

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						February 2004	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUAT BA-4				R-1 ITEM NOMENCLATURE 0603562N/Submarine Tactical Warfare Systems			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	12.502	6.948	5.957	6.650	9.889	9.993	6.049
0770/Advanced Sub. Spt Equipment Program	4.242	4.381	3.307	3.376	4.054	4.153	0.000
9040/Multi-Line Towed Array	1.712	0.000	0.000	0.000	0.000	0.000	0.000
1739/Sub. Artic Warfare Development	6.548	2.567	2.650	3.274	5.835	5.840	6.049
Quality of RDT&E Articles							
Defense Emergency Response Funds (DERF) Funds: NOT APPLICABLE							
A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Submarine Tactical Warfare Systems program element is comprised of the Advanced Submarine Support Equipment Program (ASSEP) and the Submarine Special Operations Support Program. The objective is to improve submarine operational effectiveness through the development and implementation of advanced Research and Development (R&D). Areas of improved operational effectiveness for Electronic Warfare Support (ES) and Imaging technologies include Threat Warning/Self Protection; Situational Awareness; and Intelligence, Surveillance, and Reconnaissance. A continuing need exists to improve these capabilities in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. The Submarine Arctic Warfare Development program responds to the increased threat of Naval activity in the Littorals and the continuing threat of submarine and surface ship activity in regions of the world through the development of advanced submarine R&D technology to provide improved operational capability in shallow water regions. Particular emphasis is placed in the areas of sonar operability and maintainability, Littoral operations, mine warfare, tactical surveillance, weapon utility and other submarine support missions. Efforts include assessment of combat system effectiveness, development of Arctic shallow water specific improvements for existing sonars and weapons, development of class specific Arctic operational guidelines and the testing of ice capable submarine support structures. This program also provides the framework for various R&D programs to conduct Test and Evaluation in shallow water and Arctic regions.							
Project 9040 is authorized by Congress to develop Fiber Optics Multi-Line Towed Array.							

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Exhibit R-2, RDTEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equipment Program (ASSEP)				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	4.242	4.381	3.307	3.376	4.054	4.153	4.234
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: A continuing need exists to improve submarine capabilities to improve safety of ship, survivability, and operational effectiveness in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for submarine ES and imaging to be operationally effective in the following mission areas: Joint Littoral Warfare, Joint Surveillance, Space and Electronic Warfare, Intelligence Collection, Maritime Protection and Joint Strike. The program is divided into three project categories: Threat Warning/Self Protection, Situational Awareness, and Intelligence, Surveillance and Reconnaissance. The Threat Warning/Self Protection project evaluates the vulnerability of submarine masts, periscopes and sensors to visual, radar, and infrared detection and evaluates the state of the art technology to implement periscope/mast engineering improvements to reduce counter detection threats. Both Situational Awareness and Intelligence, Surveillance, and Reconnaissance projects develop submarine unique improvements to mast, periscope, and ES electromagnetic and electro-optic sensors based on emerging technologies available from DOD Exploratory Development Programs, industry Independent Research and Development, and other sources. Feasibility demonstration models (FDMs) are developed, evaluated, and validated in the lab and through at-sea testing.

Threat Warning/Self Protection sub-projects include: Mast Signature Reduction (Radar cross Section and Electro-Optical/Infrared), Low Probability of Intercept (LPI) Receiver, and ES Frequency Extension.

Situational Awareness sub-projects include: Automated Rangefinder (Phase B), Imaging Technologies (virtual periscope), Automatic Identification System (AIS), Situational Awareness Bouy (SAB), Photonics Camera Technology, Communications Acquisition Direction Finding (CADF) multi-function antenna, and Low Band Radar DF.

Intelligence, Surveillance and Reconnaissance sub-projects include: Submarine Offboard Sensors (UAV/UUV payload), Advanced EW Tuners, Modular Sensor System (Imaging/SIGINT modules), Imaging Enhancements (fusion), Improved Periscope Interfaces, and R.F. Imaging.

All programs funded in this project are non-acquisition category programs described by Non-Acquisition Program Definition Document (NAPDD) # 556-872-872E1 which is currently under revision. The test articles identified consist of critical components that will be fully developed during engineering development into Engineering Development Models (EDM's).

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(Exhibit R-2a, page 2 of 19)

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-4		PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equipment Program (ASSEP)	
B. Accomplishments/Planned Program			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.764		
RDT&E Articles Quantity			
Completed Mast Signature Reduction (MSR) electro-optic/infrared (EO/IR) mast signature characterization. Completed MSR Radar Cross Section (RCS) reduction over-water testing. Completed the initial MSR wake reduction testing. Completed side by side testing of two LPI receivers, one developed by NRL and the other developed by Technology Service Corporation (TSC) to assess the differences in capability.			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.098	
RDT&E Articles Quantity			
Test and select coating and application processes to reduce RCS and EO/IR Signature of masts. Complete the testing and integration of the optimum LPI receiver and transfer to F0775 for integration into the tactical ES system (BLQ-10).			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.259
RDT&E Articles Quantity			
Fabricate improved EDM mast for signature testing and integration planning Design an Ultra Wide Chirp enhancement for the LPI Receiver.			

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Exhibit R-2a, RD TEN Project Justification
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /		PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equipment Program (ASSEP)													
B. Accomplishments/Planned Program (Cont.)															
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 30%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>1.815</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td></tr></tbody></table>					FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	1.815			RDT&E Articles Quantity			
	FY 03	FY 04	FY 05												
Accomplishments/Effort/Subtotal Cost	1.815														
RDT&E Articles Quantity															
Completed at-sea testing of Patriot Phase A EDM. Completed concept design of the Patriot Phase B (Stealth radar and data link). Completed concept definition for an improved CADF antenna design from Applied EM Corp. Completed prototype and testing of algorithms for 360 degree mosaic (SCIS). Completed the concept design of the Automatic ID System (AIS).															
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 30%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td>3.832</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td></tr></tbody></table>					FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		3.832		RDT&E Articles Quantity			
	FY 03	FY 04	FY 05												
Accomplishments/Effort/Subtotal Cost		3.832													
RDT&E Articles Quantity															
Complete the fabrication of the sub-components to the Patriot Phase B (radar and data link) and correction/enhancement of Patriot Phase A items that are common to Patriot Phase B. Complete a conceptual design of modular imaging and EW sensors for insertion into the Retrievable Teathered Optical Fiber (RTOF) bouy. Fabricate the Automatic ID System (AIS) EDM and commence demonstration test. Develop at-sea test requirements and TEMPALT for the Virtual Periscope. Complete fabrication of the enhanced CADF multifunction antenna prototype.															
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	FY 03	FY 04	FY 05												
Accomplishments/Effort/Subtotal Cost			2.579												
RDT&E Articles Quantity															
Complete fabrication and testing of the Patriot Phase B EDM. Complete the at-sea testing of the Virtual Periscope. Complete the testing and post modification of the enhance CADF antenna. Complete at-sea test of AIS. Complete fabrication of prototype imaging and EW sensor packages for use in the Situational awareness Bouy.															

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /		PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equipment Program (ASSEP)	
B. Accomplishments/Planned Program (Cont.)			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.663		
RDT&E Articles Quantity			
Completed at-sea test and evaluation of the Passive Surveillance Radar (PSR) and ES Vulnerability Server (EVS) EDM including post test modification. Completed prototype algorithms for imaging enhancements and initial testing (super resolution, multispectral fusion). Completed concept definition for submarine offboard sensors (UAV/UUV payload). Completed concept definition of the mission reconfigurable mast (modular sensors). Completed fabrication of a prototype fiber optic data transmission sytem for a periscope			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.451	
RDT&E Articles Quantity			
Complete concept design of the mission reconfigurable mast (modular sensors). Complete software problem reports and make the EVS system ready for at-sea testing.			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			0.469
RDT&E Articles Quantity			
Commence the sub component design of the mission reconfigurable mast. Complete at-sea testing of EVS system			

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Exhibit R-2a, RDTEN Project Justification
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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-4	0603562N/Submarine Tactical Warfare Systems	0770/Advanced Submarine Support Equipment Program (ASSEP)
C. PROGRAM CHANGE SUMMARY:		
Funding:	FY 2003	FY 2004
Previous President's Budget: (FY 04/05 Pres Budget Controls)	4.253	3.431
Current BES/Current FMB: (FY05 Pres Budget Controls)	4.242	4.381
Total Adjustments	-0.011	0.950
Summary of Adjustments		
BSO Adjustments	-0.011	0.000
Sea Enterprise (LOE II)	0.000	0.000
NWCF Rates - NUWC Rates	0.000	0.000
Patriot Periscope Radar System	0.000	1.000
Section 8094: Management Improvements	0.000	-0.012
Section 8126: Efficiencies/ Revisions	0.000	-0.038
WCF - R&D - NUWC	0.000	0.000
Inflation	0.000	0.000
Non purchase inflation	0.000	0.000
Subtotal	-0.011	0.95
		-0.385
Schedule:	Not Applicable.	
Technical:	Not Applicable.	

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 6 of 19)

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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-4			0603562N/Submarine Tactical Warfare Systems			0770/Advanced Submarine Support Equipment Program (ASSEP)					
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>		<u>FY 2002</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>	To <u>Complete</u>	Total <u>Cost</u>
(U) Other Program Funding Summary: Not applicable.											
E. ACQUISITION STRATEGY:											
<p>This project optimizes technology insertion using a build-test-build approach to support ES and imaging operational needs. Operational needs have been based on the tactical requirements identified in CNO letter, Serial N77/1U651534, dated 30 Oct 01, COMSUBLANT/COMSUBPAC Command Capability Issues (CCIs), Virginia Class SSN Operational Requirements Document objectives, a review, assessment and prioritization of Sensor and Processor efforts and SSN force level projections for SSN688/688I, SSN21, and SSN 774 classes through FY2015. Project efforts develop submarine unique improvements to mast, periscope, and ES electromagnetic and electro-optic sensors based on emerging technologies that are available from DOD Exploratory Development Programs, industry Independent Research and Development, and other sources. Feasibility Demonstration Models (FDMs) will be developed to provide a realistic method of evaluating the improvements, including deployment on submarines for testing.</p>											
F. MAJOR PERFORMERS:											
<p>NAWC, China Lake, CA NUWC, Newport, RI Applied EM Lockheed Martin</p>											

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-4			0603562N/Submarine Tactical Warfare Systems			0770/Advanced Submarine Support Equipment Program (ASSEP)						
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	SS/CPIF	NRL/KEO/ARETE/AEM/LM/JHU/TSC	0.000	1.229	10/02	1.139	10/03	0.758	10/04	TBD	TBD	TBD
Ancillary Hardware Development											0.000	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR	NUWC Newport, RI	10.563	1.359	10/02	0.803	10/03	1.337	10/04	CONT	CONT	N/A
	WR/RC	NAWC China Lake	11.887	1.276	10/02	1.945	10/03	0.726	10/04	CONT	CONT	N/A
Licenses											0.000	
GFE	N/A	N/A									0.000	
Miscellaneous	Various	Various	10.665	0.088	Various					CONT	CONT	N/A
Award Fees											0.000	
Subtotal Product Development			33.115	3.952		3.887		2.821		CONT	CONT	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Engineering Technical Services	C/CPFF	AT&T GSI, Vienna, VA	9.363	0.180	11/02	0.200	11/03	0.200	11/04	CONT	CONT	N/A
GFE											0.000	
Award Fees											0.000	
Subtotal Support			9.363	0.180		0.200		0.200		CONT	CONT	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 19)

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-4			0603562N/Submarine Tactical Warfare Systems			0770/Advanced Submarine Support Equipment Program (ASSEP)						
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											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation		3.261									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											0.000	
Government Engineering Support											0.000	
Management Support Services	C/CPFF	Various	1.484							CONT	CONT	N/A
Travel	TOs	Various	0.166	0.033		0.020		0.020		0.000	0.239	
Labor (Research Personnel)											0.000	
SBIR Assessment				0.077		0.274		0.266		CONT	CONT	
Subtotal Management			1.650	0.110		0.294		0.286		0.000	CONT	
Remarks:												
Total Cost			44.128	4.242		4.381		3.307		CONT	CONT	
Remarks:												

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Exhibit R-3, Project Cost Analysis
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EXHIBIT R-2a, RDT&E Project Justification

DATE: February 2004

APPROPRIATION/BUDGET ACTIVITY

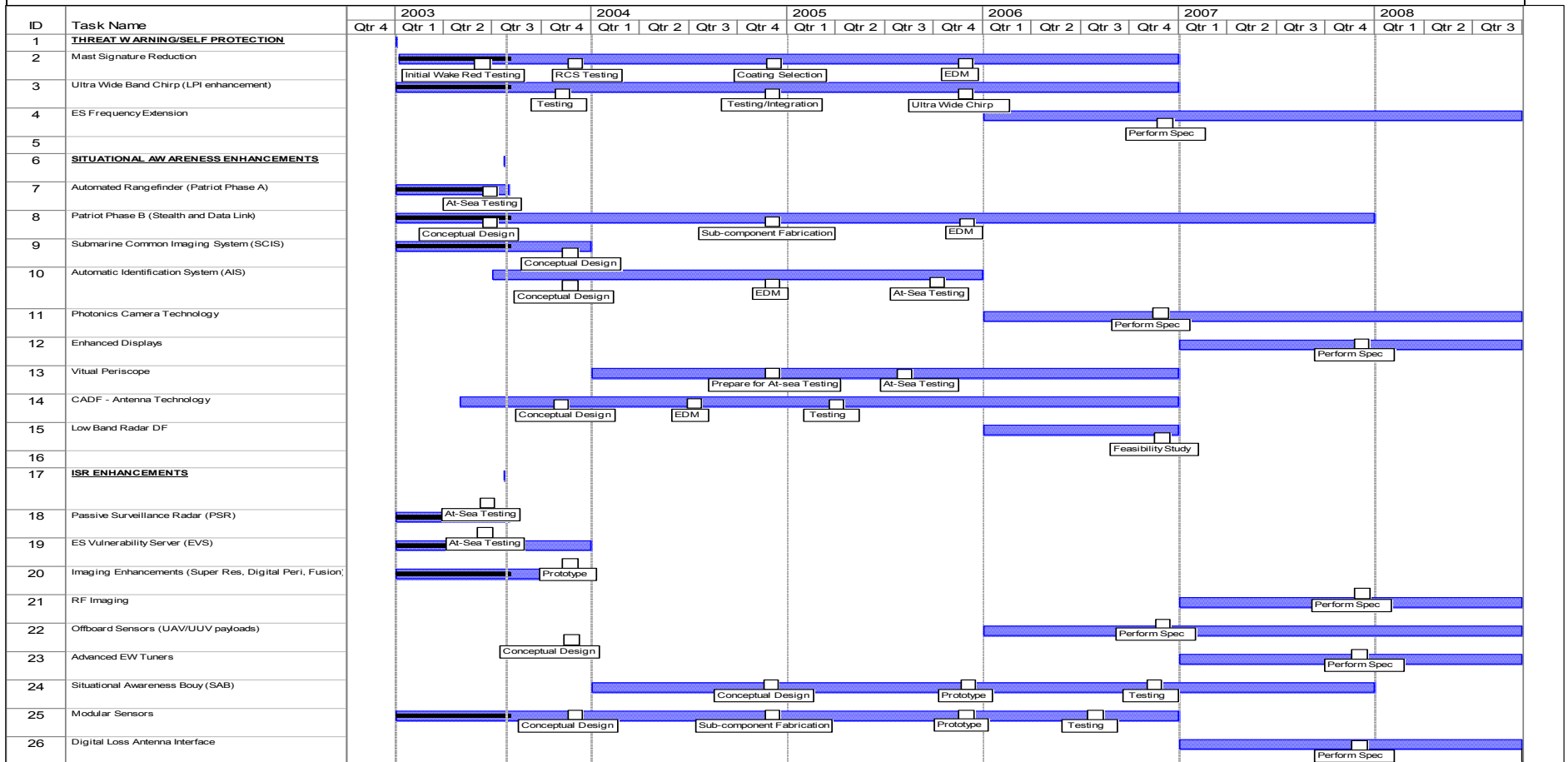
PROGRAM ELEMENT NAME AND NUMBER

PROJECT NAME AND NUMBER

RDT&E, N/BA-4

0603562N/Submarine Tactical Warfare System

0770/Advanced Submarine Support Equipment Program (ASSEP)



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Exhibit R-4a, Schedule Detail						DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-04		PROGRAM ELEMENT 0603562N/Submarine Tactical Warfare Systems				PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equip Prog (ASSEP)			
Schedule Profile		FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Threat Warning / Self Protection									
	Initial Wake Reduction Testing		Q2						
	RCS Mast Testing		Q4						
	Coating Selection			Q4					
	EDM Coated Mast			3.261	Q4				
	LPI Testing (side by side)		Q4						
	LPI Testing and Integration			Q4					
	LPI Ultra Wide Chirp Design				Q4				
	Frequency Extension Performance Spec					Q4			
	Frequency Extension EDM							Q4	
Situational Awareness Enhancements									
	Automated Rangefinder At-sea Testing Patriot Phase A		Q2						
	Patriot Phase B Conceptual Design		Q2						
	Patriot Phase B Sub-component Fabrication			Q4					
	Patriot Phase B EDM				Q4				
	Submarine Common Imaging System Conceptual Design		Q3						
	Automatic ID System Conceptual Design		Q4						
	Automatic ID System EDM			Q4					
	Automatic ID System At-sea Testing				Q3				
	Photonics Camera Technology Performance Spec					Q4			
	Photonics Camera Technology EDM							Q4	
	Enhanced Displays Performance Spec						Q4		
	Enhanced Displays EDM							Q4	
	Virtual Periscope Prep for At-sea Testing			Q4					
	Virtual Periscope At-sea Testing				Q3				
	CADF Multi-function Conceptual Design		Q3						
	CADF Multi-function EDM			Q3					
	CADF Multi-function Testing				Q1				
	Low band DF Feasibility Study				Q4				
Intelligence, Surveillance, Reconnaissance Enhancements									
	PSR EDM At-sea Testing		Q2						
	ES Vulnerability Server (EVS) Testing		Q2						
	Imaging Enhancements Prototypes		Q4						
	RF Imaging Performance Spec						Q4		
	RF Imaging EDM								Q2
	Offboard Sensors Concept Design		Q4						
	Offboard Sensors Performance Spec					Q4			
	Offboard Sensors EDM							Q4	
	Advanced EW Tuners Performance Spec						Q4		
	Advanced EW Tuners EDM							Q4	
	Situational Awareness Bouy Conceptual Design			Q4					
	Situational Awareness Bouy Prototype				Q4				
	Situational Awareness Bouy Testing					Q4			
	Modular Sensors Conceptual Design		Q4						
	Modular Sensors Sub-component fabrication			Q4					
	Modular Sensors Prototype				Q4				
	Modular Sensors Testing					Q4			
	Digital Loss Antenna Interface Performance Spec						Q4		
	Digital Loss Antenna Interface Prototype							Q4	
	Digital Loss Antenna Testing								Q4

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Exhibit R-4a, Schedule Detail
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME PE 0603562N Submarine Tactical Warfare System				PROJECT NUMBER AND NAME 1739 Submarine Special Operations Support			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		6.548	2.567	2.650	3.274	5.835	5.840	6.049
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Arctic project responds to the increased threat of Naval activity in the Littoral and continuing threat of submarine and surface ship activity in all regions of the world through the development of advanced submarine concepts. It places particular emphasis on submarine operability and mission support in unique environments. Efforts include assessment of combat system effectiveness, weapons testing, use of high frequency sonars in Arctic regions, testing of ice-capable submarine structures, and development of class specific Arctic shallow water operational guidelines. This program also provides the framework for various Research and Development (R&D) programs to conduct Test and Evaluation in the shallow water and Arctic regions.

Project S9040 is authorized by Congress to develop Fiber Optics Multi-Line Towed Array.

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Exhibit R-2a, RDTE Project Justification
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA4	PROGRAM ELEMENT NUMBER AND NAME PE 0603562N Submarine Tactical Warfare System	PROJECT NUMBER AND NAME 1739 Submarine Special Operations Support																	
B. Accomplishments/Planned Program																			
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Accomplishments/Effort/Subtotal Cost		6.548	2.567	2.650															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Conducted and Supported Ice Exercise and ICEOPS operations. Prep for FY03 Ice Camp. Developed database of Arctic operations surfacing data. Initiated Structural Analysis of VIRGINIA Class Sail. FY 2003 - 2005 Plans Provide planning, logistics, construction support for Ice Camp Operations (ICEX 1-03) and conduct training to improve Arctic divers proficiency (CEX 1-03). Conduct support FY05 ICEX and ICEOPS operations.</div>																			
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Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 60px;"></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></td><td></td><td></td></tr><tr><td>RDT&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					RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 60px;"></div>																			

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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 / BA4	PE 063562N Submarine Tactical Warfare System	1739 Submarine Special Operations Support		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2003	FY 2004	FY 2005	
President's Budget: (FY 04 Pres Controls)	7.251	2.596	2.658	
FY05 President's Controls	6.548	2.567	2.650	
Total Adjustments	-0.703	-0.029	-0.008	
Summary of Adjustments				
Business Process Reform	-0.029			
Economic Assumptions (Sec. 813	-0.041			
IT Cost Growth (Sec. 8109)	-0.013			
Inflation Savings	-0.077			
FY03 SBIR 5-May-03	-0.079			
BSO ADJUSTMENTS	-0.018			
SPAWAR Service Cost Center Adj.			-0.001	
MANPOWER			-0.009	
NWCF Rates - SPAWAR SSC Rates			-0.001	
NWCF Rates - NAWC Rates			-0.010	
Management Impr		-0.007		
Sec. 8126: Efficiencies/Revis		-0.022		
FY 2003 Update	-0.446			
WCF - R&D - NAWC - PBD 430			0.010	
Rates - NAWC			0.010	
Rates - SSC			0.001	
Inflation			-0.007	
Non purchase inflation			-0.001	
Subtotal	-0.703	-0.029	-0.008	
Schedule:				
N/A				
Technical:				
N/A				

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 14 of 19)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA4	PROGRAM ELEMENT NUMBER AND NAME PE 063562N Submarine Tactical Warfare System	PROJECT NUMBER AND NAME 1739 Submarine Special Operations Support
<p>D. OTHER PROGRAM FUNDING SUMMARY: N/A</p> <p>E. ACQUISITION STRATEGY: NON-ACAT Progam</p> <p>F. MAJOR PERFORMERS: <u>Command Submarine ForceUS PacificFleet (COMSUBPAC)</u> - Develop and definitize an Arctic-Deploying side Scan Sonar replacement plan, which will deliver a significant improved qualitative view of the underside of the ICE Canopy Sighting and tracking surfaceable features of current submarines, and the future VA Class submarine. <u>Applied Physics Laboratory /University of Washington (APL/UW)</u> - Conduct Ice Camp planning</p>		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA4			PROGRAM ELEMENT PE 063562N Submarine Tactical Warfare System			PROJECT NUMBER AND NAME 1739 Submarine Special Operations Support						
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											0.000	
Ancillary Hardware Development											0.000	
Systems Engineering	WR	NSWC Carderock	0.200	0.200	11/02	0.200	11/02	0.200	11/02		0.800	
Systems Engineering		EB Corp	0.025								0.025	
Systems Engineering	WR	NSWC INDIAN HEAD	0.051								0.051	
Systems Engineering	WR	SPAWAR	0.070	0.050	11/02	0.050	11/01	0.050	11/01		0.220	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal Product Development			0.346	0.250		0.250		0.250		0.000	1.096	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 16 of 19)

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			PE 063562N Submarine Tactical Warfare System			1739 Submarine Special Operations Support						
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	WR	SUBDEVRON Five	4.768	3.067	11/02	2.057	11/03	2.140	11/04		12.032	
Developmental Test & Evaluation	WR		0.015								0.015	
Developmental Test & Evaluation	WR	CMDR,3rd NAVCON BRIGA	0.200								0.200	
Developmental Test & Evaluation	WR	CMDR,2nd NAVCON BRIGA	0.100	0.150	11/02	0.150	11/03	0.150	11/04		0.550	
Developmental Test & Evaluation	SS/CPFF	APL/University of Washington	0.294	3.000	11/02						3.294	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			5.377	6.217		2.207		2.290		0.000	16.091	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support			0.308	0.071	11/02	0.100	11/03	0.100	11/04		0.579	
Travel			0.030	0.010	11/02	0.010	11/03	0.010	11/04		0.060	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.338	0.081		0.110		0.110		0.000	0.639	
Remarks:												
Total Cost			6.061	6.548		2.567		2.650		0.000	17.826	
Remarks:												

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Exhibit R-3, Project Cost Analysis
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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 / BA4								PE 063562N Submarine Tactical Warfare System								1739 Submarine Special Operations Support																
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				
Arctic Ice Exercise	[Solid Bar]				[Solid Bar]				[Solid Bar]		[White Bar]		[White Bar]						[White Bar]						[White Bar]							
Define test/exercise	[Solid Bar]				[Solid Bar]				[Solid Bar]		[White Bar]		[White Bar]						[White Bar]						[White Bar]		[White Bar]					
Preparation hull assignment	[Solid Bar]				[Solid Bar]				[Solid Bar]		[White Bar]		[White Bar]						[White Bar]						[White Bar]		[White Bar]					
Exercise Operations			▲				▲		△	△	△	△		△	△				△				△					△				
Quick look/Final Report				▲		▲	▲	▲	△	△	△	△		△	△	△						△	△					△	△			
				Q-look		Final	Q-look	Final			Q-look	Final			Q-look	Final						Q-look	Final					Q-look	Final			
ICE OPS							[Solid Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]					
Define test/exercise							[Solid Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]					
Preparation hull assignment							[Solid Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]		[White Bar]					
Exercise Operations							▲	△	△	△		△	△				△	△			△	△			△	△		△	△			
Quick Look Report/Final							▲	△	△	△		△	△		△	△			△	△		△	△			△	△		△	△		
								Q-look	Final			Q-look	Final			Q-look	Final			Q-look	Final			Q-look	Final			Q-look	Final			
Other																																
Hull Structure Analysis (HSA)	▲	—			▲																											
HSA Complete					▲	—	▲																									

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

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 18 of 19)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY RDT&BA4	PROGRAM ELEMENT PE 063562N Submarine Tactical Warfare System				PROJECT NUMBER AND NAME 1739 Submarine Special Operations Support			
Schedule Profile -	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Artic Ice Exercise								
Define test/exercise, objectives and experiments	1Q-3Q	1Q-2Q	1Q-2Q			12Q		1Q-2Q
Preparations hull assignments	1Q-3Q	1Q-3Q	1Q-3Q	1Q-3Q		1Q-3Q		1Q-3Q
Exercise Operations	3Q	3Q	3Q	3Q	3Q	4Q		2Q
Quick look final report	4Q	2Q-4Q	3Q-4Q	3Q-4Q			1Q-2Q	3Q-4Q
ICE OPS								
Define test/exercise, objectives and experiments		4Q	1Q-2Q,4Q	1Q-2Q	3Q-4Q	3Q-4Q	3Q-4Q	1Q-2Q
Preparations hull assignments		4Q	1Q-2Q,4Q	1Q-2Q	3Q-4Q	3Q-4Q	3Q-4Q	1Q-2Q
Exercise Operations			12Q-4Q	12Q-4Q	1Q,3Q-4Q	1Q, 3Q-4Q	1Q, 3Q-4Q	1Q, 3Q-4Q
Quick look final report			2Q-4Q	2Q-4Q	2Q-4Q	2Q-4Q	2Q-4Q	2Q-4Q
Other			1Q					
Hull Structure Analysis VA	2Q-4Q	1Q-2Q						
Hull Structure Analysis VA complete		2Q-3Q						

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Exhibit R-4a, Schedule Detail
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