

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: FEBRUARY 2007
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)
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COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	40.605	21.133	34.323	37.869	22.690	19.325	19.656	19.994
0954 Shipboard EW Improvements	22.269	10.497	28.327	31.785	19.909	18.238	18.551	18.874
2190 Nulka Decoy	8.789	0.972	5.996	6.084	2.781	1.087	1.105	1.120
9999/Congressional Adds	9.547	9.664						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

0954 - The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition and spiral development program of Block upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems. It replaces the AN/SLY-2(V) Advanced Integrated Electronic Warfare System (AIEWS) program, which 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 will be in progress, potential alternate element and component surveys performed, and ongoing Cost As an Independent Variable (CAIV) efforts will be employed throughout to aid decision-making. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources. The capabilities and subsystems included in Blocks can change as technology matures for integration.

2190 - The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Currently NULKA is undergoing a P3I program to integrate the Mk 53 Decoy Launching System with Ship Self Defense System (SSDS) and the ship combat systems, and a software upgrade to counter an emerging threat.

9999 - FY06 Congressional Adds: NULKA Decoy System, Sea Raptor, Surface Ship EW Improvement Program (Note: Only for continuation of SBIR phase III follow-On), Advanced radar absorbing tile for surface ships. FY07 Congressional Adds: NULKA Decoy System, Advanced radar absorbing tile for surface ships, Shipboard Electronic Warfare Improvement Program, SLQ-32 ESM System Interference Cancellation.

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE:		
		FEBRUARY 2007		
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION BA-5	0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)			
B. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY07 PB controls):	33.550	11.513	18.602	20.237
Current Budget (FY08 PB controls):	40.605	21.133	34.323	37.869
Total Adjustments	7.055	9.620	15.721	17.632
Summary of Adjustments				
Program Adjustments	0.000	0.000	15.627	17.200
Congressional Adds	0.000	9.700	0.000	0.000
Undistributed General Increases	7.819	0.000	0.243	0.464
Undistributed General Reductions	-0.764	-0.080	-0.149	-0.032
Subtotal	7.055	9.620	15.721	17.632
Schedule:				
See attached schedule.				
Technical:				
See attached Schedule				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 0954 Shipboard EW Improvements			
COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2113
Project Cost	22.269	10.497	28.327	31.785	19.909	18.238	18.551	18.874
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. It replaces the AN/SLY-2(V) Advanced Integrated Electronic Warfare System (AIEWS) program, which 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 will be in progress, potential alternate element and component surveys performed, and ongoing Cost As an Independent Variable (CAIV) efforts will be employed throughout to aid decision-making. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources. The capabilities and subsystems included in Blocks can change as technology matures for integration.

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 almost complete with FRP descision memorandum signed AUG 06. Block 1B currently adds Specific Emitter Identification (SEI) via integration of stand-alone Small Ship Electronic Support Measures (SS ESM), ICAD improvements, and HGHS to improve threat correlation and situational awareness. Block 1B is planned to begin at-sea testing in FY07. Block 1C currently with additional High Gain High Sensitivity (HGHS) capability, Radar Designated Decoy Launch (RDDL), ICAD/ESE capability to active AN/SLQ-32 varaints (3/4), and integrate with new MH-60R EW capability. Block 1C is scheduled to begin in FY08 with 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.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 0954 Shipboard EW Improvements

B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	17.362	7.576	9.909	4.785
RDT&E Articles Quantity				

Block 1B2 includes improvements to Improved Control and Display (ICAD), adds Specific Emitter Identification (SEI) capability, and Network Centric Warfare Electronic Support (NCWES) - all added capability to the AN/SLQ-32B(V) System. These System enhancements notably increase Anti-Ship Missile Defense (ASMD), by increasing the confidence of the situational awareness of the Electronic Warfare (EW) environment for a ship or strikegroup. ICAD provides reduced workload for the operator with Human Systems Interface (HSI) enhancements, Mission Planning capability, and Embedded Training to improve operator proficiency. SEI provides a high confidence to identify contracts of interest within the operating area. NCWES provides a direct link to the information off board to enhance the awareness of the AN/SLQ-32 operator. The final upgraded system will go through a series of formal tests commencing with a Factory Qualification Test and culminating with a Operational Evaluation to support a Full Rate Production Decision.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	4.907	2.921	8.218	17.240
RDT&E Articles Quantity				

Block 1B3 builds off the foundation of 1B2 and adds significant increase in warfighting capability with the addition of High Gain High Sensitivity HGHS capability. The HGHS capability provided in 1B3 is the first spiral for the HGHS capability and will be limited to integrating F1, F2 and partial F4 preliminary capability into the AN/SLQ-32 system. Additional information will be provided to the system to increase the capability of early warning detection of ASMDs to provide Ship Self Defense. The tasking of 1B3 will work from a Prototype system that will evolve to a Critical Design Review (CDR). This upgrade will undergo an Operational Assessment (OA) from which a decision will be made on whether to procure LRIP quantities. If approved, the LRIP quantities will be built and tested. The testing will complete upon a successful Operational Test (OT) to support a Full Rate Production Decision for 1B3.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.371	4.586
RDT&E Articles Quantity				

Block 1C will undergo further requirements definition, preliminary and critical design reviews and development and operational testing of the following capabilities: 1) ICAD/ESE for V3/4 systems & other ICAD Improvements Development/Integration; 2) NCWES Phase II Development/Integration; 3) MH-60R Development/Integration; 4) HGHS (FULL) Development/Integration; and 5) Radar Designated Decoy Launch (RDDL). ICAD/ESE for V3/4 systems will provide the same capability improvements as 1A/1B systems for active variant ships (CG 47, LHA, LHD, CV/CVN, some DDG 51 class ships). The system will have the added capability to exchange and retrieve from the Global Information Grid (GIG) via NCWES phase II. MH-60R integration will allow the ship to integrate the EW capabilities from the MH-60R program. Full HGHS capability will provide for additional Situational Awareness capability. RDDL will add capability to significantly improve the effectiveness and the proper launch sequence of the Nulka decoy round. The combination of RDDL and the Nulka significantly improves Ship Self Defense.

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EXHIBIT R-2a. RDT&E Project Justification		DATE: FEBRUARY 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 0954 Shipboard EW Improvements

B. Accomplishments/Planned Program (Cont.)

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	4.829	5.174
RDT&E Articles Quantity				

Block 2 and future EW systems work will be accomplished. This work is desperately needed because the spirals of Block 1 is still layered on top of 1970s technology. Block 2 will evaluate requirements, design and development of a new architecture for a receiver capable of replacing existing systems and providing the increase EW capabilities required to keep pace with the threat. The new technology will provide more inoperately with the combat systems / GIG and support the transition to an open architecture environment for current and future ship classes.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2007			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			PROJECT NUMBER AND NAME 0954 Shipboard EW Improvements					
C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Total Complete</u>	<u>Cost</u>
OPN BA-2 AN/SLQ-32(V) (2312)	23.019	30.808	29.903	29.619	35.236	34.307	34.952	35.199	TBD	TBD
O&M,N AN/SLQ-32 (12CR0/1C2C)	5.559	5.446	5.257	5.668	5.894	6.060	6.171	6.281	TBD	TBD
D. ACQUISITION STRATEGY:										
<p>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.</p>										
E. MAJOR PERFORMERS:										
<p>Northrop Grumman PRB Goleta, CA - ESE development contract GD-AIS Fairfax, VA - System Integrator 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, system engineering support for RDDDL & MH-60R integration Naval Surface Warfare Center Crane IN - Lead for HW/SW ESE development, support for all DT/OT events, system engineering support for all blocks</p>										

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: FEBRUARY 2007						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)					0954 Shipboard EW Improvements						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ancillary Hardware Development			151.420										151.420	
ESE Development	SS / FFP	Northrop Grumman	5.001									TBD	TBD	TBD
ESE Development	SS / CPFF	Northrop Grumman	0.471									TBD	TBD	TBD
ICAD Development-SBIR Phase III	SS / CPFF	GD-AIS	11.747									TBD	TBD	TBD
System Integrator	SS / CPAF	GD-AIS	8.539	1.888	11/05	1.126	11/06	1.722	11/07	1.757	11/08	TBD	TBD	TBD
ICAD 1B Development	SS / CPAF	GD-AIS	32.277	7.350	11/05	3.940	11/06	10.021	11/07	10.129	11/08	TBD	TBD	N/A
1C Development	SS / CPAF	GD-AIS						2.888	11/07	1.242	11/08			
Q-70 Mods	SS / CPFF	LM-EAGAN	2.091	1.400	11/05					0.800	11/08	TBD	TBD	
Block 2 Study/Development	MP	BAE & Others		0.336	11/05			2.560	11/07	2.262	11/08	TBD	TBD	
Subtotal Product Development			211.546	10.974		5.066		17.191		16.190		TBD	TBD	
Remarks: 34.501 : 14160														
Integrated Logistics Support	WX	NSWC Crane, DD, NRL	6.438	1.455	11/05	0.527	11/06	1.091	11/07	1.987	11/08	TBD	TBD	N/A
Government Engineering Support	WX	NSWC Crane, DD, NRL	22.827	5.158	11/05	1.356	11/06	3.448	11/07	5.365	11/08	TBD	TBD	N/A
Integration and Test	WX	NSWC Crane, DD, NRL	0.605	0.000	11/05	0.198	11/06	0.854	11/07	0.839	11/08	TBD	TBD	N/A
TTP & Producibility	WX	NSWC Crane, DD, NRL	0.000					0.177	11/07	0.905	11/08			
Subtotal Support			29.870	6.613		2.081		5.570		9.096		TBD	TBD	
Remarks:														

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Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2007				
APPROPRIATION/BUDGET ACTIVITY RD&E, N / BA-5			PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			PROJECT NUMBER AND NAME 0954 Shipboard EW Improvements								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	8.958										8.958	
Block 1A Test Planning/T&E Events	WX	NSWC Crane, DD, NRL	11.036									TBD	TBD	
Block 1B Test Planning/T&E Events	WX	NSWC Crane, DD, NRL	2.373	1.739	11/05	1.837	11/06	2.947	11/07	3.184	11/08	TBD	TBD	
Block 1C Test Planning/T&E Events										0.212	11/08	TBD	TBD	
Block 2 Test Planning/T&E Events										0.142	11/08	TBD	TBD	
												TBD	TBD	
												TBD	TBD	
Subtotal T&E			22.367	1.739		1.837		2.947		3.538		TBD	TBD	
Remarks:														
Program Management Support	FFP	SEAPORT	23.949	1.200	11/05	0.850	11/06	1.200	11/07	1.200	11/08	TBD	TBD	
Program Management Support	WX	NSWC/Crane & DD, NRL	6.249	1.643	11/05	0.563	11/06	1.319	11/07	1.661	11/08	TBD	TBD	
Travel			0.305	0.100		0.100		0.100		0.100		TBD	TBD	
Subtotal Management			30.503	2.943		1.513		2.619		2.961		TBD	TBD	
Remarks:														
Total Cost			294.286	22.269		10.497		28.327		31.785		CONT	CONT	
Remarks:														

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: FEBRUARY 2007		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE				0954 Shipboard EW Improvements			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SEI (Federated SEI) Development/Integration	1Q-4Q							
ICAD	1Q-4Q							
HGHS	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
NCWE	1Q-4Q							
ICAD/ESE for V3/4/5 & other ICAD Improvements Development/Inte			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
NCWES (Phase II) Development/Integration			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
MH-60R Development/Integration			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
HGHS Development/Integration			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Block 1A FRP	4Q							
Block 1B MS B decision		2Q						
Developmental Test Readiness Review (Block 1B2)		2Q						
Block 1B2 Developmental Test (DT-B6/7)		2Q-3Q						
Developmental Test Readiness Review (Block 1B2)		3Q						
Block 1B2 Developmental Test (DT-B8)		3Q						
Developmental Test Readiness Review (Block 1B2)			1Q					
Block 1B2 Developmental Test (DT-B9)			2Q					
Operational Test Readiness Review (Block 1B2)			2Q					
Block 1B2 Operational Test (OT) (OT-B4)			2Q					
Block 1B2 MS C/FRP			4Q					
Developmental Test Readiness Review (Block 1B3)			4Q					
Block 1B3 Developmental Test (DT-B10)			4Q					
Developmental Test Readiness Review (Block 1B3)				1Q				
Block 1B3 Developmental Test (DT-B11)				1Q				
Operational Test Readiness Review (Block 1B3)				1Q				
Block 1B3 Operational Test (OA) (OT-B5)				1Q				
Block 1B3 MS C				3Q				
Developmental Test Readiness Review (Block 1B3)					4Q			
Block 1B3 Developmental Test (DT-C12)					4Q			
Developmental Test Readiness Review (Block 1B3)						1Q		
Block 1B3 Developmental Test (DT-C13)						1Q		
Operational Test Readiness Review (Block 1B3)						2Q		
Block 1B3 Operational Test (OT) (OT-C6)						2Q		
Block 1B3 FRP						3Q		

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																DATE: FEBRUARY 2007																		
APPROPRIATION/BUDC PROGRAM ELEMENT NUMBER AND NAME RDT&E, N / 0604757N SHIP SELF DEFENSE										PROJECT NUMBER AND NAME 0954 Shipboard EW Improvements																								
Fiscal Year	2006				2007				2008				2009				2010				2011				2012				2013					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Acquisition Milestones			Block 1A FRP ▲			Block 1B MS B ▲						Block 1B2 MS C/FRP ▲			Block 1B3 MS C ▲										Block 1B3 FRP ▲									
Block 1B Development/Integration	SEI										(Federated SEI Development/Integration)																							
	ICAD Improvements										(Mission Planning, Display Updates, & Embedded Training Development/Integration)																							
	NCWES																																	
											HGHS Limited Development/Integration																							
Block 1C Development/Integration											ICAD/ESE for V3/4/5 & other ICAD Improvements Development/Integration																							
											NCWES Phase II Development/Integration																							
											MH-60R Development/Integration																							
											HGHS (FULL) Development/Integration																							
Block 2 Development											New Receiver Development																							
Test & Evaluation Milestones																																		
Development Test											DT-B8																							
											DT-B9																							
											DT-B11																							
Operational Test											DT-C13																							
											DT-B6 & 7																							
											DT-B10																							
											DT-C12																							
											OT-B4																							
											OT-B5																							
											OT-C6																							

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EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			PROJECT NUMBER AND NAME 2190 Nulka Decoy			
COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 20113
Project Cost	8.789	0.972	5.996	6.084	2.781	1.087	1.105	1.120
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 (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Currently NULKA is undergoing a P3I program to integrate the Mk 53 Decoy Launching System with Ship Self Defense System (SSDS) and the ship combat systems, and a software upgrade to counter an emerging threat. Develop and deploy countermeasures for Advanced ASCM Advanced Seeker technology and development of Crystal Sun.

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KIL	PROJECT NUMBER AND NAME 2190 Nulka Decoy

B. Accomplishments/Planned Program

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.990	0.972	1.000	1.100
RDT&E Articles Quantity				

NULKA decoy subsystem integration and improvements to include EMC, Effectiveness Studies, Engineering Studies and Fly Out Tactics.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	7.799	0.000	1.996	4.984
RDT&E Articles Quantity				

Field and interim Electronic Countermeasure capability using Nulka technology that will protect U.S. Navy high value assets. Develop and deploy countermeasures for Advanced ASCM Advanced Seeker technology and development of Crystal Sun.

Nulka enhancements to include increased duty cycle and wider frequency coverage.

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	3.000	0.000
RDT&E Articles Quantity				

At sea test of upgraded decoy launching system software

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604757N SHIP SELF DEFENSE	2190 Nulka Decoy	

C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY2011</u>	<u>FY2012</u>	<u>FY2013</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN: Anti-Ship Missile Decoy System/5530 (In Millions)	44.356	56.363	42.450	38.606	45.298	56.104	57.257	58.347	TBD	TBD
O&MN: NULKA/Anti-Ship	2.595	1.558	3.232	3.352	5.061	4.976	4.748	5.178	TBD	TBD

D. ACQUISITION STRATEGY:

Not Applicable

E. MAJOR PERFORMERS:

NSWC Crane , IN Product Development
 NSWC Dahlgren, VA Product Development
 NRL Washington, DC Product Development
 Lockheed Martin, Marion, MA Product Development
 Baes, Australia Product Development

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2007				
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT						PROJECT NUMBER AND NAME				
RDT&E, N / BA-5				0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)						2190 Nulka Decoy				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	RC	NSWC Crane, IN	3.000										3.000	
	RX	BAES/Sippican	5.656										5.656	
	MIPR	BAES	4.233			0.339	11/06	1.794	11/07	3.715	11/08	Continuing	Continuing	
Ship Suitability														
Systems Engineering	WX	NRL	1.080	7.908		0.576		0.604		0.669		Continuing	Continuing	
Systems Engineering	WX	NWAD China Lake	0.120											
MK 53 Sys Engineering Change	FFP	Sechan	0.150											
Systems Engineering	RX	NSWC Dahlgren, VA	0.444					0.400	11/07	0.400	11/08	Continuing	Continuing	
Systems Engineering	RX	NSMA,VA		0.360										
Systems Engineering	WX	NSWC Crane, IN	0.227											
Subtotal Product Development			14.910	8.268		0.915		2.798		4.784		Continuing	Continuing	
Remarks:														
Development Support	RX	NRL	1.314							0.500	11/08	Continuing	Continuing	
Software Development	WX	NSWC Dahlgren	2.094	0.433						0.600		Continuing	Continuing	
Training Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
GFE														
Award Fees														
Subtotal Support			3.408	0.433		0.000		0.000		1.100		Continuing	Continuing	

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: FEBRUARY 2007					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT						PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)						2190 Nulka Decoy					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NSWC/DD						0.800						
	WX	NRL						1.500						
Operational Test & Evaluation														
Live Fire Test & Evaluation														
Test Assets	WX	TBD						0.700						
Tooling														
GFE														
Award Fees														
Subtotal T&E			0.000	0.000		0.000		3.000		0.000		0.000	3.000	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support	FFP	SEAPORT	0.394	0.025				0.135		0.135				
Travel			0.290	0.063		0.057		0.063		0.065		Continuing	Continuing	
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			0.684	0.088		0.057		0.198		0.200		Continuing	Continuing	
Remarks:														
Total Cost			19.002	8.789		0.972		5.996		6.084		Continuing	Continuing	
Remarks:														

EXHIBIT R4, Schedule Profile																							DATE: FEBRUARY 2007													
APPROPRIATION/BUDGET / PROGRAM ELEMENT NUMBER AND NAME													PROJECT NUMBER AND NAME																							
RDT&E, N / BA-5 0604757N SHIP SELF DEFENSE													2190 Nulka Decoy																							
Fiscal Year	2006				2007				2008				2009				2010				2011				2012				2013							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																				
Production Milestones																																				
Test & Evaluation Milestones																																				
Development Test																																				
Operational Test																																				

△ DLP v. 6.3
 △ Field Crystal Sun

△ LHA 6 Install Cert

△ LPD 18 DT
 △ USCG Deepwater DT
 △ IMU Land Based Test
 △ LSD 41/49 Class DT

△ IMU AT-SEA Test
 △ Increased Duty Cycle DT

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2007	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE	PROJECT NUMBER AND NAME 9999 Congressional Plus-Ups : VARIOUS		
CONGRESSIONAL PLUS-UPS:				
	FY 06	FY07		
2441C/Nulka Decoy System	1.971	1.793		
Nulka Decoy System				
Nulka research for development of additional capability against anti-ship missiles.				
	FY 06			
9244C	3.735			
Surface Ship EW Improvement Program				
The Systems Integrator contract is currently performing system level technical design, technical coordination, integration, and testing of SEWIP . The System Integrator is responsible for developing the overall technical roadmap for SEWIP, including the detailed technical plan for each block upgrade. The System Integrator will perform any required CAIV analysis, develop overall technical performance requirements, perform system level functional allocations, coordinate the execution of the block upgrades. The System Integrator is responsible for the overall integration of the portions of the system and performing element testing as well as system level performance testing.				
	FY 06			
9591C	2.394			
SEA RAPTOR				
Receiver Replacement Studies, which includes the Shipboard Leverage Electronic Warfare System and Sea Raptor				
	FY 06	FY07		
9243C	1.447	1.395		
Advanced radar absorbing tiles for surface ships				
Develop an advanced radar absorbing material				
	FY 06	FY07		
9A53N		3.238		
Shipboard Electronic Warfare Improvement Program				
Receiver Replacement Studies, which includes the Shipboard Leverage Electronic Warfare System and Sea Raptor.				
	FY 06	FY07		
9A54N		3.238		
SLQ-32 ESM System Interference Cancellation				
Modify the SLQ-32 to "see through" the interference caused by the installation of new communications system.				