical Design Review (CDR) 1				4Q				
Advanced Processing Build (APB) 1					4Q			
Certification (CERT) 1						2Q		
System Readiness Review (SRR) 2						4Q		
Preliminary Design Review (PDR) 2							2Q	
Critical Design Review (CDR) 2							4Q	
Advanced Processing Build (APB) 2								4Q
Rapid Capability Insertion Process (RCIP)								
Initial Process Review (IPR) 1				1Q				
Initial Process Review (IPR) 2				4Q				
Initial Process Review (IPR) 3					4Q			
Rapid Capability Insertion (RCI) 1						2Q		
Rapid Capability Insertion (RCI) 2							2Q	
Rapid Capability Insertion (RCI) 3								2Q

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENG	PROJECT NUMBER AND NAME 9999 / Congressional Adds: Various

CONGRESSIONAL ADDS:

	FY 06	FY07		
9556C				
Integrated Display & Enhanced Architecture Aegis	4.885			

IDEA permits an operator to immediately reconfigure his/her workstation and assume the responsibilities of any other operator, thereby facilitating real Navy manning reductions while still meeting operational requirements. In addition to reconfigurable display surfaces, IDEA enables HSI improvements for improved decision-making and increased productivity. Allows display components to be developed once and reused to realize cost savings across Navy programs.

	FY 06	FY07		
9383C				
Smart Integrated Data Environment	0.958	0.996		

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 06	FY07		
9837N				
Smart Link Planar Scanner Antenna Modernization	0.986			

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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2007
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CONGRESSIONAL ADDS:

	FY 06	FY07		
3044C				
AN/SPY-1 Radar System Readiness Improvement	3.280			

This program currently defines the efforts necessary to complete the commercialization and production of the ADAPTIVE DIAGNOSTIC ELECTRONIC PORTABLE TESTSET (ADEPT) tool. The ADEPT Tool will be analyzed and systems engineering performed to determine the effectiveness of the tools possible ability to improve readiness of the AN/SPY-1 Radar. The funding will go towards the non-recurring engineering costs for the ADEPT tool; as well as provide money for production drawings, interface/maintenance documents, logistical planning, requirements definition, environmental qualification, etc .

	FY 06	FY07		
9223C				
Silicon Carbide MMIC Producibility	1.930			

This program continues development of producible SiC high power MMICs for incorporation into Navy S-band advanced radar systems. This funding will be used to improve SiC MMIC manufacturing processes, significantly reducing MMIC component and radar system production costs.

	FY 06	FY07		
9A38N				
Gas Turbine Electric Start System		1.345		

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.