

**UNCLASSIFIED**

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY / BA-5</b>					R-1 ITEM NOMENCLATURE 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		42.818	53.506	28.233	15.518	11.558	20.435	20.170
0954/Shipboard EW Improvements		25.750	43.637	25.784	14.526	10.554	19.415	19.129
2190 NULKA		0.981	2.255	2.449	0.992	1.004	1.020	1.041
K2441 Nulka Decoy Improvements		4.379	4.845	0.000	0.000	0.000	0.000	0.000
9243 Radar Tiles*		0.951	2.769	0.000	0.000	0.000	0.000	0.000
9244 Surface Ship EW Improvements**		2.665	0.000	0.000	0.000	0.000	0.000	0.000
9245 Improved Control and Display (ICAD)***		8.092	0.000	0.000	0.000	0.000	0.000	0.000
<b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b>								
<p>This program element consolidates currently ongoing and planned programmatic efforts related to Engage: Soft Kill Electronic Warfare (EW) aspects of Ship Self Defense (SSD) to facilitate effective planning and management of these efforts and to exploit the synergistic relationship inherent in each. Analysis and demonstration have established that surface SSD based on single-sensor detection point-to-point control architecture performs marginally against current and projected Anti-Ship Cruise Missile (ASCM) threats. The supersonic seaskimming ASCM reduces the effective battle space to the horizon and the available reaction time-line to less than 30 seconds from first opportunity to detect until the ASCM impacts its target ship. Against such a threat, multi-sensor integration is required for effective detection, and parallel processing is essential to reduce reaction time to acceptable levels and to provide vital coordination/integration of hardkill and softkill assets.</p> <p>These SSD projects address and coordinate the detect and engage functions necessary to meet the rigorous SSD requirements within a development structure dedicated to systems engineering.</p> <p>*Project Unit 9243 reflects a Congressional Increase for Outlaw Bandit. **Project Unit 9244 reflects a Congressional Increase for Surface Ship EW Improvements. ***Project Unit 9245 reflects a Congressional Increase for Improved Control and Display.</p>								

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<p><b>(U) DETECTION:</b> Improved coordinated sensor performance to increase the probability of detecting low altitude, low observable targets is to be achieved through the synergism gained from the integration of dissimilar sensor sources. Sensor improvements are addressed through the Shipboard EW Improvements (0954) project. These improvements to both active and passive detection capabilities are complementary to the ship signature reduction technology also being pursued through Shipboard EW (K0954).</p> <p><b>(U) ENGAGEMENT:</b> The offboard Active Decoy (NULKA, 2190) is a joint cooperative program between the United States and Australia to develop and engage an active offboard decoy which utilizes a broadband radio frequency repeater mounted atop a hovering rocket. The Decoy is designed to counter a wide variety of present and future radar guided Anti-Ship Missile (ASM) threats by radiating a large radar cross section signal while flying trajectory.</p>		

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EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			PROJECT NUMBER AND NAME 0954/9244/9245 Shipboard EW Improvements			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		36.507	43.637	25.784	14.526	10.554	19.415	19.129
RDT&E Articles Qty								

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

The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition and spiral development program of Block upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems, which has replaced the AN/SLY-2(V) Advanced Integrated Electronic Warfare System (AIEWS) program. AIEWS was cancelled in April 2002 due to cost growth and development delay issues. SEWIP will provide necessary EW capabilities and will incorporate: technology advances as they become available to provide incremental upgrades in capability and improvements in performance; continuous technology reviews; potential alternate element and component surveys; and ongoing Cost As an Independent Variable (CAIV) efforts will be employed throughout. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources.

The initial SEWIP plan (Block 1, ACAT II) is segmented into 3 sub-blocks: 1A, 1B and 1C. Block 1A is for SLQ-32 sustainment by updating the display console and display/pulse-processing computers, allowing the system to more quickly identify threats and better display the information to the operator. The new display console and processing computers will partially open the system architecture to support subsequent block upgrades. Block 1A is planned to begin at-sea testing in FY04 and to go into production in FY05. Block 1B will add Specific Emitter Identification (SEI) via integration of stand-alone Small Ship Electronic Support Measures (SS ESM), and display of combat systems tracks to the operator to improve threat correlation and situational awareness. Block 1B is planned to begin at-sea testing in FY05. Block 1C will add initial High Gain High Sensitivity (HGHS) capability to SEI, and will allow the operator to launch both Nulka and passive countermeasures on combat systems tracks, thereby improving effectiveness. Block 1C is planned to begin at-sea testing before the end of the FYDP.

The next Block upgrade (Block 2) will lay the groundwork for more significant improvements; including a major receiver upgrade to improve system sensitivity, provide precision measurement of Angle of Arrival, and improve Electromagnetic Interference (EMI) immunity. Block 3 will significantly improve the Electronic Attack (EA) capabilities of the SLQ-32; Block 4 will add an Infrared (IR) jamming capability.

FY04 funding includes 2 Congressional Adds: \$2M for Shipboard EW Protect, and \$11.9M for Surface Ship EW SBIR Phase III Research and Development improvements.

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### B. Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.170	4.570	2.380
RDT&E Articles Quantity				

The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition and spiral development program of Block upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems. The program will incorporate technology advances as they become available to provide incremental upgrades in capability and improvements in performance; continuous technology reviews, potential alternate element and component surveys, and ongoing Cost As an Independent Variable (CAIV) efforts. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources to rapidly deliver affordable, sustainable capability to the warfighter that meets the warfighter's needs. FY04 funding includes the Congressional add of \$2.0M for Shipboard EW Protect.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		16.204	12.082	1.879
RDT&E Articles Quantity				

Block 1A includes development of Electronic Support Enhancements (ESE) and Improved Control and Display (ICAD). This enhanced functionality increases Anti-Ship Missile Defence (ASMD) capabilities, allowed for proper identification of Anti Ship Missile threats, and increased the system's ability to handle the significantly increased emitter density. ICAD will provide the tools necessary to significantly improve tactical performance and battle readiness by processing information rapidly through predetermined automation routines. Integrate and test. Conduct preliminary and operational assessment at-sea for integrated ESE and ICAD (Block 1A) Transition ESE and ICAD to production. Prepare for a limited rate production decision for ICAD. Lab/Field activity support included. FY04 funding includes the Congressional add of \$11.9M for Surface Ship EW SBIR Phase III Research and Development improvements.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		10.372	10.551	6.337
RDT&E Articles Quantity				

The Systems Integrator is the lead activity responsible for the overall technical design, technical coordination, integration, and testing of the SEWIP program. The System Integrator is responsible for developing the technical roadmap for the SEWIP program, including the detailed technical plan for each block upgrade. The System Integrator will perform any required CAIV analysis, develop technical performance requirements, perform system level functional allocations, coordinate the execution of the block upgrades. The System Integrator is responsible for integrating the portions of the system and performing element testing as well as system level performance testing.

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Exhibit R-2a, RDTEN Project Justification  
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**B. Accomplishments/Planned Program (Cont.)**

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.867	5.260	3.799
RDT&E Articles Quantity				

Block 1B development includes Specific Emitter Identification (SEI) by federating the Small Ship ESM (SSESM) system with SEWIP. It also includes the transfer of CS tracks to the EW system to enhance the display of combat systems tracks in order to improve classification and situational awareness. Task include the Integration and test Block 1B efforts. Transition Block 1B to production. Lab/Field activity support included. Development for related CS track data usage, RDDDL,HGHS, DPU/DTU, ICAD Upgrades and LAMPS Interface Upgrades.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.487	6.530	7.648
RDT&E Articles Quantity				

Block 1C includes the incorporation of High Gain High Sensitivity (HGHS) capability, the ability for the operator to launch Nulka on combat systems tracks, the adaptation of SEWIP to work on carriers, and the modifications of ICAD to operate with on-board active countermeasures. RDDDL development, ILS engineering, CONOPS and related engineering development are a party of Block 1C. ICAD Phase II, requirements definition , specifications, and development, DPU/DTU upgrades for V4 ships. These efforts include CONOPS development, specification development, contracts preparation, testing and materials., DDI refresh, PW measurement enhancements. LAMPS interface upgrade concept development will be included. IRS/IDD development, SW development and factory testing are also included. Lab/Field activity support included.

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.407	4.644	3.741
RDT&E Articles Quantity				

Program and Technical Management of the SEWIP program includes contract management, field activity management, risk management, SBIR employment, M&S, cost estimates, development of program requirements, acquisition, logistics and other documentation (ORD, TEMP, AP, SAMP, CMP, ILSP, NTSP,PLCCE, APB, etc) to meet statutory and regulatory requirements.

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**C. PROGRAM CHANGE SUMMARY:**

	FY 2002	FY 2003	FY 2004	FY 2005
Funding:				
Previous President's Budget (FY04 PB controls):		37.502	33.228	26.074
Current President's Budget (FY05 PB controls):		36.507	43.637	25.784
Total Adjustments		-0.995	10.409	-0.290
Summary of Adjustments				
SBIR/STTR Transfer		-0.845		
Congressional Increases			13.900	
Congressional Reductions			-3.000	
Program Adjustments				
Inflation				-0.084
Minor Pricing Adjustments		-0.068	-0.491	-0.109
OPNAV BTR Issue 68849		-0.082		
WCF Rates				-0.097
Subtotal	0.000	-0.995	10.409	-0.290

Schedule:

See attached schedule.

Technical:

See attached Schedule

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Exhibit R-2a, RD TEN Project Justification  
(Exhibit R-2a, page 6 of 28)

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**D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>To FY 2009</u>	<u>Total Complete</u>	<u>Cost</u>
OPN BA-2 AN/SLQ-32(V) (2312)	1.744	8.054	8.848	12.759	15.6	15.626	14.516	TBD	TBD
O&M,N AN/SLQ-32 (12CR0/1C2C)	1.360	1.433	1.426	1.443	1.473	1.503	1.541	TBD	TBD
O&M,N AN/SLQ-32 (14DG0/1D4D)	8.624	8.196	8.467	8.084	8.021	8.173	8.377	TBD	TBD

**E. ACQUISITION STRATEGY:**

The Surface EW Improvement Program (SEWIP) will accomplish Block upgrades based on integrating technology advances and adding functional capabilities in an incremental fashion. Each Block and sub-Block will be developed and contracted in an individual yet coordinated and overlapping fashion. Blocks will be fielded on ships to meet battle group schedule requirements and make best use of available improvements and resources.

**F. MAJOR PERFORMERS:**

Northrop Grumman PRB (Compete) Goleta, CA - ESE development contract  
 DSR Fairfax, VA - ICAD development contract  
 Lockheed Martin/Eagan MN - Q-70 console modifications  
 Naval Research Laboratory DC - Technical support for development and testing efforts  
 Naval Surface Warfare Center Dahlgren VA - Scenario/Library Testing of ESE, support for all DT/OT events  
 Naval Surface Warfare Center Crane IN - Lead for HW/SW ESE development, support for all DT/OT events, system engineering support for ESE and ICAD

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Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2004</b>				
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Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ancillary Hardware Development			151.420								151.420	
ESE Development	SS / FFP	Northrop Grumman	2.950	2.051	12/02	2.000	03/04			CONT	CONT	TBD
ESE Development	SS / CPFF	Northrop Grumman				0.500	11/03			TBD	TBD	TBD
ICAD Development-SBIR Phase III	SS / CPAF	DSR	0.973	7.226	04/03					TBD	TBD	TBD
System Integrator	SS / CPAF	DSR		8.928	02/03	10.551	02/04	6.337	TBD	TBD	TBD	TBD
SSESM rehost/HGHS	WX	NRL		1.995	01/03					TBD	TBD	N/A
Q-70 Mods	SS / CPFF	LM-EAGAN		1.879	04/03					TBD	TBD	
Blk 1B Develop	SS/CPAF	DSR				3.687	02/04	1.720	TBD	CONT	CONT	
Blk 1C Development	SS/CPAF	DSR				4.070	02/04	6.016	TBD		10.086	
											0.000	
Award Fees											0.000	
Subtotal Product Development			155.343	22.079		20.808		14.073		CONT	CONT	
Remarks:												
Integrated Logistics Support	WX	NSWC Crane, DD, NRL	0.610	0.505		2.135	11/03	1.066	11/04		4.316	
Systems Engineering	WX	NSWC Crane, DD, NRL	1.384	1.143	02/03	2.236	11/03				4.763	
Blk 1B Engr Services	WX	NSWC Crane, DD, NRL		0.678		1.573	11/03	1.976	11/04		4.227	
Tech Engrg Svcs, Studies & Analyses	WX	NSWC Crane, DD, NRL	0.557	1.392	02/03	2.149	11/03	1.670	11/04	CONT	TBD	
Blk1C Engr Services	WX	NSWC Crane, DD, NRL		0.300		2.301	11/03	1.639	11/04		TBD	
Miscellaneous	WX	NSWC Crane, DD, NRL										
Subtotal Support			2.551	4.018		10.394		6.351		CONT	CONT	
Remarks:												

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 8 of 28)



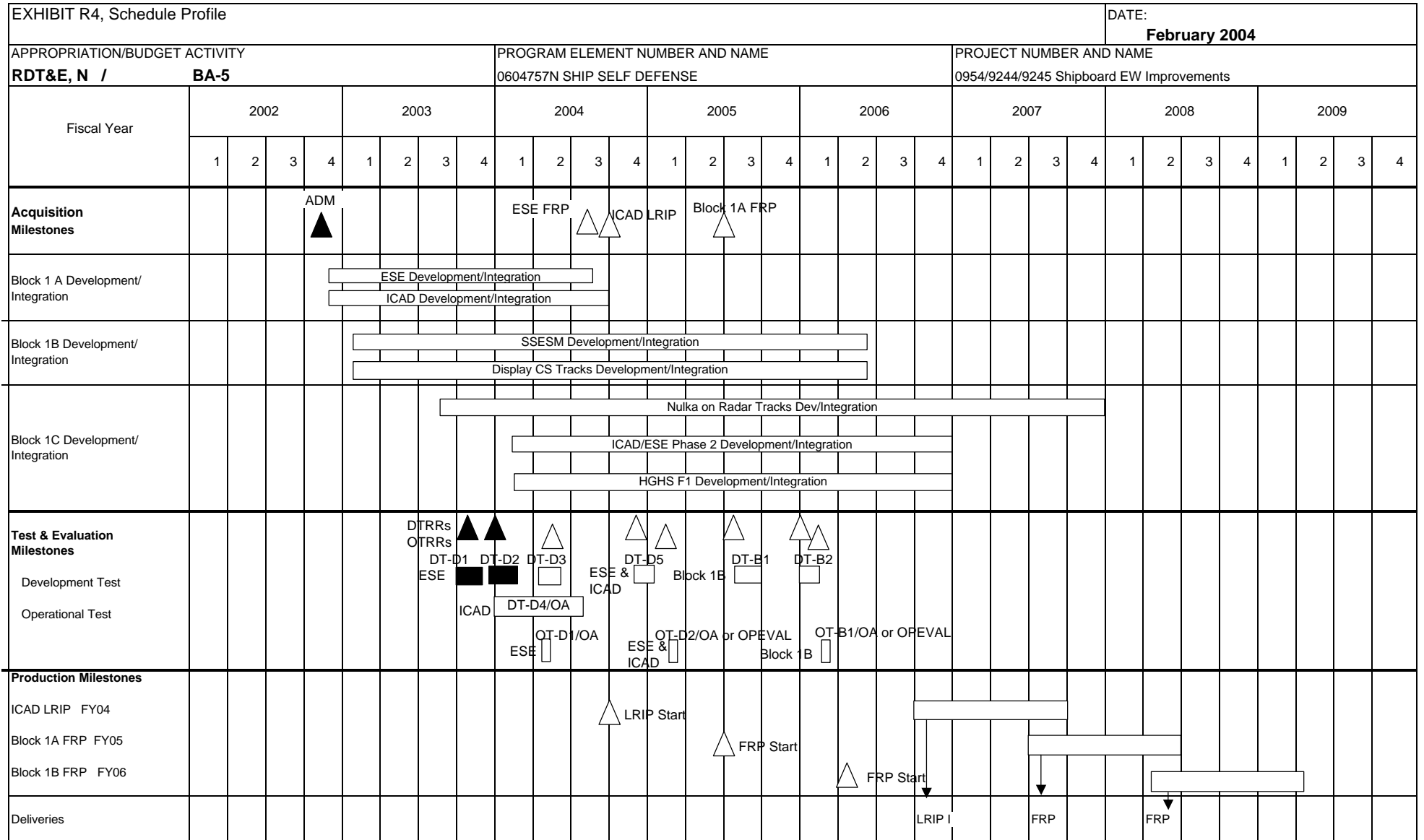
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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			PROJECT NUMBER AND NAME 0954/9244/9245 Shipboard EW Improvements						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	8.958								8.958	
Block 1A Test Planning/T&E Events	WX	NSWC Crane, DD, NRL		4.575	various	5.263	11/03	1.867	11/04	CONT	TBD	
Block 1B Test Planning/T&E Events	WX	NSWC Crane, DD, NRL		0.614		0.000		0.025		CONT	TBD	
Block 1C Test Planning/T&E Events										CONT	TBD	
											TBD	
											0.000	
											0.000	
Subtotal T&E			8.958	5.189		5.263		1.892		CONT	CONT	
Remarks:												
Program Management Support	FFP	SEAPORT	21.785	0.641		0.429	02/04	0.300		CONT	CONT	
Government Engineering Support	WX	NSWC/Crane & DD, NRL	0.000	1.716	01/03	4.570	11/03	2.379	11/04	CONT	CONT	
Program Management Support	WX	NSWC/Crane & DD, NRL	0.454	2.764	01/03	2.058	11/03	0.689		CONT	CONT	
Travel			0.005	0.100		0.115		0.100		CONT	CONT	
Subtotal Management			22.244	5.221		7.172		3.468		CONT	CONT	
Remarks:												
Total Cost			189.096	36.507		43.637		25.784		CONT	CONT	
Remarks:												

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Exhibit R-4, Schedule Profile  
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Exhibit R-4a, Schedule Detail						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-5	0604757N SHIP SELF DEFENSE				0954/9244/9245 Shipboard EW Improvements			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SEWIP Acquisition Decision Memorandum								
ESE Development/Integration		1Q-4Q	1Q-3Q					
ICAD Development/Integration		1Q-4Q	1Q-3Q					
SSESM Development/Integration		1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
Display CS Tracks Development/Integration		1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
Developmental Test Readiness Review (ESE)		4Q						
ESE Developmental Testing (DT-D1)		4Q						
Development Test Readiness Review (ESE)			1Q					
ESE Developmental Testing (DT-D2)			1Q					
Developmental Test Readiness Review (ESE)			2Q					
ESE Developmental Testing (DT-D3)			1Q-2Q					
Developmental Test Readiness Review (ICAD)			2Q					
ICAD/ESE Phase 2 Development/Integration			1Q-4Q	1Q-4Q	1Q-4Q			
HGHS F1 Development/Integration			1Q-4Q	1Q-4Q	1Q-4Q			
Operational Test Readiness Review (ESE)			2Q					
ESE Operational Test (OA ) (OT-D1)			2Q					
ICAD LRIP			4Q					
Development Test Readiness Review (ESE & ICAD)			4Q					
ESE & ICAD Developmental Test (DT-D5)			4Q	1Q				
Operational Test Readiness Review (ESE & ICAD)				1Q				
ESE & ICAD Operational Test (OA) (OT-D2)				1Q				
Nulka on Radar Tracks Development/Integration		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Block 1A FRP				2Q				
Developmental Test Readiness Review (Block 1B)				3Q				
Block 1B Developmental Test (DT-B1)				3Q				
Developmental Test Readiness Review (Block 1B)				4Q				
Block 1B Developmental Test (DT-B2)					1Q			
Operational Test Readiness Review (Block 1B)					1Q			
Block 1B Operational Test (OA) (OT-B1)					1Q			

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Exhibit R-4a, Schedule Detail  
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COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		5.360	7.100	2.449	0.992	1.004	1.020	1.041
RDT&E Articles Qty								

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

The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Currently NULKA is undergoing a P3I program to: integrate the Mk 53 Decoy Launching System with Ship Self Defense System (SSDS) and the ship combat systems, maintain electromagnetic compatibility with shipboard emitters, integrate with future electronic warfare system upgrades, and upgrade of the Inertial Measurement Unit (IMU). It is critical to maintain a continuous RDT&E budget for payload and decoy system modifications and testing. This will ensure we provide the fleet with a proven and effective capability that they can have complete confidence in when called on to go in harms way.

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<b>B. Accomplishments/Planned Program</b>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 25%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 10%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 5px;"></div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost																			
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<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 25%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 10%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td>1.000</td><td>2.300</td><td>1.500</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 5px;"></div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		1.000	2.300	1.500	RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		1.000	2.300	1.500															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 25%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 10%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td>1.000</td><td>0.980</td><td></td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 5px;"></div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		1.000	0.980		RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		1.000	0.980																
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 129

UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2004</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KIL	PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy																	
<b>B. Accomplishments/Planned Program</b>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 25%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 10%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td style="text-align: center;">0.949</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost				0.949	RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost				0.949															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">Develop Decoy Launch Processor (DLP)/Decoy Launch System (DLS) technology refresh.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 25%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 10%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">3.360</td><td style="text-align: center;">3.820</td><td></td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		3.360	3.820		RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		3.360	3.820																
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">NULKA decoy subsystem/integration and improvements to include the upgrade of MK53 systems integration test facility and continued studies to upgrade the NULKA payload.</div>																			

R-1 SHOPPING LIST - Item No. 129

UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy

**C. PROGRAM CHANGE SUMMARY:**

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	5.491	2.280	2.492
Current BES/President's Budget: (FY05 Pres Controls)	5.360	7.100	2.449
Total Adjustments	0.131	4.820	0.043
Summary of Adjustments			
SBIR/Transfers	-0.129		
Minor Pricing Adjustments	-0.002	-0.080	-0.008
Program Adjustments			
Inflation			
Congressional increases		4.900	
Manpower			-0.026
WCF			-0.009
Subtotal	-0.131	4.820	-0.043

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 129

UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE			PROJECT NUMBER AND NAME 2190/2441 NULKA DECOY				

**D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN: Anti-Ship Missile Decoy System/5530 (In Millions)	32.257	49.884	46.553	41.592	58.073	59.286	60.779	228.9	729.2
Spares	0.200	0.152	0.158	0.180	0.248	0.073	0.000	Continuing	TBD
OMN: 14DRO, 1D4D	1.964	2.186	3.175	2.755	2.833	2.900	2.970	Continuing	TBD*

\* Total Cost does not include FY01 and prior program costs of \$124,829

**E. ACQUISITION STRATEGY:**

Not Applicable

**F. MAJOR PERFORMERS:**

NSWC Crane , IN Product Development  
NSWC Dahlgren, VA Product Development  
NRL Washington, DC Product Development  
Sippican Inc, Marion, MA Product Development  
BAeA, Australia Product Development



# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			2190/2441/Nulka Decoy						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	RC	NSWC Crane, IN	1.000	2.000	07/03	4.606	02/04				7.606	
	RC	Sippican	1.782			0.393	02/04				2.175	
	MIPR	BAES	0.100	0.600	03/03			1.500	11/04	Continuing	Continuing	
Ship Suitability												
Systems Engineering	WX	NSWC Crane	0.223	0.262	10/02	0.075	10/03	0.200	10/04	Continuing	Continuing	
Systems Engineering	WX	NWAD China Lake		0.050	11/02	0.052	02/04			Continuing	Continuing	
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			3.105	2.912		5.126		1.700		Continuing	Continuing	
Remarks:												
Development Support	WX	NRL	0.375	0.839	10/02	0.997	10/03	0.251	10/04	Continuing	Continuing	
Software Development	WX	NSWC Dahlgren	0.557	1.262	10/02	0.290	10/03	0.198	10/04	Continuing	Continuing	
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Award Fees												
Subtotal Support			0.932	2.101		1.287		0.449		Continuing	Continuing	

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UNCLASSIFIED

# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				2190/2441/Nulka Decoy					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support		cc/cpff	Anteon, Arlington, VA	0.076	0.218	11/02	0.111	11/03	0.193	11/04	Continuing	Continuing
Travel				0.104	0.129	various	0.086	various	0.107	various	Continuing	Continuing
Labor (Research Personnel)												
SBIR Assessment							0.490					
Subtotal Management				0.180	0.347		0.687		0.300		Continuing	Continuing
Remarks:												
Total Cost				4.217	5.360		7.100		2.449		Continuing	Continuing
Remarks:												

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UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE: February 2004									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5									PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE									PROJECT NUMBER AND NAME 2190/2441 NULKA DECOY														
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																																
Production Milestones																																
Test & Evaluation Milestones																																
Deliveries																																

UNCLASSIFIED

**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

R-1 SHOPPING LIST - Item No. 129

**UNCLASSIFIED**

**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 20 of 28)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 9243/Radar Tiles			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		0.951	2.769	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

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

(u) MISSION DESCRIPTION AND BUDGET ITEM JUTIFICATION: OUTLAW BANDIT is a ship signature reduction program, applying radar absorbent material (RAM) to selected areas of a ship's equipment, superstructure, and weapons systems. PCMS enhances ship survivability when used in conjunction with AN/SLQ-32 and Decoys.

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (DETECT & CONTRO	PROJECT NUMBER AND NAME 9243 Radar Tiles		
<b>B. Accomplishments/Planned Program</b>				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.951	2.769	0.000
RDT&E Articles Quantity				
Develop an advanced radar absorbing material				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 129

UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 9243 RADAR TILES

**C. PROGRAM CHANGE SUMMARY:**

	FY2003	FY2004	FY2005
Funding:			
Previous President's Budget:	0.977	0.000	0.000
Current BES/President's Budget	0.951	2.769	0.000
Total Adjustments	-0.026	2.769	0.000
Summary of Adjustments			
Minor Pricing Adjustments	0.000	-0.007	
SBIR/STTR Transfer	-0.026	0.000	
Economic Assumptions	0.000	-0.024	
Congressional increases	0.000	2.800	
Subtotal	-0.026	2.769	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

R-1 SHOPPING LIST - Item No. 129

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (DETECT & CONTROL			PROJECT NUMBER AND NAME 9243/Radar Tiles				
<b>D. OTHER PROGRAM FUNDING SUMMARY:</b>									
<u>Line Item No. &amp; Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
O&M,N ELECTRONIC WARFARE PE 0728827 OUTLAW BANDIT	1.348	1.379	1.417	1.433	1.578	1.659	1.693		
<b>E. ACQUISITION STRATEGY: *</b>									
<b>F. MAJOR PERFORMERS: **</b>									

R-1 SHOPPING LIST - Item No. 129

UNCLASSIFIED



# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			9243/Radar Tiles						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development Inc 1											0.000	
Ancillary Hardware Development											0.000	
Software Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR/RCP	PHD.		0.777	03/03	2.469	02/04			0.000	3.227	
Combat Systems Modifications											0.000	
Miscellaneous											0.000	
											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.777		2.469		0.000		0.000	3.227	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Engineering Services											0.000	
Miscellaneous											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

R-1 SHOPPING LIST - Item No. 129

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 2)							DATE: February 2004					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			9243/Radar Tiles						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test Planning/T&E Events	WR/RCP	NSWC CD									0.000	
Miscellaneous	Various	Various									0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support	CPFF	Anteon		0.104	03/03	0.100	01/04			0.000	0.204	
Government Engineering Support	WR	NSWC/PHD		0.070	03/03	0.200	01/04			0.000	0.270	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.174		0.300		0.000		0.000	0.474	
Remarks:												
Total Cost				0.951		2.769		0.000		Continuing	Continuing	
Remarks:												

UNCLASSIFIED

R-1 SHOPPING LIST - Item No. 129

Exhibit R-4a, Schedule Detail  
(Exhibit R-4a, page 26 of 28)

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: <b>February 2004</b>								
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>												PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (DETECT & CONTROL)												PROJECT NUMBER AND NAME 9243/Radar Tiles								
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Acquisition Milestones</b>																																
Prototype Phase																																
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
<b>Test &amp; Evaluation Milestones</b>																																
Development Test																																
Operational Test																																
<b>Production Milestones</b>																																
LRIP I FY 05																																
LRIP II FY 06																																
FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 129

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

UNCLASSIFIED

Exhibit R-4a, Schedule Detail  
(Exhibit R-4a, page 27 of 28)

# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
NOT APPLICABLE						February 2004		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME			
RDT&BA-5		0604757N SHIP SELF DEFENSE (DETECT & CONTROL)			9243/Radar Tiles			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

R-1 SHOPPING LIST - Item No. 129

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Exhibit R-4a, Schedule Detail  
(Exhibit R-4a, page 28 of 28)