

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE SSN-21 Development/0604561N			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	15.957	23.827	3.020	3.047	3.673	3.025	3.085
SSN-21 Developments/1946	3.818	3.655	3.020	3.047	3.673	3.025	3.085
SEAFAC Range Upgrade/9233	12.139	20.172	0.000	0.000	0.000	0.000	0.000
<p>Defense Emergency Response funds (DERF) Funds: Not Applicable</p> <p>A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>1946 SSN-21 Developments: 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.</p> <p>9233 SEAFAC Range Upgrade: 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, Southeast Alaska Acoustic Measurement Facility (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: Project 1946 and OPN BLI 094200 fund FY05 and future SEAFAC upgrades.)</p>							

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROJECT NUMBER AND NAME 1946 / SSN-21 Developments			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	3.818	3.655	3.020	3.047	3.673	3.025	3.085
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 2 of 16)

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604561N / SSN-21 Developments	PROJECT NUMBER AND NAME 1946 / SSN-21 Developments		
B. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.337	0.769	0.887	
RDT&E Articles Quantity				
<p><u>FY-03 Accomplishments:</u> Complete the analysis and reporting in compliance with Class plan and DOT&E requirements resulting from the Operational Evaluation (OPEVAL)/Technical Evaluation (TECHEVAL). <u>FY-04 and FY-05 Plan:</u> Conduct follow-on OPEVAL testing for the class.</p>				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.450	0.675	0.175	
RDT&E Articles Quantity				
<p><u>FY-03 Accomplishments:</u> Conduct component shock tests and analysis and continue shock qualification for CFE and GFE in compliance with Class plans and DOT&E requirements. <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).</p>				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.500	
RDT&E Articles Quantity				
<p><u>FY-05 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.</p>				

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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 03</td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 25%;"></td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">2.321</td><td style="text-align: center;">1.523</td><td style="text-align: center;">0.208</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 03	FY 04	FY 05		Accomplishments/Effort/Subtotal Cost	2.321	1.523	0.208		RDT&E Articles Quantity				
	FY 03	FY 04	FY 05																
Accomplishments/Effort/Subtotal Cost	2.321	1.523	0.208																
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><p><u>FY-03 Accomplishments:</u> Re-engineering and correction of NPE Systems, including SCS and ECS. Investigation of acoustic deficiencies associated with Main Ballast Tanks and Sail. Continue risk management efforts in all high risk areas. <u>FY-04 Plan:</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).</p></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 03</td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 25%;"></td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.710</td><td style="text-align: center;">0.688</td><td style="text-align: center;">0.250</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 03	FY 04	FY 05		Accomplishments/Effort/Subtotal Cost	0.710	0.688	0.250		RDT&E Articles Quantity				
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Accomplishments/Effort/Subtotal Cost	0.710	0.688	0.250																
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><p><u>FY-04 Plan:</u> Development of prototype for External Hydraulic Pump.</p></div>																			
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	FY 03	FY 04	FY 05																
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000																
RDT&E Articles Quantity																			

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604561N / SSN-21 Developments	PROJECT NUMBER AND NAME 1946 / SSN-21 Developments

C. PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
Funding:			
Previous President's Budget: (FY 04 President's Controls)	3.883	3.708	3.057
Current BES/President's Budget: (FY05 President's Controls)	3.818	3.655	3.020
Total Adjustments	-0.065	-0.053	-0.037
Summary of Adjustments			
Section 8094: Management Improvements	0.000	-0.010	0.000
Section 8029: FFRDC Reduction	0.000	-0.011	0.000
Section 8126: Efficiencies	0.000	-0.032	0.000
SBIR FY03	-0.055	0.000	0.000
BSO Adjustments	-0.010	0.000	0.000
Misc Adjustments	0.000	0.000	0.015
Inflation	0.000	0.000	-0.008
Non Purchase Inflation	0.000	0.000	-0.002
FY05 ITR RDT&E Rebalancing	0.000	0.000	-0.002
NSCF Rates - NSWC	0.000	0.000	-0.040
Subtotal	-0.065	-0.053	-0.037

Schedule:

Not applicable.

Technical:

Not applicable.

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 5 of 16)

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DATE:	February 2004
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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-5			0604561N / SSN-21 Developments			1946 / SSN-21 Developments						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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		NSWC Carderock/Various						1.500			1.500	
Ancillary Hardware Development											0.000	
Systems Engineering	SS/CPFF	General Dynam Groton CT	369.541	0.055	Various	0.075	Various	0.100	Various	0.200	369.971	369.971
Systems Engineering	SS/CPFF	NGNN Newport News VA	118.601	0.429	Various	0.500	Various	0.000	Various	0.200	119.730	119.631
Systems Engineering	WR/RC	NSWC Carderock, MD	317.639	1.721	Various	0.862	Various	0.175	Various	4.085	324.482	
Systems Engineering	WR/RC	NUWC Newport, RI	49.158	0.395	Various	0.793	Various	0.260	Various	0.000	50.606	
Systems Engineering	Various	Various	469.369	0.553	Various	0.885	Various	0.271	Various	8.087	479.165	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			1,324.308	3.153		3.115		2.306		12.572	1,345.454	
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-2a, RDTE Project Justification
(Exhibit R-2a, page 7 of 16)

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604561N / SSN-21 Developments				PROJECT NUMBER AND NAME 1946 / SSN-21 Developments					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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	SS/CPFF	General Dynam Groton CT	68.994	0.000		0.000		0.000		0.000	68.994	68.994
Developmental Test & Evaluation	WR	NSWC Carderock MD	95.800	0.150	Various	0.100	Various	0.000		0.000	96.050	
Developmental Test & Evaluation	Various	Various	124.296	0.155	Various	0.440	Various	0.714	Various	0.402	126.007	
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			289.090	0.305		0.540		0.714		0.402	291.051	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support & ETS	Various	Various	48.075	0.360		0.000		0.000		0.000	48.435	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			48.075	0.360		0.000		0.000		0.000	48.435	
Remarks:												
Total Cost			1,661.473	3.818		3.655		3.020		12.830	1,684.796	
Remarks:												

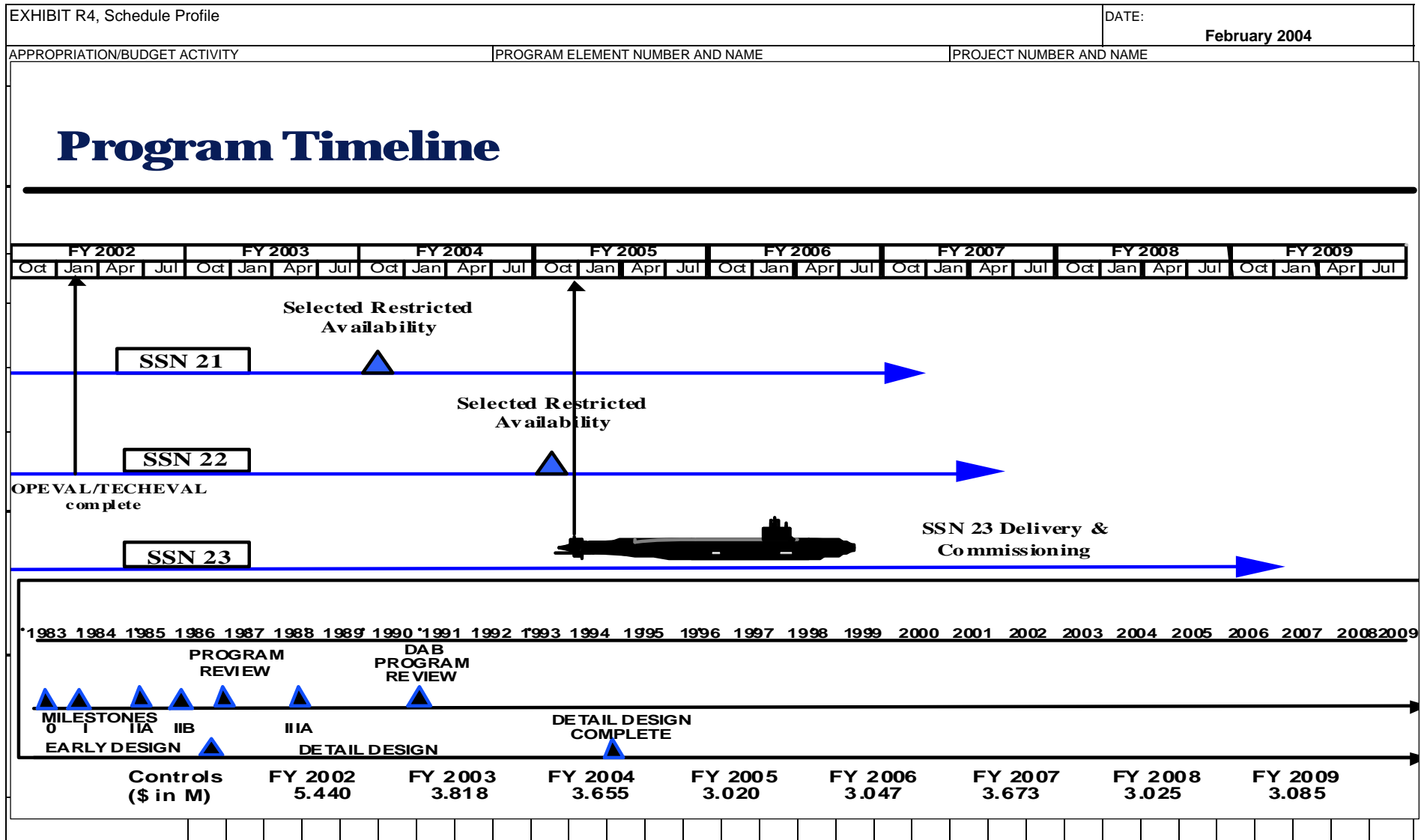
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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 8 of 16)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604561N / SSN-21 Developments			PROJECT NUMBER AND NAME 9233 / SEAFAC Range Upgrade			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	0.000	12.139	20.172	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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, Southeast Alaska Acoustic Measurement Facility (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.

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B. Accomplishments/Planned Program																			
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	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	0.000	12.139	20.172	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;">FY03 Actual: Preliminary and detailed design efforts for the SEAFAC Static Site High Gain Measurement Systems, Array Handling and Suspension Systems; Beamforming, Analysis and Processing System; and submarine Total Ship Monitoring System Interface were conducted. Static Site material procurement and system development efforts were initiated. FY04 Plan: Continuance of Static Site system development, integration and testing; and initiation of Underway Site design and development efforts are planned.</div>																			
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	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 11 of 16)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604561N / SSN-21 Developments	PROJECT NUMBER AND NAME 9233 / SEAFAC Range Upgrade

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 President's Controls)	0.000	9.774	0.000
Current BES/President's Budget: (FY05 President's Controls)	12.139	20.172	0.000
Total Adjustments	12.139	10.398	0.000
Summary of Adjustments			
Business Process Reform	-0.051	0.000	0.000
Economic Assumptions	-0.071	0.000	0.000
IT Cost Growth	-0.023	0.000	0.000
SEAFAC Range Upgrade	12.750	0.000	0.000
Management Improvements	0.000	-0.054	0.000
Efficiencies Revisions	0.000	-0.173	0.000
FY03 SBIR	-0.331	0.000	0.000
Inflation Savings	-0.135	0.000	0.000
SEAFAC Underway HGA Upgrades	0.000	10.625	0.000
Subtotal	12.139	10.398	0.000

Schedule:

Not applicable.

Technical:

Not applicable.

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D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
Not applicable.										

E. ACQUISITION STRATEGY: *

Not applicable.

F. MAJOR PERFORMERS: **

SAIC and subcontractors for in-water HGMS (array) design, development and installation.
Naval Surface Warfare Center (NSWC) Carderock Division, MD for system engineering, integration, and test.

* Not required for Budget Activities 1,2,3, and 6
** Required for DON and OSD submit only.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604561N / SSN-21 Developments			9233 / SEAFAC Range Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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	Various	SAIC		9.583	Various	13.584	Various				23.167	
Ancillary Hardware Development						1.023	Various				1.023	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR	NSWC Carderock MD		2.556	TBD	4.239	TBD				6.795	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	12.139		18.846		0.000		0.000	30.985	
Remarks: Award dates are dependent upon availability of funds at the beginning of each fiscal year as dictated by the CRA.												
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 Cost Analysis (page 2)									DATE: February 2004			
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RDT&E, N / BA-5			0604561N / SSN-21 Developments			9233 / SEAFAC Range Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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	NSWC Carderock MD				1.326	TBD				1.326	
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		1.326		0.000		0.000	1.326	
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	12.139		20.172		0.000		0.000	32.311	
Remarks:												

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[illegible]

R-1 SHOPPING LIST - Item No. 114

UNCLASSIFIED

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