

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: <b>February 2007</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY / BA-4</b>					R-1 ITEM NOMENCLATURE 0603562N/Submarine Tactical Warfare Systems			
COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	7.013	10.318	9.865	10.215	10.416	10.653	10.854	11.063
0770/Advanced Sub. Spt Equipment Program	3.864	4.756	4.242	4.372	4.486	4.593	4.679	4.767
9040/Multi-Line Towed Array								
1739/Sub. Artic Warfare Development	3.149	5.562	5.623	5.843	5.930	6.060	6.175	6.296
Quality of RDT&E Articles								
<b>Defense Emergency Response Funds (DERF) Funds: NOT APPLICABLE</b>								
<p><b>A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b> 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&amp;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&amp;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&amp;D programs to conduct Test and Evaluation in shallow water and Arctic regions.</p>								

EXHIBIT R-2, RDT&E Project Justification DATE: **February 2007**

APPROPRIATION/BUDGET ACTIVITY: **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4** | R-1 ITEM NOMENCLATURE: 0603562N/Submarine Tactical Warfare Systems

**B. PROGRAM CHANGE SUMMARY:**

Funding: BLI 0770/1739	FY 2006	FY 2007	FY 2008	FY 2009
FY 07 Pres Budget Controls	7.017	10.357	9.909	10.219
FY 08 Pres Budget Controls	7.013	10.318	9.865	10.215
Total Adjustments	<u>-0.004</u>	<u>-0.039</u>	<u>-0.044</u>	<u>-0.004</u>

Summary of Adjustments

Program Increases			0.001	0.004
Undistributed General Reductions	-0.004	-0.039	-0.045	-0.008
Subtotal	<u>-0.004</u>	<u>-0.039</u>	<u>-0.044</u>	<u>-0.004</u>

Total Changes

Schedule:

Not Applicable

Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2007</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>		PROGRAM ELEMENT NUMBER AND NAME 0603562N/Submarine Tactical Warfare System			PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equipment Program (ASSEP)				
COST (\$ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0770 Advanced Sub Suppt Equip Prog		<b>3.864</b>	<b>4.756</b>	<b>4.242</b>	<b>4.372</b>	<b>4.486</b>	<b>4.593</b>	<b>4.679</b>	<b>4.767</b>
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 (RCS and EO/IR), Laser Detection and Low Probability of Intercept (LPI) Receiver.

Situational Awareness sub-projects include: Patriot Automated Rangefinder (Phase B), Imaging Technologies (virtual periscope), Automatic Identification System (AIS), Low Cost Expendable Sensor (LCES), Advanced Camera Technology (360 Degree Imaging System), Alternate Communications Acquisition Direction Finding (CADF) Antenna, and LCES Payload improvements.

Intelligence, Surveillance and Reconnaissance sub-projects include: Submarine Offboard Sensors (UAV/UUV Pay Load), Advanced EW Tuners, Passive Surveillance Radar (PSR) at-sea testing, Sensor Enhancements (fusion).

All programs funded in this project are non-acquisition category programs. Program plans and priorities are established by N87. The test articles identified consist of critical components that will be fully developed during engineering development into Engineering Development Models (EDM's).

ASSEP Programs will eventually be broken down into initial and research, for both Imaging and Electronic Warfare. An inclusive category will also be included for initiatives which will describe categories like "submarine sensors" which do not readily categorize into Imaging or Electronic Warfare.

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2007</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME 0603562N/Submarine Tactical Warfare Systems	PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equipment Program (ASSEP)
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**B. Accomplishments/Planned Program**                      Threat Warning / Self Protection

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.026	0.162	0.404	0.451
RDT&E Articles Quantity				

FY 06-09  
Mast Signature Reduction  
Laser Detection  
Low Probability Intercept, Receiver Improvements.

Situational Awareness Enhancements

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.531	4.594	3.794	2.396
RDT&E Articles Quantity				

FY 06-09  
Patriot Program and Patriot Upgrades ; Virtual periscope; LCES; Optical Sensor networks, specific Emitter identification (SEI) Improvements; Imaging Processing Algorithms;  
Advanced Camera Technology

Intelligence, Surveillance and Reconnaissance Enhancements

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.307	0.000	0.044	1.525
RDT&E Articles Quantity				

FY 06, FY 08-09  
Passive Surveillance Radar (PSR) - Develop EDM and conduct At-Sea testing and analysis.  
Advanced EW Tuners  
Offboard Sensors (UUV/UAV Payloads) - Conduct feasibility studies, develop concepts and determine performance specifications.

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2007</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME 0603562N/Submarine Tactical Warfare Systems	PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equipment Program (ASSEP)
<p><b>C. OTHER PROGRAM FUNDING SUMMARY: N/A</b></p> <p><u>Line Item No. &amp; Name</u></p> <p>(U) Other Program Funding Summary: Not applicable. (U) Related RDT&amp;E: Not applicable.</p>		
<p><b>D. ACQUISITION STRATEGY: *</b></p> <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 letters, Serial N77/3U629212, dated 04 Sep 03, Serial N77/3U629205, dated 01 Apr 03, and 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>		
<p><b>E. MAJOR PERFORMERS: **</b></p> <p>NAWC, China Lake, CA          NUWC, Newport, RI          NASA JPL, Pasadena, CA          JHU, Columbia, MD          Applied EM          ARETE</p>		

Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2007</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
<b>RDT&amp;E, N / BA-4</b>			0603562N/Submarine Tactical Warfare Systems			0770/Advanced Submarine Support Equipment Program (ASSEP)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total P Y 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	SS/CPIF	ARETE/AEM/EDO/JHU/JPL/NRL	1.135	1.395	05/06	1.924	10/06	2.162	10/07	3.315	10/08	CONT	CONT	N/A
Ancillary Hardware Development													0.000	
Component Development													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering	WR	NUWC Newport, RI	0.610	0.679	10/05	0.720	10/06	0.875	10/07	0.375	10/08	CONT	CONT	N/A
	WR/RC	NAWC China Lake	1.555	1.550	10/05	1.736	10/06	0.802	10/07	0.250	10/08	CONT	CONT	N/A
Licenses													0.000	
GFE	N/A	N/A											0.000	
Miscellaneous	Various	Various										CONT	CONT	N/A
Award Fees													0.000	
Subtotal Product Development			3.300	3.624		4.380		3.839		3.940		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	CPAF	AT&T GSI, Vienna,VA		0.210	11/05	0.220	01/07	0.225	11/07	0.230	11/08	CONT	CONT	N/A
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.210		0.220		0.225		0.230		CONT	CONT	
Remarks:														

Exhibit R-3 Cost Analysis (page 2)						DATE:								
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 P Y 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														0.000
Operational Test & Evaluation														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	0.000	0.000
Remarks:														
Contractor Engineering Support														0.000
Government Engineering Support														0.000
Management Support Services	C/CPFF	Various										CONT	CONT	N/A
Travel	TOs	Various		0.030		0.031		0.032		0.033		0.000	0.093	
Labor (Research Personnel)														0.000
SBIR Assessment				0.000		0.125		0.146		0.169		CONT	CONT	
Subtotal Management			0.000	0.030		0.156		0.178		0.202		0.000	0.093	0.000
Remarks:														
Total Cost			3.300	3.864		4.756		4.242		4.372		CONT	CONT	
Remarks:														

EXHIBIT R4, Schedule Profile																								DATE: February 2007														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4				PROGRAM ELEMENT NUMBER AND NAME 0603562N/Submarine Tactical Warfare Systems												PROJECT NUMBER AND NAME 0770/Advanced Submarine Support Equipment Program (ASSEP)																						
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						
<b>ASSEP</b>																																						
<b>Threat Warning</b>																																						
LPI Receiver Improvements					△ Concept				△ Perf Spec								△ EDM				△ Testing																	
RCS/EO/IR Sig Reduction	△ Material Sel				△ Material Test				△ Coating Sel								△ Coating Test				△ EDM								△ Coating Test								△ EDM	△
Laser Detection									△ Concept								△ Performance Spec				△ EDM								△ Testing									
<b>Situational Awareness Enhancements</b>																																						
PATRIOT Program				△	Phase B Bread Board				△ Phase B EDM				△ Testing	△							△ Phase B Impvmnt Concept				△				Phase B Impvmnt Bread Board								△ EDM	△
Virtual Periscope																					△ Payload Concept								△ Impvmnt Concept								△ EDM	△
Low Cost Exp Sensor (LCES)		△	EDM						△ Testing			△									△ Concept				△ Perf Spec				△ EDM				△ Payload Impvmnt					
Optical Sensor Networks																	△ Concept								△ Perf Spec								△ EDM	△				
Specific Emitter ID (SEI)																	△ Concept								△ Perf Spec								△ EDM	△				
Imaging Processing Algorithms																					△ Concept								△ Perf Spec				△ EDM					
Advanced Camera Technology					△ AEM				△ EDM								△ Testing	△																				
<b>Intelligence, Surveillance and Reconnaissance (ISR) Enhancements</b>																																						
Passive Surveillance Radar (PSR)				△	Testing																								△ PSR Phase 2 Concept				△ EDM				△ Testing	△
Off Board Sensors	△ Concept Eval			△																	△ Concept				△ Perf Spec				△ EDM				△ Testing					
Sensor Enhancements																																						
Advanced EW Tuners													△ Concept								△ Perf Spec								△ EDM				△ Testing	△				

Exhibit R-4a, Schedule Detail						DATE: <b>February 2007</b>		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
<b>RDT&amp;E, N / BA-4</b>	0603562N/Submarine Tactical Warfare Systems				0770/Advanced Submarine Support Equip Prog (ASSEP)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
<b>Threat Warning / Self Protection</b>								
Mast Signature Reduction - RCS and EO/IR Coating Selection			Q2		Q4 (EDM)			Q4 (EDM)
MSR EO/IR Material Testing		Q1		Q3			Q1	
LPI Ultra Wide Chirp Concept Design		Q1						
LPI Ultra Wide Chirp Develop Specification			Q2					
LPI Ultra Wide Chirp EDM				Q4				
LPI Ultra Wide Chirp Test EDM					Q3			
Laser Detection Concept Study			Q1					
Laser Detection Develop Specification				Q1				
Laser Detection EDM					Q3			
Laser Detection Testing						Q3		
<b>Situational Awareness Enhancements</b>								
Patriot Upgrades					Q1	Q3		
Patriot Upgrades testing and improvement						Q4	Q1	
Patriot Phase B EDM		Q4						Q4
Patriot Antenna Prototype Testing	Q4			Q3				
Advanced Camera Technology (360 degree imaging) AEM	Q2	Q1						
Advanced Camera Technology (360 degree imaging) EDM			Q1					
Advanced Camera Technology (360 degree Imaging) DT/OT				Q4				
Virtual Periscope Improvement Concept							Q1	
Virtual Periscope EDM								Q4
Alternate CADF Antenna Technology AEM		Q1						
Alternate CADF Antenna Technology EDM			Q1					
Alternate CADF Antenna Technology DT/OT								
Alternate CADF Antenna Technology At-Sea Testing				Q4				
Low Cost Expendable Sensor (LCES) Develop Prototype	Q2							
Low Cost Expendable Sensor (LCES) At-Sea Testing		Q4	Q4					
Low Cost Expendable Sensor (LCES) Payload Improvements Concept					Q1			
Low Cost Expendable Sensor (LCES) Payload Improvements Perf Specification					Q4			
Low Cost Expendable Sensor (LCES) Payload Improvements EDM						Q4		
Low Cost Expendable Sensor (LCES) Payload Refinements							Q4	
Optical Sensor Networks (Concept/Perf. Spec/EDM)				Q3		Q2	Q4	
Specific Emitter Identification (SEI) Improvements (Concept/Perf. Spec/EDM)				Q3		Q2	Q4	
Imaging Processing Algorithms (Concept/Perf. Spec/EDM)					Q3	Q4	Q4	
<b>Intelligence, Surveillance and Reconnaissance (ISR) Enhancements</b>								
PSR At-Sea Testing	Q4	Q1						
PSR At-Sea Testing (Phase 2) (Concept/EDM/testing)					Q3	Q3	Q4	
Sensor Enhancements (Fusion) - Concept Evaluation				Q4				
Sensor Enhancements (Fusion) - Develop Specification					Q4			
Sensor Enhancements (Fusion) - EDM						Q4		
Sensor Enhancements (Fusion) - Testing, Refinement and Improvement							Q4	
Offboard Sensors Concept Evaluation	Q4							
Advanced EW Tuners Concept Studies			Q4					
Advanced EW Tuners - Performance Spec					Q1			
Advanced EW Tuners - EDM						Q3		
Advanced EW Tuners - OT/At-Sea Testing								Q1

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2007</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>		PROGRAM ELEMENT NUMBER AND NAME PE 0603562N Submarine Tactical Warfare System			PROJECT NUMBER AND NAME 1739 Submarine Special Operations Support			
COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	<b>3.149</b>	<b>5.562</b>	<b>5.623</b>	<b>5.843</b>	<b>5.930</b>	<b>6.060</b>	<b>6.175</b>	<b>6.296</b>
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.

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2007</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA4</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0603562N Submarine Tactical Warfare System	PROJECT NUMBER AND NAME 1739 Submarine Special Operations Support
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**B. ACCOMPLISHMENTS/PLANNED PROGRAM**

	FY 06	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.149	5.562	5.623	5.843
RDT&E Articles Quantity				

Conduct ICEX mission, arctic transit mission, ICEX workup, ICEX training, and Ice Camp. Provide planning, logistics, support for Ice Camp Operations and SCICEX accommodation.

FY06 Plans:  
Support Arctic deployments, including inter-fleet transfers, as required by the Submarine Force Commanders. Investigate, research, develop and deploy new systems for Arctic submarine support. Support testing and tactical development required to improve submarine Arctic operability and warfighting. Plan a large ice camp in the Arctic Ocean during 2007 to conduct submarine technical testing and tactical development, and to collect Arctic environmental data.

FY07-09 Plans:  
Support Arctic deployments, including inter-fleet transfers, as required by the Submarine Force Commanders. Investigate, research, develop and deploy new systems for Arctic submarine support. Support testing and tactical development required to improve submarine Arctic operability and warfighting. Coordinate and provide technical and logistic support for the 2007 Ice Camp in the Arctic Ocean.

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

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



CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2007</b>						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
<b>RDT&amp;E, N / BA4</b>			PE 063562N Submarine Tactical Warfare System			1739 Submarine Special Operations Support								
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													0.000	
Ancillary Hardware Development													0.000	
Systems Engineering	WR	NSWC Carderock	0.400										0.400	
Systems Engineering		EB Corp	0.025										0.025	
Systems Engineering	WR	NSWC INDIAN HEAD	0.051										0.051	
Systems Engineering	WR	SPAWAR	0.120										0.120	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Subtotal Product Development			0.596	0.000		0.000		0.000		0.000		0.000	0.596	
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	0.000	
Remarks:														

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2007</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
<b>RD&amp;E, N / BA</b>			PE 063562N Submarine Tactical Warfare System			1739 Submarine Special Operations Support								
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	WR	SUBDEVRON Five	12.737	2.986	11/05	5.439	11/06	5.460	11/07	5.680	11/08	CONT.	CONT.	
Developmental Test & Evaluation	WR		0.015										0.015	
Developmental Test & Evaluation	WR	CMDR,3rd NAVCON BRIGATE	0.200										0.200	
Developmental Test & Evaluation	WR	CMDR,2nd NAVCON BRIGATE	0.250										0.250	
Developmental Test & Evaluation	SS/CPFF	APLUniversity of Washington	3.294										3.294	
Tooling													0.000	
GFE													0.000	
Subtotal T&E			16.496	2.986		5.439		5.460		5.680		CONT.	CONT.	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support		EG&G	0.481	0.153	11/05	0.113	11/06	0.153	11/07	0.153	11/08	CONT.	CONT.	
Travel			0.050	0.010	11/05	0.010	11/06	0.010	11/07	0.010	11/08	CONT.	CONT.	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.531	0.163		0.123		0.163		0.163		CONT.	CONT.	
Remarks:														
Total Cost			17.623	3.149		5.562		5.623		5.843		CONT.	CONT.	
Remarks:														

EXHIBIT R4, Schedule Profile		DATE: <b>February 2007</b>																														
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME														
<b>RDT&amp;E, N / BA 4</b>		PE 063562N Submarine Tactical Warfare System																1739 Submarine Special Operations Support														
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
<b>Arctic Ice Exercise</b>																																
<b>ICEX Mission (at Sea)</b> A Submarine arctic operation to improve the Navy's understanding of the Arctic.																																
<b>Arctic Transit Mission (at Sea)</b> An operation in support of the Navy's need to "surge" a submarine from the Atlantic to the Pacific (or vice versa) via the Arctic.																																
<b>ICEX Workup (at Sea)</b> A short underway period conducted in the submarine's local operating areas prior to embarking on an Arctic mission.																																
<b>B. PROGRAM CHANGE SUMMARY:</b> <b>ICEX Training</b> Provides classroom training to the ship's watchstanders by the Ice pilot(s) to practice under-ice shiphandling.																																
<b>ICE Camp (Arctic Ocean)</b> A remote field station set up in the Arctic to conduct scientific and tactical testing.																																
<b>SCICEX Accommodation</b> Support scientific understanding of the Arctic Ocean.																																

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

Exhibit R-4a, Schedule Detail					DATE: <b>February 2007</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA4</b>					PROJECT NUMBER AND NAME 1739 Submarine Special Operations Support			
Schedule Profile	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
ICEX Mission (at Sea)		1Q-4Q		1Q-4Q		1Q-4Q		1Q-4Q
Arctic Transit Mission (at Sea)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
ICEX Workup (at Sea)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
ICEX Training	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
ICE Camp (Arctic Ocean)		1Q-4Q		1Q-4Q		1Q-4Q		1Q-4Q
SCICEX Accommodation	1Q-4Q		1Q-4Q		1Q-4Q		1Q-4Q	
<b>B. PROGRAM CHANGE SUMMARY:</b>								