CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**				R-1 ITEM NOMENCLATURE 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	**331.213**	**213.470**	**146.463**	**178.365**	**206.955**	**250.170**	**256.759**
1447/Surface Combatant Combat System/AEGIS Open Arch.	279.250	205.400	146.463	169.091	167.041	180.733	155.502
1776/Surface Combatant Weapon System Mods	2.122	0.455	0.000	0.000	0.000	0.000	0.000
3044/Solid State Spy Radar/Improved Readiness AN/SPY-1	6.150	2.967	0.000	9.274	39.914	69.437	101.257
9066/AEGIS Tactical Display	17.515	0.000	0.000	0.000	0.000	0.000	0.000
9221/DDG-51 Optimized Manning	2.380	0.000	0.000	0.000	0.000	0.000	0.000
9222/ Knowledge Projection	1.428	0.000	0.000	0.000	0.000	0.000	0.000
9223/Silicon Carbide MMIC Production	1.428	1.286	0.000	0.000	0.000	0.000	0.000
9225/S-Band Radar Research	20.940	0.000	0.000	0.000	0.000	0.000	0.000
9381/Deployable Smartlink Comm Upgrades		1.978					
9382/Integrated Logistics (IDESC)		0.396					
9383/Smart Integration Data Env. (SIDE)		0.988					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The AEGIS Combat System (ACS) provides immediate and effective capability to counter the current and expected air, surface, and sub-surface threats. Changes in the threat capability and advances in technology such as fiber optics, local area networks, and high performance computing require corresponding AEGIS Weapon System (AWS) and ACS changes. This program provides the ACS engineering and weapon system developments necessary for a continued increase in the capability of AEGIS Cruisers and Destroyers. In addition to developing and integrating improvements to the AWS, this program integrates combat capabilities developed in other Navy R&D programs into the ACS. Modifications of AWS computer programs must be made to integrate these capabilities into the ACS so that battle effectiveness and ACS performance will be retained against the evolving threat. Selected AWS and ACS upgrades will be backfitted into CG 47 Class and DDG 51 Class ships already in the Fleet, providing new key warfighting capability while reducing life cycle maintenance costs. In addition, with the advent of using Commercial Off-the-Shelf (COTS) equipment extensively throughout the combat system, COTS refresh development efforts will be necessary to pace the core Baseline development work and are included. This Program Element also introduces CG/DDG Open Architecture (OA) effort, including rearchitected computer programs, to the AEGIS fleet. CG/DDG OA positions the AEGIS fleet for maximum warfighting improvements and life cycle support benefit and produces a system, which is considerably less difficult to maintain and modernize and mitigates the cost of inevitable required and repetitive technology refresh.

R-1 SHOPPING LIST - Item No. 102

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **AEGIS COMBAT SYS ENG PE 0604307N**	PROJECT NAME AND NUMBER: **1447/9066 Surface Combatant Combat System**	

COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complet	Total Cost
Surf Combatant Combat Sys/1447/9066	**296.765**	**205.400**	**146.463**	**169.091**	**167.041**	**180.733**	**155.502**	**CONT.**	**CONT.**
RDT&E Articles Qty **Not Applicable**									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides Cruiser and Destroyer ACS upgrades and integrates new equipment and systems to pace the threat and capture advances in technology. Examples of captured advanced technologies are: fiber optics, distributed architecture, and high performance computing, all of which require corresponding AWS and ACS changes. ACS is upgraded in Baselines. Baseline 2 (CG 52-58) consists of the Vertical Launching System, TOMAHAWK Weapon System, and Anti-Submarine Warfare upgrades. Baseline 3 (CG 59-64) includes the AN/SPY-1B Radar and AN/UYQ-21 consoles. Baseline 4 (CG 65-73) integrates the AN/UYK-43/44 computers with superset computer programs developed for the DDG 51. Baseline 5 was introduced in FY 1992 ships and includes the Joint Tactical Information Distribution System (JTIDS) Command and Control Processor, Tactical Data Information Link 16, Combat Direction Finding, Tactical Data Information Exchange System, AN/SLQ-32 (V)3 Active Electronic Counter Countermeasures, and AEGIS Extended Range (ER) Missile. Baseline 5 was developed in two steps (Phases): Phase I integrated AEGIS ER and supported the missile Initial Operational Capability; Phase III integrated system upgrades including Defensive Electronic Attack, Track Load Control algorithms, and Track Initiation Processor (integrated on 5.3, DDGs 68+); JTIDS and the OJ-663 color display Tactical Graphics Capability into the ACS. Baseline 6 Phase I supported OPEVAL of CEC in CGs 66 and 69 and was introduced in the DDG 51 class beginning with the last ship, DDG 79. Baseline 6 Phase III was introduced to the first ship in FY 1997, DDG 85. Baseline 6 Phase III upgrades include embarked helicopters, Fiber Optics as applied to Data Multiplexing (FODMS), implementation of affordability initiatives, the Radar Set Controller Environmental Simulator (RSCES) and Battle Force Tactical Trainer (BFTT), Advanced Display System, Evolved SeaSparrow Missile (ESSM), Identification (ID) upgrades Phase I, Advanced TOMAHAWK Weapon System (ATWCS) Phase II, Fire Control System Upgrades, and the Joint Maritime Command Information System (JMCIS). Baseline 7 Phase I is installed on the third DDG 51 Class ship in FY 1998, DDG 91. Major Baseline 7 upgrades include but are not limited to introduction and integration of a new radar (AN/SPY-1D(V) upgrade), COTS-based advanced computer processing and the Remote Mine Hunting System. The Cruiser Modernization program will upgrade cruisers with Land Attack and other warfighting capabilities. Experiences aboard AEGIS ships and shore sites have shown that COTS equipment will require a nominal four year cyclical refresh (periodic replacement) plan. This is a fact of life. Currently, these refresh efforts are not "plug and play;" rather they require additional developmental efforts that will necessitate replacement of new components with updated operating systems, device drivers, and interfaces. COTS refresh efforts are required and have been funded for Baseline 7 Phase I, and two variants of 7 Phase IC (due to different radar configurations and COTS Refresh periods). Baseline 5.4 was planned to allow the accelerated introduction of CEC integration on backfit DDGs and test activity necessary to field CEC on Baseline 5 DDGs (DDGs 51-78). The effort was subsequently cancelled due to the misalignment of Baseline 5.4 fielding schedules and CEC procurement schedules. This program introduces a CG/DDG Open Architecture (OA) effort, including rearchitected computer programs, to the AEGIS fleet. CG/DDG OA positions the AEGIS fleet for maximum warfighting improvements and life cycle support benefit and produces a system, which is considerably less difficult to maintain and modernize and mitigates the cost of inevitable required and repetitive technology refresh.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		6.011	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: Completed the maturation of Baseline 6 Phase III computer program in support of ESSM DT/OT. Delivered final Quality Assured (QA) load in December 2002. Implemented quality standard by reducing Computer Program Change Request (CPCR) count and number of deficiency workarounds.

Planned: n/a

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		10.525	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: Initiated the development of Baseline 5.4. Conducted an Initial Design Review and a Final Design Review in order to define the interface design between CEC and a Baseline 5 DDG Combat System. The effort was subsequently cancelled to permit fielding of more capable CEC systems at a later date.
Planned: n/a

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		56.350	27.000	27.196
RDT&E Articles Quantity				

Accomplishments: Continued with extensive Baseline 7 Phase I Engineering Test and Evaluation (ET&E) and Multi-Element Integration and Test (MEIT) at Combat Systems Engineering Development Site (CSEDS) and the Production Test Center (PTC). Completed first Acceptance Test Procedure (ATP) on DDG 91 equipment . Conducted engineering assessment of Baseline 7 Phase I capabilities. Successfully completed Trial A & B on DDG 91.
Planned: Continue maturation of Baseline 7 Phase I in support of Land Based SPY-1D(V) DT/OT and DDG 91-96 ship building milestones. Conduct demonstration of Baseline 7 Phase I capabilities. Includes support of AWS Baseline Replan initiatives: capture of high priority CPCR fixes into Baseline 7 Phase I variants (7IC, 7IR); reducing number of deficiency workarounds; NSWC-DD Forward Engineering Test Team and SPY-1D (V) TECHEVAL/OPEVAL.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		20.588	17.374	13.000
RDT&E Articles Quantity				

Accomplishments: Analyzed and assessed candidate components to replace Diminishing Manufacturing Sources (DMS) equipment in Baseline 7 Phase I and recommended COTS equipment solution for Baseline 7 Phase I Refresh, to be introduced on DDG 103. Conducted equipment In Process Review (IPR) in order to make final selection. Conducted SDR and PDR. Initiated Design, Code, and Test efforts for Baseline 7 Phase I Refresh. Continue level of effort necessary for COTS selection for future baseline efforts (ie. Baseline 7 Phase IC Refresh).
Planned: Continue coding, debugging and testing of Baseline 7 Phase I COTS Refresh necessary for fielding DDGs 103-107. Conduct computer program CDR and PTC Readiness Review. Provides an implementation path for AEGIS CG/DDG Open Architecture (OA).

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		24.000	51.752	44.324
RDT&E Articles Quantity				

Accomplishments: Implemented redefinition of B/L 7 Phase II as a Spiral development plan. Conducted first Lifecycle Objective Review of planned efforts.
Planned: Baseline 7 phase II has evolved into a three Spiral development effort to implement CG/DDG Open Architecture (OA) by providing open architected elements to the AEGIS Fleet earlier. Effort re-architects Aegis computer program for the following elements: SPY (Radar), AEGIS Display System (ADS), and Weapon Control System (WCS). Incrementally introduces the re-architected elements in a spiral fashion in Baseline 7 Phase 1C in support of CG Modernization program (Baseline 2 through 4 Cruisers) and 7 Phase 1 Refresh.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		80.277	64.407	28.697
RDT&E Articles Quantity				

Accomplishments: Continued development of Baseline 7 Phase IC computer program for the Cruiser Modernization Program which incorporates improved warfighting capabilities in the Air Dominance, Force Protection and BMC4I areas for Baseline 2 through 4 Cruisers. Conducted successful Critical Design Review (CDR) and In-process Review (IPR). Commenced coding efforts. Implementing plan for AEGIS Open Architecture for SPY element.

Planned: Continue coding, debug, test and integration efforts for integration of warfighting capabilities.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		17.515	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: (FY03 Congressional Plus-up / K9066) Conducted AEGIS Tactical Display Upgrade efforts , as a risk mitigator in the field of Human Systems Interface (HSI), in Baseline 7 Phase IR . Becomes the basis for open AEGIS Display System (ADS) element of our CG/DDG OA Spiral development.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		35.500	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: Navy Area Theater Transfer to the Navy to disable Area TBMD code, carry out the orderly termination of Area TBMD program and conduct those efforts necessary to complete Baseline 6 Phase III and Baseline 7 Phase I computer program development. Efforts included the update of documentation including revised technical specifications, training manuals, and curriculum; engineering and ship waterfront integration support and maintain necessary infrastructure including site operations; conducted regression testing of Baseline 6 Phase III and Baseline 7 Phase I to verify and validate AAW performance after disabling TBMD code.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		19.220	26.627	13.488
RDT&E Articles Quantity				

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

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EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

B. Accomplishments/Planned Program (Cont.)

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		17.447	18.240	19.758
RDT&E Articles Quantity				

Accomplishments./Planned: Provided funds for labs and field activities to support forward fit and backfit baseline upgrade in order to conduct engineering and scientific studies and analysis to minimize the risk in the introduction of increased warfighting capability including CEC and ESSM. Studies produced by the Applied Physics Lab and the NSWC-DD ensure effective introduction of COTS. NSWC DD personnel also provide on site technical support at contractor facilities during development, testing, and evaluation of upgrades to the ACS.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		5.145	0.000	0.000
RDT&E Articles Quantity				

Accomplishments: Successfully completed transition of AADC system from JHU/APL to Prime Contractor, GDAIS.

		FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost		4.100	0.000	0.000
RDT&E Articles Quantity				

Planned/Accomplishments: Provided the initial funds necessary to allow for the implementation of the SIAP Blk 0 correlation/development Interface Change Proposal (ICP) into AEGIS Baselines. Effort subsequently cancelled.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous BES/President's Budget: (FY04/05 Pres Controls)	302.946	205.273	203.629
Current BES/OSD Budget: (FY05 FMB Controls)	296.765	205.400	146.463
Total Adjustments	-6.181	0.127	-57.166
Summary of Adjustments			
Economic Assumptions	-0.767		
Reprogrammings	1.210		
Programmatic Adjustments	-0.087	0.127	-56.190
Manpower Reductions			-0.329
NWCF Rates			-0.647
SBIR	-6.537		
PR 05:			
Subtotal	-6.181	0.127	-57.166

Schedule:

1) Baseline 7 Phase II has been redefined as a Spiral development plan known as AEGIS (CG/DDG) Open Architecture, to provide open architected elements to the AEGIS Fleet earlier.
2) Added SDR/PDR/CDR process and a demo for Baseline 7 Phase IR .
3) Moved SPY-1D(V) Land based DT/OT.

Technical:

1) Baseline 5.4 which was the planned enabler for Cooperative Engagement Capabilities (CEC) integration on backfit DDGs (DDG 51-78) has been cancelled.
2) The sponsor has requested that the AADC program office obtain Joint acceptance by matching the AADC capability to Joint Air Defense Requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447/9066 Surface Combatant Combat System

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN LI2122 - DDG 51*	2681.3	3193	3444.9	192.2	291.6			Cont.	Cont.
OPN LI5246 - AEGIS Supt. Eqp	152.229	96.669	57.517	107.083	81.724	104.678	87.549	Cont.	Cont.
								Cont.	Cont.

* TOA excludes outfitting and post delivery.

E. ACQUISITION STRATEGY:

Combat System Improvements are implemented in Baselines as described in the project mission statement. In FY 1998, Lockheed Martin was awarded a five year omnibus contract (sole source) to develop and integrate combat system improvements, which will fund all remaining AEGIS Baseline Upgrade Development efforts. After the baseline has been completed and tested, the computer program and associated equipment are delivered to the new construction shipbuilders where the program and equipment are installed and tested along with all other elements of the shipboard combat system and associated combat support systems. The computer program is a GFE deliverable to the Production Test Center for equipment test and check out.

F. MAJOR PERFORMERS:

Lockheed Martin, Moorestown, NJ (Combat System Design Agent/Prime Contractor)
NSWC/DD, Dahlgren, VA (Lifetime Support Engineering Agent)
NSWC/PHD, Port Hueneme, CA (In-Service Engineering Agent)

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 1447/9066 Surface Combatant Combat System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPAF	Lockheed, Moorestown, NJ	695.992	200.174	01/03	121.106	01/04	95.361	01/05	Cont.	Cont.	
Systems Engineering	SS/CPFF	APL, Baltimore MD	26.607	1.036	10/02	0.800	10/03	0.240	10/04	Cont.	Cont.	
Systems Engineering	WR/RCP	NSWC, Dahlgren VA	114.969	42.850	11/03	45.218	11/03	17.690	11/04	Cont.	Cont.	
Systems Engineering	BPA	PCI, VA Beach, VA	7.950	3.444	10/02	2.175	10/03	1.532	10/04	Cont.	Cont.	
Systems Engineering	WR	NSWC, PHD CA	17.397	4.471	11/02	3.628	11/03	2.487	11/04	Cont.	Cont.	
Systems Engineering	WR/RCP	NWAS, Corona CA	13.020	3.539	11/02	2.650	11/03	1.011	11/04	Cont.	Cont.	
Systems Engineering	SS/CPAF	Litton	0.997								0.997	
Systems Engineering	SS/CPAF	Boeing	0.990								0.990	
Systems Engineering	SS/CPAF	General Dynamics	32.399	2.615	06/03	1.596	06/04			Cont.	Cont.	
Systems Engineering	WR	SPAWAR	3.925	0.839	11/02	0.936	11/03	0.702	11/04	Cont.	Cont.	
Systems Engineering	CPFF	Techmatics	2.000									
Systems Engineering	WR/RCP	Miscellaneous	31.797	1.342	Various	1.200	Various	2.006	Various	Cont.	Cont.	
Systems Engineering	WR/RCP	Dam Neck	6.443	0.572	Various	0.500	Various	0.000	Various	Cont.	Cont.	
Award Fees	SS/CPAF	Lockheed, Moorestown, NJ	93.865	24.015	07/03	14.061	07/04	14.334	07/05	Cont.	Cont.	
Award Fees	SS/CPAF	BAE Systems, Rockville, MD	0.580								0.580	
Award Fees	SS/CPAF	PCI, VA Beach, VA	0.625								0.625	
Award Fees	SS/CPAF	General Dynamics	3.600	0.121	06/03	0.100	06/04			Cont.	Cont.	
Award Fees	WR/RCP	Miscellaneous	2.790								2.790	
Subtotal Product Development			1055.946	285.018		193.970		135.363		Cont.	Cont.	
Support	CPFF	APL, Baltimore MD	7.796	0.605	10/02	0.530	10/03	0.438	10/04	Cont.	Cont.	
Support	WR	NSWC, Pt. Hueneme, CA	4.501	0.507	11/02	0.500	11/03	0.367	11/04	Cont.	Cont.	
Support	WR	NSWC, Dahlgren VA	2.667	0.060	Various	0.060	Various	0.043	Various	Cont.	Cont.	
Support	WR/RCP	Miscellaneous	6.509	1.725	Various	1.500	Various	1.973	Various	Cont.	Cont.	
Subtotal Support			21.473	2.897		2.590		2.821		Cont.	Cont.	

Remarks:

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND N/+ 1447/9066 Surface Combatant Combat System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation	SS/CPAF	Lockheed, Moorestown, NJ	16.322	3.300	07/03	3.300	07/04	2.390	07/05	Cont.	Cont.	
Test and Evaluation	WR	NSWC, Pt. Hueneme, CA	6.084	0.756	11/02	0.750	11/03	0.547	11/04	Cont.	Cont.	
Test and Evaluation	CPFF	APL, Baltimore MD	3.500							Cont.	Cont.	
Test and Evaluation	WR/RCP	Miscellaneous	9.512	2.015	Various	2.000	Various	2.829	Various	Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
Subtotal T&E			35.418	6.071		6.050		5.766		Cont.	Cont.	
Remarks:												
Program Management Support	BPA	BAE Systems, Rockville MD	26.600	2.389	10/02	2.400	10/03	2.115	10/04	Cont.	Cont.	
	WR/RCP	Miscellaneous	6.856	0.390	Various	0.390	Various	0.398	Various	Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
										Cont.	Cont.	
SBIR Assessment										Cont.	Cont.	
Subtotal Management			33.456	2.779		2.790		2.513		Cont.	Cont.	
Remarks:												
Total Cost			1,146.293	296.765		205.400		146.463		Cont.	Cont.	
Remarks:												

R-1 SHOPPING LIST - Item No. 102

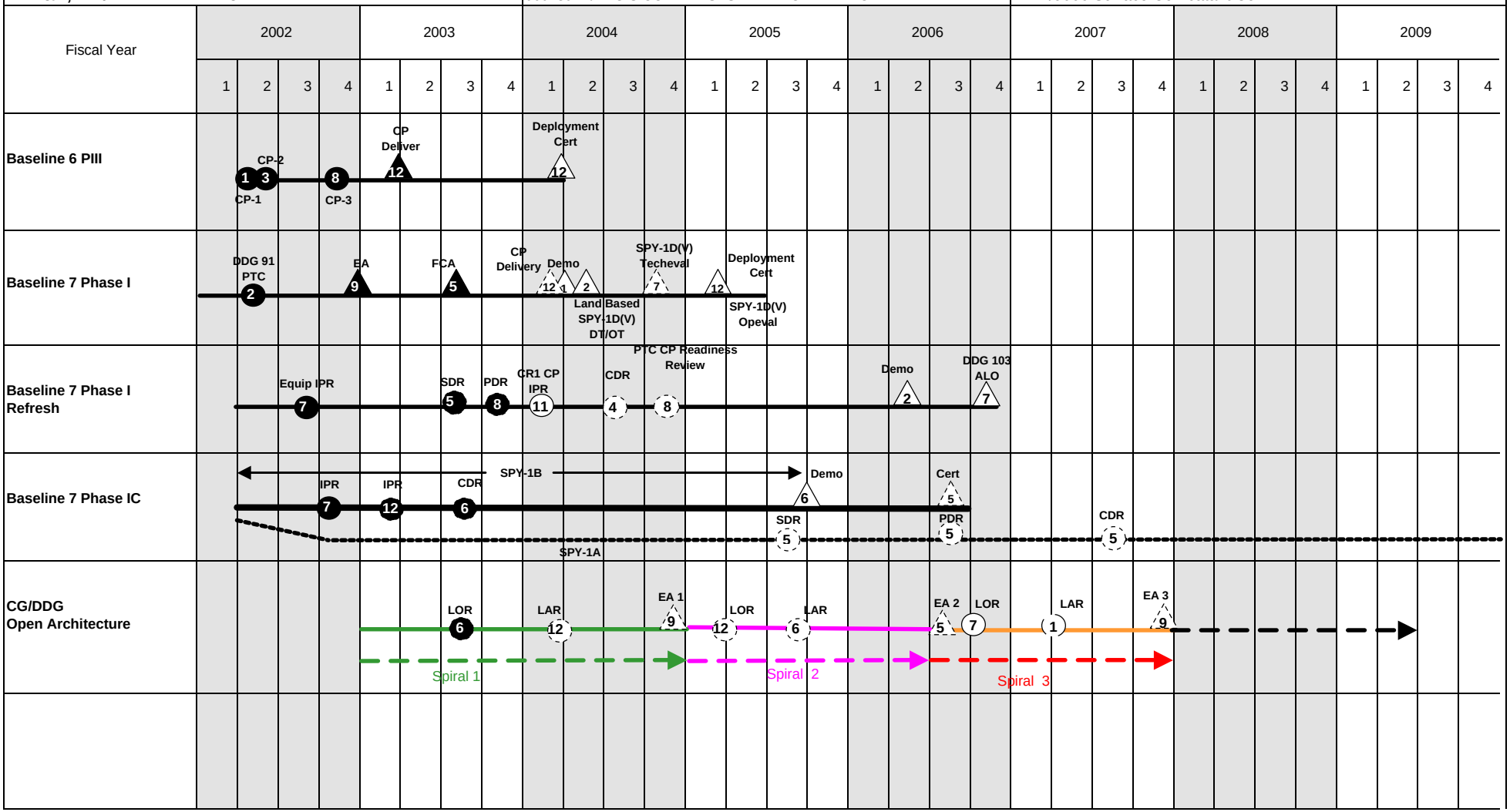
CLASSIFICATION:

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

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

PROGRAM ELEMENT NUMBER AND NAME: 0604307N/AEGIS COMBAT SYSTEM ENGINEERING

PROJECT NUMBER AND NAME: 1447/9066 Surface Combatant Com



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 1447/9066 Surface Combatant Com			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
6 Phase III								
CP-1								
CP-2								
CP-3								
CP Delivery		1Q						
CP Deployment Cert			1Q					
7 Phase I								
DDG 91 PTC								
EA								
FCA		3Q						
CP Delivery			1Q					
Demo			2Q					
Land Based SPY-1D(V) DT/OT			2Q					
SPY-1D(V) Techeval			4Q					
SPY-1D(V) Opeval				1Q				
Deployment Cert				1Q				
7 Phase I Refresh								
Equipment IPR								
SDR		3Q						
PDR		4Q						
CR 1 CP IPR			1Q					
CDR			3Q					
PTC CP Readiness Review			4Q					
Demo					2Q			
DDG 103 ALO					4Q			
7 Phase I C								
IPR (SPY-1B)		1Q						
CDR (SPY-1B)		3Q						
SDR (SPY-1A)				3Q				
Demo (SPY-1B)				3Q				
Cert (SPY-1B)					3Q			
PDR (SPY-1A)					3Q			
CDR (SPY-1A)						3Q		
CG/DDG Open Architecture								
LOR		3Q						
LAR			1Q					
EA 1			4Q					
LOR				1Q				
LAR				3Q				
EA2					3Q			
LOR					4Q			
LAR						2Q		
EA3						4Q		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 1776 / Surface Combatant Weapon Sys Mods				
COST ($ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		**2.122**	**0.455**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides for modifications to the AWS MK-7 to counter the threat as articulated in ONI System Threat Assessment Report, ONI-TA-012-99 dated Oct 1999 and subsequent updates. The modifications will be introduced into CG 47 Class and DDG 51 Class ships.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1776/Surface Combatant Weapon Sys Mods

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Radar System Engineering Studies	1.259	0.455	
RDT&E Articles Quantity			

Accomplishments/Planned: Perform system engineering studies to analyze threats and propose upgrades to meet threats. Perform system engineering studies to enable the AEGIS Weapon System to meet the evolving threat and improve performance in various environments. These studies will lead to detailed equipment designs and/or lead to proposed computer program upgrades. Current efforts include Automatic Adaptive Mode Control Operation (AAMCO) improvements, Enhanced Ultra Low Threat, Surface Search for AN/SPY-1D(V), and Dynamic Test Target Enhancements. Provide SPY radar technical studies and consultation to Detection System Manager for ships currently in service. Address new threats and requirements, perform trade studies and recommend solutions. Support plans for future radar upgrades through systems analysis, hardware trade-offs, and architecture considerations. Support definition and implementation of new BMD radar modes.

	FY 03	FY 04	FY 05
AWS Warfighting Improvements	0.746		
RDT&E Articles Quantity			

Planned: AWS Warfighting Improvements tasking. Perform system engineering to adapt AWS forward fit solution to in-service ships via backfit to allow them to counter the evolving threat. Efforts already identified include AN/SPY-1D(V) TIP Testability.

	FY 03	FY 04	FY 05
Operational Readiness Test System			
RDT&E Articles Quantity			

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1776/Surface Combatant Weapon Sys Mods

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 03 Pres Controls)	4.257	0.460	4.419
Current BES/President's Budget: (FY04/05 Pres Controls)	2.122	0.455	0.000
Total Adjustments	-2.135	-0.005	-4.419

Summary of Adjustments

Congressional rescissions			
SBIR/STTR Transfer	-0.080		
Economic Assumptions			
Reprogrammings	-2.042		
Programmatic Adjustments	-0.013	-0.005	-4.419
Total:	-2.135	-0.005	-4.419

Schedule:

The Navy has decided to terminate this program after the FY04 work is complete.

Technical: The Navy has decided to terminate this program after the FY04 work is complete.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1776/Surface Combatant Weapon Sys Mods

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SCN LI2122 - DDG 51*	2681.3	3193	3444.9	192.2	291.6			Cont.	Cont.
OPN LI5246 - AEGIS Supt. Eqp	152.229	96.669	57.517	107.083	81.724	104.678	87.549	Cont.	Cont.
RDT&E,N 0603382N - Advanced Combat System Technolog	3.214	5.73	67.605	61.637	31.168	31.716	32.429	Cont.	Cont.

* TOA excludes outfitting and post delivery.

E. ACQUISITION STRATEGY: *

Lockheed Martin is the sole producer of the AEGIS Weapon System (AWS) except for the AN/SPY-1 Radar transmitter and the MK 99 CWI transmitter and illuminator which are produced by Raytheon. It is anticipated that all AWS modifications will be procured from the original equipment manufacturer.

F. MAJOR PERFORMERS: **

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 1776/Surface Combatant Weapon Sys Mods						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPAF	Lockheed, Moorestown, NJ	23.354	0.808	11/02	0.000		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	Naval Labratories	1.680	0.384		0.455		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	NSWC/DD	0.050	0.234		0.000		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	Wright Patterson AFB	0.250	0.162		0.000		0.000		Cont.	Cont.	
Systems Engineering		CDSA Dam Neck	3.905	0.000		0.000		0.000		Cont.	Cont.	
Systems Engineering		NSWC/Crane	0.981	0.000		0.000		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	Miscellaneous	2.032	0.534		0.000		0.000		Cont.	Cont.	
Award Fees			0.996	0.000		0.000		0.000		Cont.	Cont.	
Subtotal Product Development			33.248	2.122		0.455		0.000		Cont.	Cont.	
Remarks:												
Support	WR/RCP	Miscellaneous	1.060	0.000		0.000		0.000		Cont.	Cont.	
Subtotal Support			1.060	0.000		0.000		0.000		Cont.	Cont.	
Total Cost:			34.308	2.122		0.455		0.000		Cont.	Cont.	
Remarks:												

R-1 SHOPPING LIST - Item No 102

CLASSIFICATION:

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

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

PROGRAM ELEMENT NUMBER AND NAME: 0604307N/AEGIS COMBAT SYSTEM ENGINEERING

PROJECT NUMBER AND NAME: 1776/Surface Combatant Weapon Sys Mods

Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	
AWS Warfighting Improvements																																
TIP ADR Firmware Coding			▲																													
TIP ADR Firmware Test				▲																												
TIP Phase I completion & demo						△																										
COR Review	Quarterly																															
ECMA Enhancements																																
Lab Demo - COTS concept																																
Format Design Document	▲																															
In Process Review	Monthly																															
COR Review	Quarterly																															
Radar System Engineering Studies																																
AN/SPY-1 Working Group	Quarterly																															
Technical Exchange Meeting	As Required																															
Contract Review	Quarterly																															
Review spec change, test	Upon Release																															
Technical/meeting reports	As Required																															
Progress/status reports	Monthly								Monthly																							
Radar Roadmap review	Annually				Annually																											
Test Plan Analysis Report	As Required								As Required																							
BMD Modes	As Required								As Required																							
Sig Pro Technology Risk	As Required								As Required																							
SPY Emerging Threats	As Required								As Required																							

R-1 SHOPPING LIST - Item No. 102

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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail:						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 1776/Surface Combatant Weapon Sys Mods			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
AWS Warfighting Improvements								
TIP ADR Firmware Coding								
TIP ADR Firmware Test, Software Mode 1 Test								
TIP Phase 1 completion and demonstration		2 Q						
Contracting Officer Representative (COR) Review		1-4 Q						
ECMA Enhancements								
Lab demonstration - COTS concept								
Format Design Document								
In Process Reviews								
Contracting Officer Representative (COR) Review								
Radar Systems Engineering								
AN/SPY-1 Working Group Meeting		1-4 Q						
Technical Exchange Meetings		As required						
Contract Review		1-4 Q						
Review specification changes, test procedures		Upon release						
Technical/meeting reports		As required						
Progress/status reports		Monthly	Monthly					
Radar Roadmap review and update		Annually						
Test Plan Analysis Report		As required	As required					
BMD Modes		As required	As required					
Sig Pro Technology Risk		As required	As required					
SPY Emerging Threats		As required	As required					

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **AEGIS COMBAT SYS ENG PE 0604307N**		PROJECT NAME AND NUMBER: **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**						
COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complet	Total Cost
Deployable Smartlink Communications Upgrade	**0.000**	**1.978**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.978**
RDT&E Articles Qty **Not Applicable**									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional plus-up for Small Business Innovative Research (SBIR) Phase III design and development of the Malibu Research antenna system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	**AEGIS COMBAT SYS ENG PE 0604307N**	**9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 03 Pres Controls)			0.000	
Current BES/President's Budget: (FY04/05 Pres Controls)			1.978	
Total Adjustments	0.000	0.000	1.978	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
Minor Program Adjustments			-0.022	
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases			2.000	
Subtotal	0.000	0.000	1.978	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

Funding:

Not Applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	**AEGIS COMBAT SYS ENG PE 0604307N**	**9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not Applicable										

E. ACQUISITION STRATEGY: *

Utilizing the SBIR Phase III contract develop the Deployable Smartlink Communications System incorporating system upgrades through test and evaluation that mitigate technical and operational risks to achieve a system that is acquirable by the Navy

F. MAJOR PERFORMERS: **

NSWC Dahlgren - Project Management
Malibu Research - Prime Contractor
NSWC Crane - Acquisition Plan/T&E
NSWC Carderock - Alteration Instl'n Team Contracting
GD /BIW PY - DDG alteration design and integration

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

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)					DATE: **February 2004**						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT **AEGIS COMBAT SYS ENG PE 0604307N**			PROJECT NUMBER AND NAME **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	CPFF	Malibu Research, Inc.				1.678	03/04					
		NSWC Dahlgren										
System Engineering	CPAF	GD/BIW Plng.Yard				0.050	03/04					
		SUPSHIP Bath										
Ship Installation	CPFF	Alteration Instln Team/TBD				0.150	TBD					
		NSWC Carderock										
Subtotal Product Development			0.000	0.000		1.878		0.000				
Remarks:												
Support												
Subtotal Support			0.000	0.000		0.000		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**		PROGRAM ELEMENT **AEGIS COMBAT SYS ENG PE 0604307N**				PROJECT NUMBER AND NAME **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation		NSWC Crane				0.050	02/04					
Award Fees												
Subtotal T&E			0.000	0.000		0.050		0.000		0.000		
Remarks:												
Program Management		NSWC Crane				0.050	02/04					
Subtotal Management			0.000	0.000		0.050		0.000		0.000		
Remarks:												
Total Cost			0.000	0.000		1.978		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**									PROGRAM ELEMENT NUMBER AND NAME **AEGIS COMBAT SYS ENG PE 0604307N**														PROJECT NUMBER AND NAME **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Prototype Phase																																
System Design/ Development											DR	IPR	Install & Test	CDR																		
Software Delopment																																
Test & Evaluation Milestones																																
Land Based Testing											RCS Test II																					
Prototype Demo																																
Deliveries													Prototype Removal																			

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT **AEGIS COMBAT SYS ENG PE 0604307N**				PROJECT NUMBER AND NAME **9381/DEPLOYABLE SMARTLINK COMMUNICATIONS UPGRADE**			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase			1-4Q	1Q				
System Design			1-4Q	1Q				
Software Delivery								
Test & Evaluation								
RCS LAND BASED ASSESSMENT			3Q					
PROTOTYPE DEMO AT-SEA (TW-04) and Removal			4Q	1Q				
Deliverables								
PROTOTYPE SYSTEM			3Q					

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **AEGIS COMBAT SYS ENG PE 0604307N**	PROJECT NAME AND NUMBER: **9382/Integrated Logistics (IDESC)**	

COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complet	Total Cost
Integrated Logistics (IDESC)	**0.000**	**0.396**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.396**
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Plus-Up for Integrated Logistics (Integrated Data Environment Service Center/IDESC). The IDE is intended to provide Program Managers with the capability to realistically manage program cycle time reductions and total ownership costs while having a direct, positive effect on operational readiness. The Integrated Logistic Support (ILS) IDE is expected to provide framework and collaborative environment to integrate the acquisition and sustainment processes, now so disjointed in the DOD to provide managers the tools to control life cycle acquisition and sustainment.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9382/Integrated Logistics (IDESC)

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Integrated Logistics (IDESC)		0.000	0.396	0.000
RDT&E Articles Quantity				

Accomplishments: To date the contractors performance has been outstanding. In a pilot project supported by this office to validate certain technical capabilities and to provide leadership and program management, NetIDEAS and LM NE&SS completed its work on time, with budget and exceeded technical requirements.

Planned: The ILS and IDE objectives for PEO Ships Business Systems are:
1) Support DOD's transformation to integrated system product support.
2) Provide Industry based ILS connectivity to the DOD acquisition process.
3) Assist DOD's industrial partners in building and using product supply chains.
4) Integrate the private sector with the DOD program stakeholders through a collaborative engineering and work environment.
5) Initiate and manage life cycle behavior among all stakeholders of a product using operational readiness and total ownership costs as measures of success.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9382/Integrated Logistics (IDESC)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 03 Pres Controls)			0.000	
Current BES/President's Budget: (FY04/05 Pres Controls)			0.396	
Total Adjustments	0.000	0.000	0.396	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
Minor Program Adjustments			-0.004	
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases			0.400	
Subtotal	0.000	0.000	0.396	0.000

Schedule: N/A

Technical: N/A

Funding: N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9382/Integrated Logistics (IDESC)

D. OTHER PROGRAM FUNDING SUMMARY:

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

E. ACQUISITION STRATEGY:

Utilizing the Lockheed Martin Lifetime Support Contract to develop the IDESC. Today, data collection and information management through a product's life cycle is done in manual and serial process. Renewed emphasis on maintenance and modernization to existing fleet resources has exacerbated the need for improved methods of designing, monitoring and implementing modernization programs. Modernization programs rely heavily on engineering and product data that is contained in many different locations, within disparate and heterogeneous systems and has ownership by many different activities. There is a significant and increasing cost associated with the proper planning, designing, implementing, monitoring and tracking all of the data, processes and personnel required to meet the demands of our modernization programs. The ability to meet modernization goals has a direct impact on the fleet sailor and the Navy's ability to meet the mission demands.

It is now feasible to use commercial technology to integrate engineering databases so that they function as a virtually integrated management data environment, allowing near real time information sharing across the enterprise without the need to replace legacy systems. This solution also provides the ability for true collaboration using the web. This greatly enhances the accuracy and timeliness of the information provided to decision-makers and improves their ability to assess and correct problems early. This would permit total visibility for program managers and all parties who contribute to maintenance and modernization, enabling them to collaborate early in the process and decrease total ownership cost (TOC).

F. MAJOR PERFORMERS:

NetIDEAS, Inc. (NetIDEAS)

Lockheed Martin Naval Electronics and Surveillance Systems (LM NE&SS)

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 9382/Integrated Logistics (IDESC)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	FFP	NetIDEAS Inc. Mount Laurel, NJ				0.196	03/04					
Systems Engineering	CPAF	LMCO, Moorestown, NJ				0.020	03/04					
Subtotal Product Development			0.000	0.000		0.216		0.000				
Remarks:												
Support	FFP	NetIDEAS Inc. Mount Laurel, NJ				0.100	03/04					
Subtotal Support			0.000	0.000		0.100		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

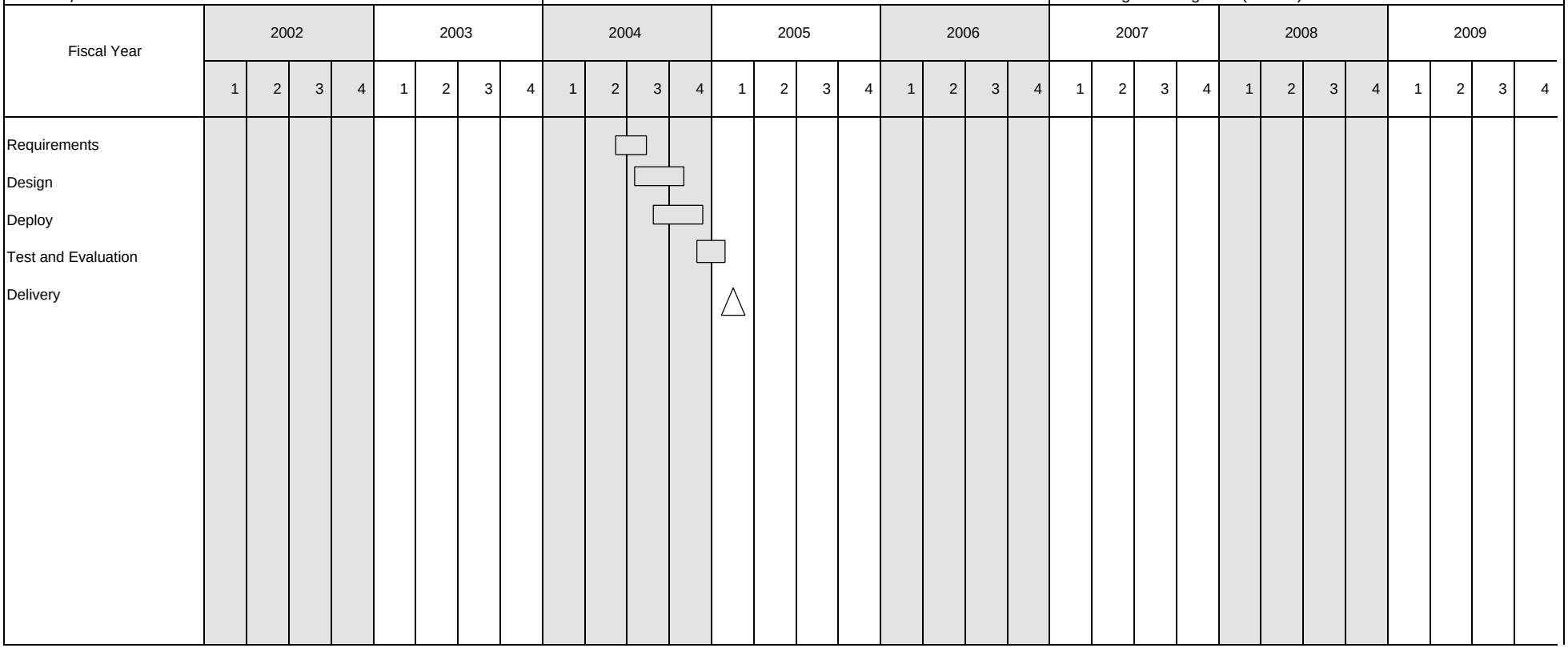
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND N/+ 9382/Integrated Logistics (IDESC)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation	FFP	NetIDEAS Inc. Mount Laurel, NJ				0.050	03/04					
Subtotal T&E			0.000	0.000		0.050		0.000				
Remarks:												
Program Management Support	CPAF	LMCO, Moorestown, NJ				0.010	03/04					
Program Management Support	FFP	NetIDEAS Inc. Mount Laurel, NJ				0.020	03/04					
Subtotal Management			0.000	0.000		0.030		0.000				
Remarks:												
Total Cost			0.000	0.000		0.396		0.000				
Remarks:												

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING	PROJECT NUMBER AND NAME 9382/Integrated Logistics (IDESC)	



R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2004**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 9382/Integrated Logistics (IDESC)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Requirements			1-2Q					
Design			2-3Q					
Deploy			3-4Q					
Test and Evaluation			4Q	1Q				
Delivery				1Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 5**	PROGRAM ELEMENT NAME AND NUMBER **AEGIS COMBAT SYS ENG PE 0604307N**	PROJECT NAME AND NUMBER: **9383/Smart Integrated Data Environment (SIDE)**	

COST ($ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complet	Total Cost
Smart Integrated Data Environment (SIDE)	**0.000**	**0.988**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.988**
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Smart Integrated Data Environment (SIDE) is a concept for a fully interactive, ship-wide integration of physical plant and supporting operations, maintenance, logistics, training, and other data. Decision-aids and automated processes are further integrated to make the data both dynamic and useful at every echelon of the organization. SIDE has potential to increase productivity and, hence, decrease Sailor workload. The funding will be used for the development of a limited capability, shore-based prototype that will prove the concept and provide an automated Engineering Operating Sequencing System (EOSS)/Combat Systems Operating Sequencing Systems (CSOSS) equipment tag-out capability for shore based validation teams. This initial capability subsequently will be transitioned to shipboard use and further developed to incorporate the full range of potential capability.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9383/Smart Integrated Data Environment (SIDE)

B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
SIDE Prototype Development		0.000	0.988	0.000
RDT&E Articles Quantity				

Accomplishments: N/A

Planned:
- Develop a shore-based prototype that will provide an automated Engineering Operating Sequencing System (EOSS)/Combat Systems Operating Sequencing Systems (CSOSS) equipment tag-out capability for shore based validation teams.
- Transition prototype to shipboard system.
- Expand system capability to include automated processes and decision-aids.

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9383/Smart Integrated Data Environment (SIDE)

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 03 Pres Controls)			0.000	
Current BES/President's Budget: (FY04/05 Pres Controls)			0.988	
Total Adjustments	0.000	0.000	0.988	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
Minor Program Adjustments			-0.012	
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases			1.000	
Subtotal	0.000	0.000	0.988	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

Funding:

Not Applicable

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9383/Smart Integrated Data Environment (SIDE)

D. OTHER PROGRAM FUNDING SUMMARY:

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

E. ACQUISITION STRATEGY:

Utilize the Congressional Plus-up in FY04 to develop a prototype system for proof of concept. Transition to shipboard system in FY05 and expand capabilities in outyears. This program is for development of prototype only. A milestone decision will be based on successful completion of the prototype.

F. MAJOR PERFORMERS:

Delex Systems, Inc., Vienna, VA

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**		PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 9383/Smart Integrated Data Environment (SIDE)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
SIDE Prototype Development	T&M	Delex Systems, Inc.				0.988	02/04					
Subtotal Product Development			0.000	0.000		0.988		0.000				
Remarks:												
Support												
Subtotal Support			0.000	0.000		0.000		0.000				
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**			PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND N/+ 9383/Smart Integrated Data Environment (SIDE)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation												
Subtotal T&E			0.000	0.000		0.000		0.000				
Remarks:												
Program Management Support												
Subtotal Management			0.000	0.000		0.000		0.000				
Remarks:												
Total Cost			0.000	0.000	0.000	0.988	0.000	0.000				
Remarks:												

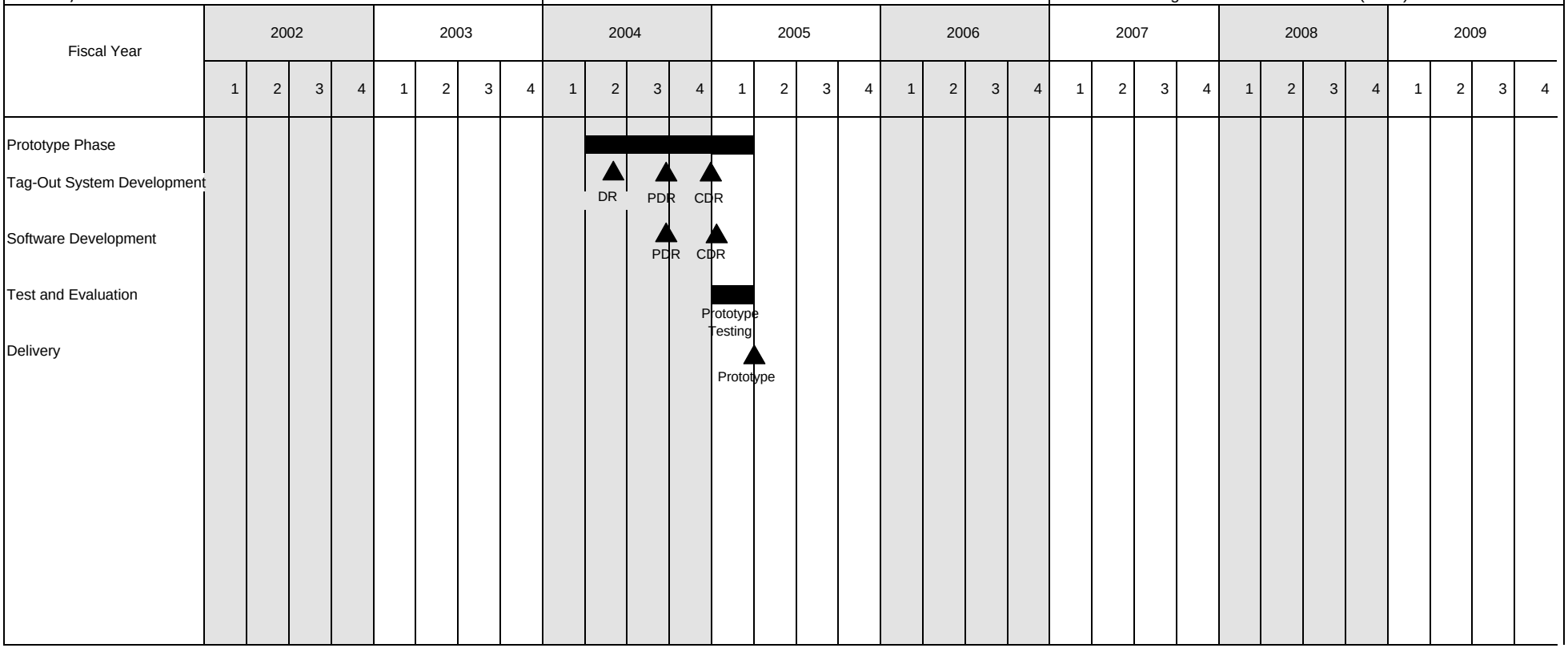
R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	9383/Smart Integrated Data Environment (SIDE)



R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N/BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING				9383/Smart Integrated Data Environment (SIDE)			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
			2-4Q	1Q				
Prototype Phase								
Tag-Out System Development			2-4Q	1Q				
Model Development			2-3Q					
Design Review			2Q					
Preliminary Design Review			3Q					
Critical Design Review			4Q					
Software Delivery								
Preliminary Design Review			3Q					
Critical Design Review			4Q					
Coding Complete				1Q				
Test and Evaluation			4Q					
Test Readiness Review								
Prototype Testing				1Q				
Deliverables								
Prototype				1Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2004**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604307N / AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 3044 / 9223 / 9225 - SOLID STATE SPY RADAR			
COST ($ in Millions)	FY 2002	FY 2003	FY 2004*	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	**0.000**	**28.518**	**4.253**	**0.000**	**9.274**	**39.914**	**69.437**	**101.257**
RDT&E Articles Qty	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

SOLID STATE SPY RADAR / SILICON CARBIDE MMIC PRODUCIBILITY PROGRAM:
The Solid State SPY Radar is being developed to support Theater Air and Missile Defense requirements as part of a next generation cruiser, CG(X), radar suite. The S-Band Solid State SPY Radar will provide multimission capabilities, supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as robust Ballistic Missile Defense and Self Defense against air and surface threats. For the BMD capability, increased radar sensitivity and bandwidth over the current SPY-1 system is needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges. For the Ballistic Missile Defense and Self Defense capability, increased sensitivity and clutter rejection capability is needed to detect, react to, and engage stressing Very Low Observable /Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an S-Band solid state replacement for the SPY-1 Radar with the required capabilities to pace the evolving threat.

AN/SPY-1 READINESS IMPROVEMENT PROGRAM:
The SPY-1 Readiness Improvement program is the productizing of an intelligent automated maintenance tool, which will improve operational & combat effectiveness while improving system availability of the AN/SPY-1 Series radar. This intelligent maintenance tool, the Multi-Function Distributed Analysis Tool (MFDAT) will significantly reduce SPY-1 radar system alignment & maintenance time, increase system availability, and increase operational precision through more reliable alignment. The SPY-1 radar system is the Navy's primary radar for air defense and ballistic missile defense and will be so for the next 20+ years. This program will improve SPY-1 Series Radar operational availability and precision through the use of an automated, intelligent maintenance tool enabling the Sailor to maintain peak alignment and accurately diagnose and correct trouble conditions. The increase will allow for the transitioning of the MFDAT from the prototype developed under a SBIR Phase II program to full-scale production system capable of being fielded on combat naval vessels. The funding will complete the non-recurring engineering costs for engineering costs for development and provide production drawings, interface and maintenance documents, as well as calibration procedures.

THIS PROGRAM HAS BEEN UNFUNDED IN FY05 BY ISSUE 50092.

* FY 2004 includes:
- Congressional plus-up for Silicon Carbide MMIC Producibility Program
- Improved Readiness for AN/SPY-1 Radar

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N / AEGIS COMBAT SYSTEM ENGINEERING	3044 / 9223 / 9225 - SOLID STATE SPY RADAR

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		22.069		
RDT&E Articles Quantity		0		

S-BAND RADAR DEVELOPMENT
Planned:
- Initiate radar preliminary design
- Develop system and subsystem specifications
- Identify and initiate risk reduction experiments and demonstrations of enabling technologies, including high-power amplifiers (including advanced materials), Transmit/Reciever (T/R)

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.410	1.000	
RDT&E Articles Quantity		0	0	

ADVANCED TECHNOLOGY MMIC DEVELOPMENT
Planned:
- Improve the producibility (I.e. yield and cost) of high power Silicon Carbide (SiC) MMIC power amplifiers.
- Non recurring engineering design of high power SiC MMICs. Recurring fabrication to support future capability radar demonstrations

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N / AEGIS COMBAT SYSTEM ENGINEERING	3044 / 9223 / 9225 - SOLID STATE SPY RADAR

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		4.989	3.242	
RDT&E Articles Quantity		0	0	

SYSTEMS ENGINEERING
Planned:
- Participate in the development of threat definitions, performance requirements and radar specifications; perform radar systems performance analysis.
- Participate in Integrated Product Teams (IPTs) and Working Groups (WGs) to resolve critical issues.
- Perform supporting studies and analyses.

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.050	0.011	
RDT&E Articles Quantity		0	0	

PROGRAM MANAGEMENT SUPPORT
Planned:
- Program planning, assessmnet of technical alternatives, risk identification and mitigation.
- Cost and schedule development and execution.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2004**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N / AEGIS COMBAT SYSTEM ENGINEERING	3044 / 9223 / 9225 - SOLID STATE SPY RADAR

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	29.311	0.000	0.000
Current President's Budget: (PB 05 Controls)	28.515	4.253	
Total Adjustments	-0.796	4.253	0.000
Summary of Adjustments			
Economic Assumptions	0.101	-0.047	
SBIR Reductions	0.695		
Congressional increases		4.300	
Subtotal	0.796	4.253	0.000

Schedule:

Not applicable.

Technical:

Not Applicable.

Funding:

FY 2004 includes:
- Congressional add for Silicon Carbide MMIC Producibility Program
- Improved Readiness for AN/SPY-1 Radar

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604307N / AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 3044 / 9223 / 9225 - SOLID STATE SPY RADAR						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
S-Band Radar Development	SS/CPAF	Lockheed Martin (NJ)	N/A	22.204	01/03	N/A	N/A	N/A	N/A	Cont.	Cont.	Cont.
Advanced Technology MMIC Dev		CREE	N/A	1.785	01/03	1.000	N/A	N/A	N/A	Cont.	Cont.	Cont.
System Engineering	TBD	MIKROS	N/A	0.000	N/A	2.776	02/04	N/A	N/A	Cont.	Cont.	Cont.
	WR	NSWC DD	N/A	1.250	01/03	0.056	02/04	N/A	N/A	Cont.	Cont.	Cont.
	CPFF	JHU/APL	N/A	1.514	01/03	0.100	02/04	N/A	N/A	Cont.	Cont.	Cont.
	MIPR	MIT/LL	N/A	0.850	01/03	N/A	N/A	N/A	N/A	Cont.	Cont.	Cont.
	WR	NRL	N/A	0.150	01/03	0.100	02/04	N/A	N/A	Cont.	Cont.	Cont.
	WR	SYSTEMS ENG GROUP	N/A	0.350	01/03	N/A	N/A	N/A	N/A	Cont.	Cont.	Cont.
	GSA	Various	N/A	0.250	01/03	0.150	02/04	N/A	N/A	Cont.	Cont.	Cont.
	WR/RCP	Various	N/A	0.115	01/03	0.060	02/04	N/A	N/A	Cont.	Cont.	Cont.
Subtotal Product Development			0.000	28.468		4.242		0.000		Cont.	Cont.	Cont.
Remarks:												
Support / Management Services	GSA	Computer Science Services		0.025	01/03	N/A	N/A	N/A	N/A	Cont.	Cont.	Cont.
	GSA	Systems Planning & Analysis		0.025	01/03	0.011	02/04	N/A	N/A	Cont.	Cont.	Cont.
Subtotal Support			0.000	0.050		0.011		0.000		0.000	0.061	Cont.
Remarks:												
Total Cost			0.000	28.518		4.253		0.000		Cont.	Cont.	Cont.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2004**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604307N / AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 3044 / 9223 / 9225 - SOLID STATE SPY RADAR							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	Cont.
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	Cont.
Remarks:												
Total Cost			0.000	28.518		4.253		0.000		Cont.	Cont.	Cont.
Remarks:												

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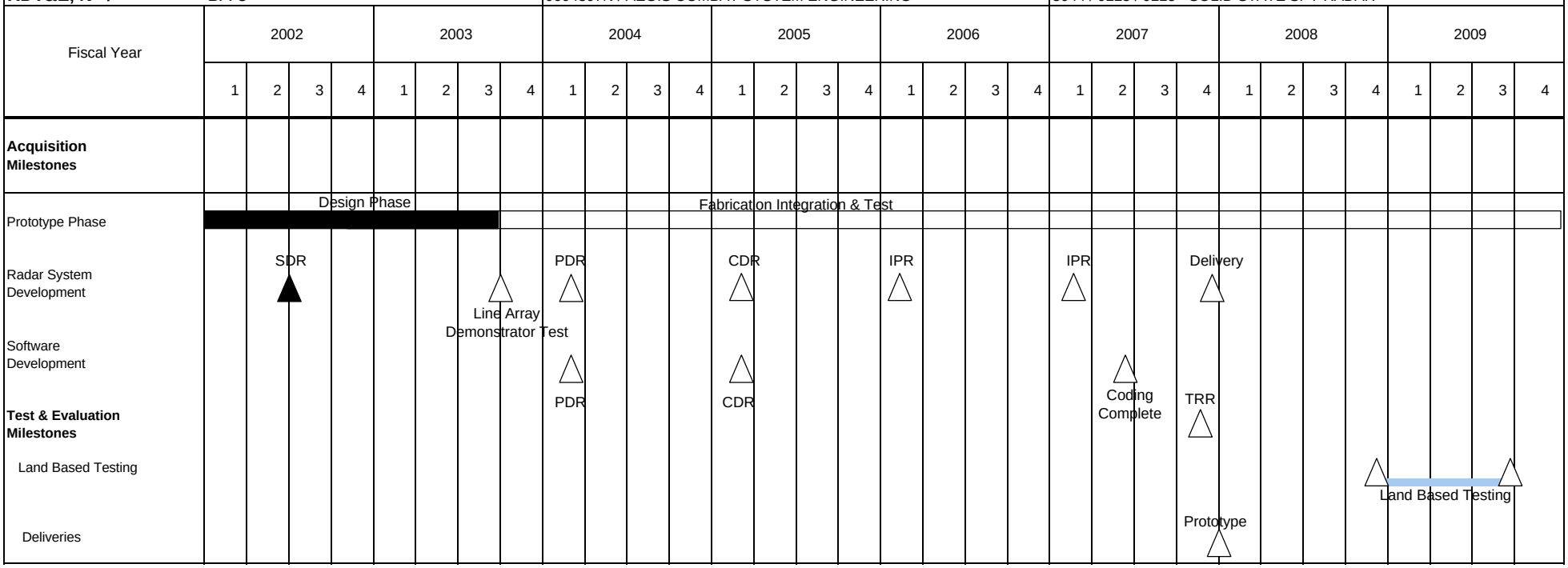
CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE: **February 2004**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N / AEGIS COMBAT SYSTEM ENGINEERING	3044 / 9223 / 9225 - SOLID STATE SPY RADAR



R-1 SHOPPING LIST - Item No. 102

FY02 - Funded via Ballistic Missile Defense Agency (BMD).

CDR	Critical Design Review
IPR	In-Progress Review
PDR	Preliminary Design Review
SDR	System Design review
TRR	Test Readiness Review

CLASSIFICATION:

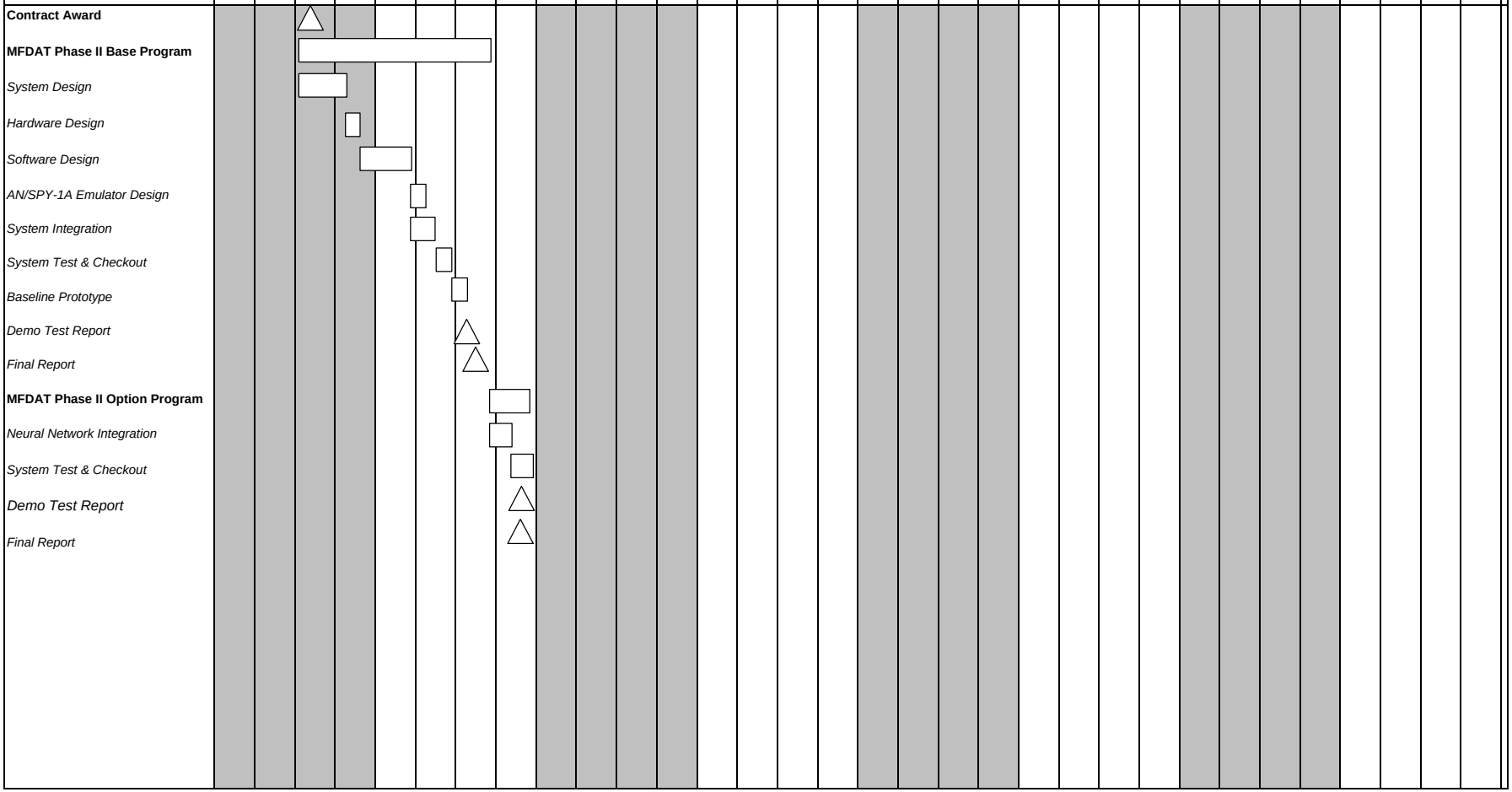
Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604307N / AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 3044 / 9223 / 9225 - SOLID STATE SPY RADAR			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Radar System Development								
System Design Review (SDR)	3Q							
Line Array Demonstration Test		3Q						
Preliminary Design Review (PDR)			1Q					
Critical Design Review (CDR)				1Q				
In-Process Review (IPR)					1Q	1Q		
Delivery						4Q		
Software Delivery								
Preliminary Design Review (PDR)			1Q					
Critical Design Review (CDR)				1Q				
Coding Complete						2Q		
Test & Evaluation								
Test Readiness Review (TRR)						4Q		
Land Based Test						4Q	1Q-4Q	1Q-3Q
Deliverables								
Prototype						4Q		

R-1 SHOPPING LIST - Item No. 102

CLASSIFICATION:

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

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	3044 - IMPROVED READINESS FOR AN/SPY-1 RADAR



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

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2004**		
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-5**	PROGRAM ELEMENT 0604307N / AEGIS COMBAT SYSTEM ENGINEERING				PROJECT NUMBER AND NAME 3044 - IMPROVED READINESS FOR AN/SPY-1 RADAR			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Award		3Q						
MDFAT Phase II Base Program		3Q-4Q	1Q-3Q					
System Design		3Q-4Q						
Hardware Design		4Q						
Software Design		4Q	1Q					
AN/SPY-1A Emulator Design			1Q-2Q					
System Integration			1Q-2Q					
System Test & Checkout			2Q					
Baseline Prototype			2Q-3Q					
Demo Test Report			3Q					
Final Report			3Q					
MFDAT Phase II Option Program			3Q-4Q					
Neural Network Integration			3Q-4Q					
System Test & Checkout				4Q				
Demo Test Report				4Q				
Final Report				4Q				

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