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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2002																							
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE																									
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 7					Surface ASW Combat System Integration/ 0205620N																									
COST (\$ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost																				
Total PE Cost		30.008	27.869	24.424	16.609	14.337	6.964	11.708	CONT.	CONT.																				
ASW Combat Systems Integration/ Q0896		0.000	0.000	0.000	0.000	0.000	1.288	5.444	CONT.	CONT.																				
Surface ASW System Improvements/ Q1916		30.008	27.869	24.424	16.609	14.337	5.676	6.264	CONT.	CONT.																				
Quantity of RDT&E Articles																														
<p>A. Mission Description and Budget Item Justification: The objective of this Program Element (PE) is to significantly improve existing AN/SQQ-89(V) and Surface Ship Sonar System capabilities. It will improve AN/SQQ-89(V) Measures of Performance (MOP) by enhancing detection, tracking, classification, data processing and display capabilities, and increasing acoustic sensor frequency bandwidth. This PE will take advantage of Acoustic Rapid COTS Insertion (ARCI) type initiatives and the AN/SQQ-89(V) open system architecture to develop and integrate the Multi-Function Towed Array (MFTA) with active sonar bistatics (Echo Tracker Classifier - ETC) and torpedo defense capabilities into the AN/SQQ-89(V) as a backfit program for CG47 (as part of the Cruiser Conversion program) and DDG51 class ships (AN/SQQ-89A(V)15). Via the Peer Review Process (PRP), the AN/SQQ-89A(V)15 system architecture will support technology refresh, maximize software portability, and support interoperability with multiple AEGIS baselines.</p> <p>B. Program Change Summary:</p> <table border="0"> <thead> <tr> <th></th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> </tr> </thead> <tbody> <tr> <td>FY 2002 President's Budget:</td> <td>29.314</td> <td>28.119</td> <td></td> </tr> <tr> <td>Appropriated Value:</td> <td>29.585</td> <td>28.119</td> <td></td> </tr> <tr> <td>Adjustments to FY 2001/2002 Appropriated Value/ FY 2002 President's Budget:</td> <td>0.423</td> <td>-0.250</td> <td></td> </tr> <tr> <td>FY 2003 OSD/OMB Budget Submit:</td> <td>30.008</td> <td>27.869</td> <td>24.424</td> </tr> </tbody> </table> <p>Funding: FY 2001 changes include a net increase for ASN(RDA) Below Threshold Reprogrammings (+1.324) and decreases for SBIR (-0.630) and Congressional reductions (-0.271). FY 2002 decrease for Federally Funded Research Centers (FFRDC)(-0.002) and Sec. 8123, Management Reform Initiatives (-0.248).</p>												FY 2001	FY 2002	FY 2003	FY 2002 President's Budget:	29.314	28.119		Appropriated Value:	29.585	28.119		Adjustments to FY 2001/2002 Appropriated Value/ FY 2002 President's Budget:	0.423	-0.250		FY 2003 OSD/OMB Budget Submit:	30.008	27.869	24.424
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/ BA 7	Surface ASW Combat System Integration/ 0205620N			Surface ASW System Improvements/ Q1916						
COST (\$ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost		30.008	27.869	24.424	16.609	14.337	5.676	6.264	CONT.	CONT.
RDT&E Articles Qty										
<p>A. Mission Description and Budget Item Justification: The Surface ASW System Improvements project will support essential performance enhancements on AN/SQQ-89(V) and Surface Ship Sonar Systems. This project will develop and refine active classification and display upgrades to support implementation in both the AN/SQQ-89(V) hull subsystem and the MFTA. This Project will integrate the MFTA, completed in Project V0896, with active sonar bistatics (ETC) and torpedo defense capabilities into the AN/SQQ-89(V) as a backfit program on CG47 (as part of the Cruiser Conversion program) and DDG51 class ships (AN/SQQ-89A(V)15). Via the PRP, the AN/SQQ-89A(V)15 system architecture will support technology refresh, maximize software portability, and support interoperability with multiple AEGIS baselines. Finally, this Project will develop the AN/SQQ-89(V) design and interface with the Light Airborne Multi-Purpose System (LAMPS) Mk III Blk II system.</p> <p>PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. (U) FY 2001 Accomplishments:</p> <ul style="list-style-type: none"> (\$3.237) Completed active sonar bistatic processing (Echo Tracker Classifier (ETC)) to support implementation with the AN/SQQ-89A(V)15. (\$1.153) Completed torpedo Detection, Classification and Localization (DCL) software to support implementation with the AN/SQQ-89A(V)15. (\$22.104) Continued integration of MFTA, active sonar bistatic processing (ETC), and torpedo DCL software into the AN/SQQ-89A(V)15. (\$1.100) Began integration of LAMPS Mk III Blk II KuBand into the AN/SQQ-89(V). (\$0.179) Completed analysis of the Computer Aided Dead Reckoning Tracer (CADRT) TECHEVAL and OT-IIA at-sea test of an AN/SQQ-89(V)6 system with active adjunct processing and improved contact management. (\$0.335) Coordinated and conducted MFTA sea test. (\$1.900) Completed transition of Environmentally Adaptive (EA) algorithms and active sonar parameter control into the AN/SQQ-89A(V)15. 										

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APPROPRIATION/BUDGET ACTIVITY	Surface ASW Combat System Integration/ 0205620N	February 2002
RDT&E, N/ BA 7		
<p>2. (U) FY 2002 Plan:</p> <ul style="list-style-type: none">(\$8.500) Enhance AN/SQQ-89A(V)15 system architecture to support technology refresh, maximize software portability, and modify external interfaces to support interoperability with multiple AEGIS baselines.(\$17.294) Continue integration of MFTA, active sonar bistatic processing (ETC), and torpedo DCL software into the AN/SQQ-89A(V)15.(\$0.275) Coordinate and conduct MFTA sea test.(\$1.100) Continue the integration of the LAMPS Mk III Blk II KuBand into the AN/SQQ-89(V).(\$0.700) Coordinate and conduct developmental test DT-IIIAP of the improved AN/SQQ-89(V)6 Torpedo Alertment Upgrade. <p>3. (U) FY 2003 Plan:</p> <ul style="list-style-type: none">(\$0.335) Coordinate and conduct MFTA sea test.(\$20.954) Contract for delivery of AN/SQQ-89A(V)15 Engineering Development Model (EDM), provide associated integration support, and coordinate installation efforts.(\$1.000) Begin the development of improved torpedo detection algorithms to be incorporated into the Torpedo Recognition and Alertment Functional Segment (TRAFS).(\$0.874) Continue the integration of the LAMPS Mk III Blk II KuBand into the AN/SQQ-89(V).(\$0.650) Coordinate and conduct operational test OT-IIIJ of the improved AN/SQQ-89(V)6 Torpedo Alertment Upgrade.(\$0.350) Coordinate and conduct developmental test DT-IIIA and operational test OT-IIIA of an AN/SQQ-89(V)14 system with improved contact management capabilities (CADRT).(\$0.261) Provide AN/SQQ-89(V) performance data analysis, independent verification and validation, and modeling and simulation using MOP and Measures of Effectiveness (MOE) methods.		

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/ BA 7		Surface ASW Combat System Integration/ 0205620N			Surface ASW System Improvements/ Q1916				
B. Other Program Funding Summary:									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY2007</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN Budget Line Item 213600/5	14.1	16.4	24.2	31.2	21.3	21.3	23.9	CONT.	CONT.
Related RDT&E: N/A									
C. Acquisition Strategy: Development work in this project is performed primarily by:									
<ul style="list-style-type: none"> - Advanced Acoustic Concepts (AAC), NY - SBIR Phase III contract for common acoustic processor - Applied Hydro-Acoustics Research (AHA), MD - SBIR Phase III contract for common acoustic processor and beamformer processing for MFTA - Digital System Resources (DSR), VA - SBIR Phase III contract for common acoustic processor - Johns Hopkins University Applied Physics Laboratory (JHU/APL), MD - Design, development and integration of MFTA, Torpedo Detection Classification and Localization (TDCL) improvements, and emerging active sonar technologies into the AN/SQQ-89(V) - Lockheed Martin, NY - Incumbent AN/SQQ-89(V) Design Agent. This contract was awarded competitively and will extend through FY 2002 - Prime Contractor TBD - AN/SQQ-89(V) Design Agent. This contract to be competitively awarded in FY 2002 - Naval Undersea Warfare Center, Newport, RI - AN/SQQ-89(V) Technical Direction Agent - Naval Surface Warfare Center, Dahlgren, VA - AN/SQQ-89(V) Technical Direction Agent 									
Future Plan:									
Award new competitive AN/SQQ-89(V) contract in FY 2002. Complete AN/SQQ-89A(V)15 EDM in FY 2003 (RDT&E PE 0205620N).									

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APPROPRIATION/BUDGET ACTIVITY	Surface ASW Combat System Integration/ 0205620N			Surface ASW System Improvements/ Q1916			
RDT&E, N/ BA 7							
D. Schedule Profile							
	<u>FY 2001</u>	<u>FY2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Program Milestones	Begin LAMPS Mk III Blk II Integration		Complete AN/SQQ-89A(V)15 EDM	AN/SQQ-89A(V)15 EDM Installed			Complete LAMPS Mk III Blk II Integration
Engineering Milestones	2Q Integrated MFTA Sea Test	3Q Integrated MFTA Sea Test	1Q Integrated MFTA Sea Test				
T&E Milestones	3Q (V)6 CADRT OT-IIA Sea Test	4Q Improved TAU DT-IIIAP Sea Test	2Q Improved TAU OT-IIIJ Sea Test 2Q (V)14 CADRT DT-III A Sea Test 4Q (V)14 CADRT OT-III A Sea Test	3Q AN/SQQ- 89A(V)15 DT Sea Test	2Q AN/SQQ- 89A(V)15 OT Sea Test		
Contract Milestones		Award new competitive AN/SQQ-89(V) contract					

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			Surface ASW Combat Systems Integration/ 0205620N				Surface ASW System Improvement V1916/ Q1916					
RDT&E, N/ BA 7												
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/W & S/W Development	C/CPFF	AAC, NY	0.000	0.911	01/01	2.158	12/01	0.374	11/02	CONT.	CONT.	
Primary H/W & S/W Development	C/CPFF	AHA, MD	0.379	1.247	03/01	0.745	11/01	0.200	11/02	CONT.	CONT.	
Primary H/W & S/W Development	C/CPFF	DSR, VA	0.489	1.312	12/00	1.875	01/02	2.500	11/02	CONT.	CONT.	
Primary H/W & S/W Development	C/CPFF	JHU/APL, MD	1.953	1.780	02/01	2.986	01/02	0.500	12/02	CONT.	CONT.	
Primary H/W & S/W Development	C/CPAF	Lockheed Martin, NY	14.165	14.514	11/00	6.117	11/01			0.000	34.796	34.796
Primary H/W & S/W Development	C/CPAF	Prime Contractor TBD				2.126	03/02	12.462	11/02	TBD	TBD	TBD
Primary H/W & S/W Development	WR	NSWC/Dahlgren, VA	5.509	1.271	11/00	0.556	12/01	1.725	11/02	CONT.	CONT.	
Primary H/W & S/W Development	WR	NUWC/Newport, RI	19.602	3.205	11/00	2.615	11/01	3.661	11/02	CONT.	CONT.	
Primary H/W & S/W Development	Var.	Var.	19.094	4.521	Var.	7.138	Var.	1.020	Var.	CONT.	CONT.	
Common Systems Engineering	Var.	Var.	0.580							0.000	0.580	
Subtotal Product Development			61.771	28.761		26.316		22.442		CONT.	CONT.	
Remarks: Budgeted for award fees (\$M): 1.116 in FY01 (Lockheed Martin, NY) , 0.764 in FY02 (0.584 - Lockheed Martin, NY and 0.180 - Prime Contractor TBD) and 0.253 in FY03 (Prime Contractor TBD). Lockheed Martin's performance has been excellent, earning close to 100% of possible award fee for the most recent award fee periods.												
Studies, Analysis, & Evaluations	Var.	Var.	0.900							0.000	0.900	
Engineering & Technical Services	Var.	Var.	1.500							0.000	1.500	
Subtotal Support			2.400	0.000		0.000		0.000		0.000	2.400	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			Surface ASW Combat Systems Integration/ 0205620N			Surface ASW System Improvement V1916/ Q1916						
RD&E, N/ BA 7												
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development & Operational T&E	Var.	Var.	4.260	0.179	Var.	0.700	Var.	1.000	Var.	CONT.	CONT.	
Miscellaneous T&E	Var.	Var.	2.447					0.261	Var.	CONT.	CONT.	
Subtotal T&E			6.707	0.179		0.700		1.261		CONT.	CONT.	
Remarks:												
Program Management Support	Var.	Var.	4.815	0.918	Var.	0.703	Var.	0.571	Var.	CONT.	CONT.	
Travel	Var.	Var.	0.854	0.150	Var.	0.150	Var.	0.150	Var.	CONT.	CONT.	
Subtotal Management			5.669	1.068		0.853		0.721		CONT.	CONT.	
Remarks:												
Total Cost			76.547	30.008		27.869		24.424		CONT.	CONT.	

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