

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5			R-1 ITEM NOMENCLATURE SSN-21 Development/0604561N					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
Total PE Cost	23.596	2.972	2.928	3.462	2.745	2.796	2.978	3.039
SSN-21 Developments/1946	3.603	2.972	2.928	3.462	2.745	2.796	2.978	3.039
SEAFAC Range Upgrade/9233	19.993	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<u>1946 SSN-21 Developments:</u> The SEAWOLF Submarine is a multi-mission ship that provides unprecedented performance capabilities. It is the quietest, most heavily-armed attack submarine the Navy has ever built. The design of the SEAWOLF is based on an extensive research and development program and incorporates technological advancements to provide: order of magnitude improvement in ship quieting; improved acoustic sensors; more capable combat systems; greater weapon capacity and capability; quieter launch; weapon launch at high ship speed; advanced reactor; improved performance machinery program; an advanced propulsor; increased operating depth; improved ship control; and enhanced survivability. Beginning in FY05, Southeast Alaska Acoustic Measurement Facility (SEAFAC) Range Upgrade funding is included in 1946 (FY05-\$1.5M, FY06 - \$2.0M, FY07 - \$1.5M).								
<u>9233 SEAFAC Range Upgrade:</u> The SEAWOLF Class submarine is a multi-mission ship that provides numerous unprecedented submarine performance capabilities such as more capable combat systems, greater weapons capacity and capability, advanced reactor, improved acoustic sensors, increased operating depth, improved ship control, and enhanced survivability. Among these capabilities is an unprecedented acoustic stealth performance as a result of an order of magnitude improvement in ship quieting.								
Maintaining the acoustic stealth advantage and upholding the effectiveness and survivability of the SEAWOLF and future class submarines require that radiated acoustic signatures are periodically measured and understood. To this end, SEAFAC range will be upgraded with new underwater acoustic measurement systems capable of measuring new generation quiet-class submarines stationed in the Pacific fleet. The SEAFAC Range Upgrade Program comprises of a multi-year effort to design, develop, procure, install and test High Gain Measurement Systems (HGMS) in the Static and Underway Sites at SEAFAC. Efforts to upgrade the Static Site began in FY03 and efforts to upgrade the Underway Site begin in FY04. (Note: Please refer to RDT&E,N PE0604561N/1946 R2 and OPN BLI 094200/H1RC08 budget exhibits for associated SEAFAC Upgrade Program funding.)								

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 1946 / SSN-21 Developments						
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.603	2.972	2.928	3.462	2.745	2.796	2.978	3.039
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The SEAWOLF Submarine is a multi-mission ship that provides unprecedented performance capabilities. It is the quietest, most heavily-armed attack submarine the Navy has ever built. The design of the SEAWOLF is based on an extensive research and development program and incorporates technological advancements to provide: order of magnitude improvement in ship quieting; improved acoustic sensors; more capable combat systems; greater weapon capacity and capability; quieter launch; weapon launch at high ship speed; advanced reactor; improved performance machinery program; an advanced propulsor; increased operating depth; improved ship control; and enhanced survivability. Beginning in FY05, SEAFAC Range Upgrade funding is included in 1946 (FY05-\$1.5M, FY06 - \$2.0M, FY07 - \$1.5M).</p>								

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B. Accomplishments/Planned Program				
	FY 04	FY 05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.640	0.964	0.624	0.000
RDT&E Articles Quantity				
<u>FY-04 , FY-05, FY-06 Plan:</u> Conduct follow-on OPEVAL testing for the class.				
	FY 04	FY 05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.675	0.175	0.000	0.000
RDT&E Articles Quantity				
<u>FY-04 and FY-05 Plan:</u> Completion of component shock tests and analysis for CFE and GFE in compliance with Class Plans and DOT&E requirements. Perform shock qualifications for the Global Command and Control System (GCCS) for the Common Submarine Radio Room (CSRR).				
	FY 04	FY 05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	1.500	2.000	1.500
RDT&E Articles Quantity				
<u>FY-05, FY-06, FY-07 Plan:</u> System test and validation, and corrective action efforts are planned for the SEAFAC Static Site. System development, engineering, and integration efforts are planned for the SEAFAC Underway Site.				
Note: Please refer to RDT&E,N PE0604561N/9233 R-2 and OPN BLI 094200/H1RC08 P5 budget exhibits for associated SEAFAC Upgrade Program funding.				

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B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY06</td> <td style="width: 15%; text-align: center;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">1.534</td> <td style="text-align: center;">0.208</td> <td style="text-align: center;">0.237</td> <td style="text-align: center;">0.663</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <u>FY-04 Accomplishments:</u> Re-engineering of NPE Systems and investigation of acoustic deficiencies. <u>FY-05 Plan:</u> Re-engineering and correction of SCS and Dry Deck Shelter (DDS) Interface (TIDS Migration). <u>FY06 and FY07 Plan:</u> Re-engineering and correction of Ship Control System (SCS) and acoustic sail deficiencies. </div>						FY 04	FY 05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	1.534	0.208	0.237	0.663	RDT&E Articles Quantity				
	FY 04	FY 05	FY06	FY07															
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	FY 04	FY 05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	1.239															
RDT&E Articles Quantity																			

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RDT&E, N / BA-5		0604561N / SSN-21 Developments		1946 / SSN-21 Developments			
C. PROGRAM CHANGE SUMMARY:							
Funding:		FY 2004	FY 2005	FY 2006	FY 2007		
FY05 President's Budget		3.655	3.020	3.047	3.673		
FY06 President's Budget		3.603	2.972	2.928	3.462		
Total Adjustments		-0.052	-0.048	-0.119	-0.211		
Summary of Adjustments							
Programmatic adjustments			-0.004	-0.121	-0.213		
Undistributed congressional reductions		-0.043	-0.044				
CBDR-01 Customer Rate Change Policy of MRTFB							
Inflation adjustment				0.002	0.002		
Cancelled Accounts Liability		-0.009					
Subtotal		-0.052	-0.048	-0.119	-0.211		
Schedule:							
Not applicable.							
Technical:							
Not applicable.							

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D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
(U) SCN #201200	10.091	9.294	14.299	0.000	0.000	0.000	0.000	0.000	0.000		8086.156
(U) MILCON P-398											27.300
(U) Related RDT&E:											
(U) P.E. 0603570N (Advanced Nuclear Power Systems)											
(U) P.E. 0604524N (Submarine Combat Systems)											
(U) P.E. 0604567N (Ship Contract Design/Live Fire T&E)											

E. ACQUISITION STRATEGY:

(U) Delivered three SEAWOLF submarines under cost cap.
 (U) To continue to correct SEAWOLF Acoustics deficiencies.
 (U) To increase commonality with Virginia Class Submarines.
 (U) Continue to review all areas for possible cost reductions.

F. MAJOR PERFORMERS:

Naval Surface Warfare Center (NSWC) Carderock, MD - FY-04 \$.862; FY-05 \$1.675 , FY06 - \$2.133M, FY07 \$2.900 M (Acoustics, NPE, Shock, Test & Evaluation, SEAFAC and Tech Insertion).
 Contract awards were Dec 2003 for FY04 and Oct 2004 for FY05. Contract awards scheduled for Oct 2005 (FY06), and October 2006 (FY07).
 Naval Undersea Warfare Center (NUWC) Newport RI - FY-05 \$.793K (Test and Evaluation) FY06 - \$268K. Contract was awarded on Oct 2004 for FY05 and contract award is scheduled for

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Exhibit R-3 Cost Analysis (page 1)										38384		DATE: February 2005			
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RDT&E, N / BA-5			0604561N / SSN-21 Developments			1946 / SSN-21 Developments									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development		NSWC Carderock/Various				1.500		2.000		1.500			5.000		
Ancillary Hardware Development															
Systems Engineering	SS/CPFF	General Dynam Groton CT	369.596	0.075	Various	0.000	Various	0.000	Various	0.000	Various	0.200	369.871	369.871	
Systems Engineering	SS/CPFF	NGNN Newport News VA	119.030	0.500	Various	0.000	Various	0.000	Various	0.000	Various	0.200	119.730	119.730	
Systems Engineering	WR/RC	NSWC Carderock, MD	319.360	0.971	Various	0.000	Various	0.133	Various	1.400	Various	3.429	325.293		
Systems Engineering	WR/RC	NUWC Newport, RI	49.553	0.784	Various	0.595	Various	0.303	Various	0.418	Various	0.000	51.653		
Systems Engineering	Various	Various	469.922	0.707	Various	0.175	Various	0.000	Various	0.000	Various	6.937	477.741		
Licenses													0.000		
Tooling													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal Product Development			1,327.461	3.037		2.270		2.436		3.318		10.766	1,349.288		
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:															

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Exhibit R-3 Cost Analysis (page 2)										38384		DATE: February 2005			
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Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	SS/CPFF	General Dynam Groton C	68.994	0.000		0.000		0.000		0.000		0.000	68.994	68.994	
Developmental Test & Evaluation	WR	NSWC Carderock MD	95.950	0.141	Various	0.000	Various	0.000		0.000		0.000	96.091		
Developmental Test & Evaluation	Various	Various	124.451	0.344	Various	0.662	Various	0.452	Various	0.104		0.402	126.415		
Operational Test & Evaluation													0.000		
Tooling													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal T&E			289.395	0.485		0.662		0.452		0.104		0.402	291.500		
Remarks:															
Contractor Engineering Support													0.000		
Government Engineering Support													0.000		
Program Management Support & ET	Various	Various	48.435	0.000		0.000		0.000		0.000		0.000	48.435		
Travel				0.038		0.040		0.040		0.040		0.000	0.158		
Labor (Research Personnel)													0.000		
SBIR Assessment				0.043									0.043		
Subtotal Management			48.435	0.081		0.040		0.040		0.040		0.000	48.636		
Remarks:															
Total Cost			1,665.291	3.603		2.972		2.928		3.462		11.168	1,689.424		
Remarks:															

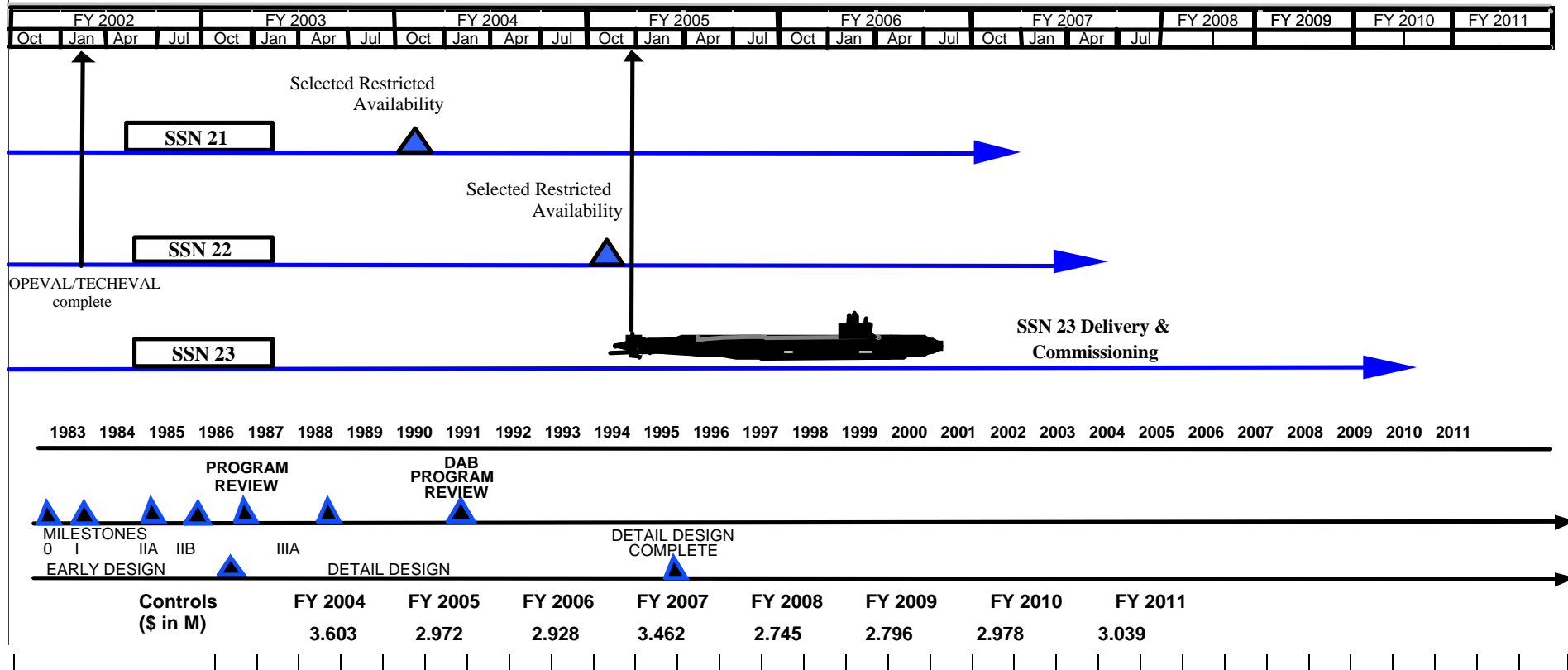
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EXHIBIT R4, Schedule Profile						DATE:	
38384						February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME	

Program Timeline



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