Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*				R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	177.030	155.489	97.235	-	97.235	91.818	119.296	150.466	153.239	Continuing	Continuing
1947: *New Design SSN HM&E*	112.086	113.711	60.328	-	60.328	54.441	81.194	111.443	113.476	Continuing	Continuing
1950: *New Design SSN Combat Sys Dev*	30.453	36.318	33.917	-	33.917	34.645	35.305	36.166	36.856	Continuing	Continuing
3062: *Submarine Multi-Mission Team Trainer*	4.217	5.460	2.990	-	2.990	2.732	2.797	2.857	2.907	Continuing	Continuing
9999: *Congressional Adds*	30.274	-	-	-	-	-	-	-	-	0.000	30.274

A. Mission Description and Budget Item Justification

The U.S. Navy must maintain a submarine fleet that is of sufficient capability and numbers to defend American interests. The VIRGINIA Class Submarine, formerly the New Attack Submarine (New SSN), is being designed to fulfill this need. It will counter the potential threats of the next century in a multi- mission capable submarine that has the ability to provide covert, sustained combat presence in denied waters. The primary goal of the program is to develop an affordable yet capable submarine by evaluating a broad range of system and technology alternatives, and pursuing cost reduction, producibility improvement, and technical risk management. This Program Element (PE) provides the technology, prototype components, and systems engineering needed to design and construct the VIRGINIA Class Submarine and build its Command, Control, Communications, and Intelligence (C3I) System. This PE directly supports the following VIRGINIA Class Submarine missions: (1) covert strike warfare; (2) anti-submarine warfare; (3) covert intelligence collection/surveillance, indication and warning, and electronic warfare; (4) anti-surface ship warfare; (5) special warfare; (6)mine warfare; and (7) battle group support.

Project 3062: The Submarine Multi-Mission Team Trainer (SMMTT) funded in this RDT&E line provides the architectural foundation to replace all MIL Standard hardware with commercial emulation hardware, and rehost existing proprietary based software into COTS software systems, therefore enabling platform independence and wide area network
capability. The use of open architecture trainer systems allows for the continuous growth of functional flexibility, ultimately leading to employment training conducted for any submarine combat system.

Project 9999: FY10 Congressional Plus-Ups include; Advanced Manufacturing for Submarine Bow Domes and Rubber Boots, Mold In Place Coating Development for Submarine Fleet, Common Command Control System Module, Submarine Automated Test and Retest (ATRT), and Small Business Technology Insertion.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	184.338	155.489	151.536	-	151.536
Current President's Budget	177.030	155.489	97.235	-	97.235
Total Adjustments	-7.308	-	-54.301	-	-54.301
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.800	-			
• SBIR/STTR Transfer	-5.349	-			
• Program Adjustments	-	-	-46.260	-	-46.260
• Section 219 Reprogramming	-1.136	-	-	-	-
• Rate/Misc Adjustments	-	-	-8.041	-	-8.041
• Congressional General Reductions Adjustments	-0.023	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2010	FY 2011
Project: 9999: *Congressional Adds*		
Congressional Add: *Advanced Manufacturing for Sumbarine Bow Domes and Rubber Boots*	1.593	-
Congressional Add: *Common Command and Control System Module*	4.780	-
Congressional Add: *Mold in Place Coating Development for the Submarine Fleet*	1.992	-
Congressional Add: *SMALL BUSINESS TECHNOLOGY INSERTION*	19.917	-
Congressional Add: *Submarine Automated Test and Re-Test (ATRT)*	1.992	-
Congressional Add Subtotals for Project: 9999	30.274	-
Congressional Add Totals for all Projects	30.274	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1947: *New Design SSN HM&E*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1947: *New Design SSN HM&E*	112.086	113.711	60.328	-	60.328	54.441	81.194	111.443	113.476	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship and combat systems. Technology developments, training, and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential for pursuit of high priority Reduced Total Ownership Cost (RTOC) initiatives while achieving balanced platform mission capability and flexibility. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. Technologies developed in this program will, as a rule, be applicable to the Ohio Replacement Program (ORP). New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA) Sensors & Payloads program. In the future, products from the DARPA TANGO/BRAVO Submarine technology program may transition to prototyping and/or applicability on VIRGINIA hulls.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: New Design SSN HM&E	102.529	103.061	54.087
Articles:	0	0	0

Description: This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship and combat systems. Technology developments, training, and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential for pursuit of high priority Reduced Total Ownership Cost (RTOC) initiatives while achieving balanced platform mission capability and flexibility. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. Technologies developed in this program will, as a rule, be applicable to the Ohio Replacement Program (ORP). New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA) Sensors & Payloads program. In the future, products from the DARPA TANGO/BRAVO Submarine technology program may transition to prototyping and/or applicability on VIRGINIA hulls.

FY 2010 Accomplishments:
Continued block upgrades of Ship Control Algorithms and software. Continued developments responding to SSN774 OPEVAL and TECHEVAL findings. Continued software development for Advanced Electromagnetic Silencing capability. Continued development, demonstration, and design implementation of multiple Block III Cost Reduction technologies including, for example,

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1947: *New Design SSN HM&E*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Large Area Bow Array, VIRGINIA Payload Tubes, reverse osmosis unit, low cost sound isolation coupling, and Integrated Low Pressure Electrolyzer and transition of Office of Naval Research Manufacturing Technology Program (MANTECH) process developments. Developed detailed plan for Block IV Reduced Total Ownership Costs (RTOC) initiatives. ***FY 2011 Plans:*** Continue block upgrades of Ship Control Algorithms and software. Continue responding to SSN774 OPEVAL and TECHEVAL findings and prepare for FOT&E events. Continue software development development for Advanced Electromagnetic Silencing capability. Acquire initial at-sea data. Complete prototype development testing for VIRGINIA Payload Tube and Large Aperture Bow Array. Continue design and development of Block III Cost Reduction components and technologies including, for example, Large Area Bow Array, payload tubes, hatches, reverse osmosis units, low cost sound isolation coupling, and Integrated Low Pressure Electrolyzer. Continue transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH). Continue development of concepts and technologies for Block IV Reduced Total Ownership Cost (RTOC). Address emergent reliability issues associated with HM&E components. ***FY 2012 Plans:*** Continue block upgrades of Ship Control Algorithms and software. Continue responding to SSN774 OPEVAL and TECHEVAL findings and prepare for FOT&E events. Continue software development development for Advanced Electromagnetic Silencing capability. Complete design and development of Block III Cost Reduction components and technologies including, for example, Large Area Bow Array, payload tubes, hatches, reverse osmosis units, low cost sound isolation coupling, and Integrated Low Pressure Electrolyzer. Continue transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH). Continue development of concepts and technologies for Block IV Reduced Total Ownership Cost (RTOC). Address emergent reliability issues associated with HM&E components. Initiate Obsolescence Redesign for Block IV.			
Title: TEST AND EVALUATION	9.557	10.650	6.241
Articles:	0	0	0
Description: This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship and combat systems. Technology developments, training, and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential for pursuit of high priority Reduced Total Ownership Cost (RTOC) initiatives while achieving balanced platform mission capability and flexibility. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. Technologies developed in this program will, as a rule, be applicable to the Ohio Replacement Program (ORP). New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/ or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA)			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1947: *New Design SSN HM&E*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Sensors & Payloads program. In the future, products from the DARPA TANGO/BRAVO Submarine technology program may transition to prototyping and/or applicability on VIRGINIA hulls. ***FY 2010 Accomplishments:*** Conducted Arctic Cold Water Assessment developmental testing, analysis and reporting. Continued development of FOT&E requirements and testing plans for Block III efforts. ***FY 2011 Plans:*** Complete TI-08/APB-09 development testing, analysis, and reporting. Conduct TI-08/APB09 operational testing, analysis and reporting. Issue Test and Evaluation Master Plan (TEMP) Rev G. Conduct Arctic FOT&E testing, analysis and reporting. Continue development of FOT&E requirements and testing plans for Block III efforts. ***FY 2012 Plans:*** Perform Dry Deck Shelter (DDS) developmental and operational testing, analysis and reporting. Continue development of FDT&E and FOT&E requirements and testing plans for Block III efforts.			
Accomplishments/Planned Programs Subtotals	112.086	113.711	60.328

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• SCN/2013: *VA CL*	3,957.406	5,132.688	4,756.976	0.000	4,756.976	4,858.997	6,453.990	6,275.879	5,284.274	16,668.364	83,900.007
• O&M,N/0204283N: *Sub Ops & Safety*	44.262	53.141	54.453	0.000	54.453	50.672	51.151	52.111	53.193	Continuing	Continuing
• OPN/0942: *VA CL Support Equipment*	98.384	132.039	100.693	0.000	100.693	126.152	66.634	107.245	42.901	Continuing	Continuing

D. Acquisition Strategy

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN) to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and NGNN became a part of the IPPD process. The Program Office is managing two multi-year contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1947: *New Design SSN HM&E*

E. Performance Metrics

Successful completion of Milestone III Review. Successful completion of Final Operational Test and Evaluation (FOT&E) for Technology Insertion (TI)-08 and Block III. Successful implementation of Reduced Total Ownership (RTOC) initiatives

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1947: *New Design SSN HM&E*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Development	WR	NSWC:Carderock, MD	563.093	14.381	Mar 2011	15.329	Nov 2011	-		15.329	122.009	714.812	
Component Development	WR	NUWC:Newport, RI	100.905	4.970	Mar 2011	0.492	Nov 2011	-		0.492	102.879	209.246	
Component Development	WR	NRL:Washington, DC	4.603	0.315	Mar 2011	0.250	Nov 2011	-		0.250	0.250	5.418	
Component Development	C/CPFF	Electric Boat:Groton, CT	150.484	66.426	Mar 2011	29.662	Nov 2011	-		29.662	520.227	766.799	
Component Development	C/CPFF	Electric Boat:Groton, CT	22.964	-		-		-		-	0.000	22.964	
Component Development	C/CPFF	Electric Boat:Groton, CT	22.597	11.648	Mar 2011	2.378	Dec 2011	-		2.378	0.727	37.350	
Component Development	PO	SUPSHIP:Groton, CT	51.135	2.612	Mar 2011	2.762	Mar 2012	-		2.762	45.233	101.742	
Component Development	SS/CPFF	Lockheed Martin:Not Specified	14.643	1.060	Dec 2010	1.640	Dec 2011	-		1.640	0.000	17.343	
Component Development	SS/CPFF	Lockheed Martin:Not Specified	2.070	-		-		-		-	0.000	2.070	
Component Development	SS/CPFF	Applied Research Laboratory:Penn State University	21.811	0.095	Mar 2011	-		-		-	0.000	21.906	
Component Development	SS/FP	National Shipbuilding Research Program:Not Specified	1.900	0.554	Mar 2011	0.574	Mar 2012	-		0.574	0.594	3.622	
Component Development	Various	Micellaneous:Not Specified	14.671	-		-		-		-	0.000	14.671	
		Subtotal	970.876	102.061		53.087		-		53.087	791.919	1,917.943	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation - DT&E	WR	NSWC:Carderock, MD	88.693	0.740	Mar 2011	1.204	Nov 2011	-		1.204	41.856	132.493	
Test and Evaluation - LFT&E	WR	NSWC:Carderock, MD	-	0.650	Mar 2011	0.650	Nov 2011	-		0.650	3.765	5.065	
Test and Evaluation - DT&E	WR	NSWC:Dahlgren, VA	0.245	0.070	Mar 2011	-		-		-	0.000	0.315	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1947: *New Design SSN HM&E*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation - DT&E	WR	NUWC:Newport, RI	97.408	4.767	Mar 2011	1.498	Nov 2011	-		1.498	161.704	265.377	
Test and Evaluation - OT&E	PO	COMOPTEVFOR:PD	10.288	3.140	Mar 2011	1.389	Nov 2011	-		1.389	51.560	66.377	
Test and Evaluation - LFT&E	C/CPFF	Electric Boat:Groton, CT	0.899	0.189	Mar 2011	0.250	Nov 2011	-		0.250	0.200	1.538	
Test and Evaluation - DT&E	C/CPAF	SEAPORT D7019:Rockville, MD	18.417	0.490	Mar 2011	0.500	Nov 2011	-		0.500	4.100	23.507	
Test and Evaluation - DT&E	C/CPFF	Progeny:Manassas, VA	2.856	0.604	Mar 2011	0.750	Dec 2011	-		0.750	7.750	11.960	
Test and Evaluation - DT&E	Various	Micellaneous:Not Specified	11.842	-		-		-		-	0.000	11.842	
		Subtotal	230.648	10.650		6.241		-		6.241	270.935	518.474	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	SEAPORT D7019:Rockville, MD	18.025	1.000	Mar 2011	1.000	Nov 2011	-		1.000	7.500	27.525	
Travel	PO	Not Specified:Not Specified	1.919	-		-		-		-	0.000	1.919	
DAWDF	Various	Not Specified:Not Specified	0.597	-		-		-		-	0.000	0.597	
		Subtotal	20.541	1.000		1.000		-		1.000	7.500	30.041	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,222.065	113.711		60.328		-		60.328	1,070.354	2,466.458	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*	**PROJECT** 1947: *New Design SSN HM&E*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*	**PROJECT** 1947: *New Design SSN HM&E*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1947				
Ship Authorization (SSN 785)	1	2010	1	2010
Ship Delivery (SSN 779)	1	2010	1	2010
Post Shakedown Availability (PSA SSN 777)	1	2010	3	2010
Post PSA Modernization (SSN 777)	1	2010	3	2010
Post Shakedown Availability (PSA SSN 778)	2	2010	4	2010
Milestone III (MSIII)	4	2010	4	2010
Full Operational Capability (FOC)	4	2010	4	2010
Ship Delivery (SSN 780)	4	2010	4	2010
Post Shakedown Availability (PSA SSN 779)	4	2010	4	2011
Post PSA Modernization (SSN 779)	4	2010	4	2011
DT-IIIB (NPES)	4	2010	1	2011
Ship Authorization (786/787)	1	2011	1	2011
DT-IIIA1 (Arctic)	2	2011	2	2011
OT-IIIA1 (Arctic)	2	2011	2	2011
OT-IIIB (NPES)	2	2011	3	2011
Post Shakedown Availability (PSA SSN 780)	2	2011	2	2012
Post PSA Modernization (SSN 780)	2	2011	2	2012
Ship Delivery (SSN 781)	3	2011	3	2011
DT-IIIA2 (DDS)	4	2011	2	2012
Ship Authorization (788/789)	1	2012	1	2012
OT-IIIA2 (DDS)	1	2012	2	2012

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1947: *New Design SSN HM&E*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Ship Delivery (SSN 782)	3	2012	3	2012
Post Shakedown Availability (PSA SSN 781)	2	2012	2	2013
Post PSA Modernization (SSN 781)	2	2012	2	2013
Ship Authorization (790/791)	1	2013	1	2013
Post Shakedown Availability (PSA SSN 782)	1	2013	4	2013
Post PSA Modernization (SSN 782)	1	2013	4	2013
Ship Delivery (SSN 783)	2	2013	2	2013
Ship Authorization (792/793)	1	2014	1	2014
Post Shakedown Availability (PSA SSN 783)	1	2014	1	2015
Post PSA Modernization (SSN 783)	1	2014	1	2015
Ship Delivery (SSN 784)	2	2014	2	2014
Post Shakedown Availability (PSA SSN 784)	4	2014	2	2015
Ship Authorization (794/795)	1	2015	1	2015
Ship Delivery (SSN 785)	2	2015	2	2015
Post Shakedown Availability (PSA SSN 785)	4	2015	2	2016
Ship Authorization (796/797)	1	2016	1	2016
Ship Delivery (SSN 786)	1	2016	1	2016
Post Shakedown Availability (PSA SSN 786)	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1950: *New Design SSN Combat Sys Dev*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1950: *New Design SSN Combat Sys Dev*	30.453	36.318	33.917	-	33.917	34.645	35.305	36.166	36.856	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project encompasses the top level systems development, test and integration into the ship of the VIRGINIA Class Submarine C3I System, which includes multiple subsystems. The scope of the system is expanded from Sonar and Combat Control subsystems to include AN/BLQ-10 Electronic Support Measures, Exterior Communications, Submarine Regional Warfare System, Navigation, Total Ship Monitoring, Imaging, Tactical Acoustic Communications, Radar, Interior Communications, Tactical Support Devices, Fiber Optic Cable Subsystem, and Special Purpose Subsystems, such as Battle Force Team Trainer and others. VIRGINIA Class Submarine specific development efforts include requirements definition, software, hardware development, software/hardware test, prototype production, and electronic integration as well as physical integration into the platform.

The VIRGINIA Class Submarine implementation approach is based on Open System, Commercial-off-the-Shelf (COTS) Non-Developmental Items or subsystems. The program leverages on-going subsystems developments or developing new subsystems where needed to satisfy VIRGINIA Class requirements. The recurring cost of VIRGINIA Class Submarine C3I Systems is being reduced to meet the program's affordability goals. Modifications to many subsystems must be developed to: (1) reduce the shipbuilding and construction recurring costs through the use of COTS components; (2) use proven computer technologies to evolve to an Open System design; (3) enhance capabilities to support expanded operational
requirements, reduced manning, and reduced shipboard component footprint.

To meet the collective future threat, the submarine force must operate as effectively in littoral regions as it traditionally has in open ocean. Close coordination with surface battle groups and airborne units is essential to mission accomplishment. To meet the VIRGINIA Class Submarine mission, the following capabilities are provided by the
VIRGINIA Class Submarine C3I System: (1) passive and active detection of multiple contacts, including early warning threat determination through processing and analysis of sensor data; (2) classification of sensor data for the purpose of identifying contacts; (3) localization (tracking) of contacts through target motion analysis; (4) preset, launch, and control of weapons and countermeasures; (5) improved communication and connectivity with other battle group elements, airborne units, and special operations forces; (6) incorporation of vertical launch system to enhance strike warfare; and (7) more effective covert surveillance through video imaging with onboard digital enhancement capabilities, and improved electronic warfare analysis capabilities.

The F1950 project mission includes an ongoing post VIRGINIA Class TECH/OPEVAL RDT&E effort to continue the development of VIRGINIA Unique Combat System Improvements. The VIRGINIA Class C3I will continue to leverage backfit communities efforts, but even with common systems that the Navy has developed there will continue to be VIRGINIA
Unique capability improvements required. The FY09 and out funding identified is for those efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*	**PROJECT** 1950: *New Design SSN Combat Sys Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Sonar Combat Control and Architecture Subsystems	15.723	19.443	16.981
Articles:	0	0	0
FY 2010 Accomplishments: Continued the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.			
FY 2011 Plans: Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.			
FY 2012 Plans: Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.			
Title: C3I Systems Engineering	14.730	16.875	16.936
Articles:	0	0	0
Description: This project encompasses the top level systems development, test and integration into the ship of the VIRGINIA Class Submarine C3I System, which includes multiple subsystems. The scope of the system is expanded from Sonar and Combat Control subsystems to include AN/BLQ-10 Electronic Support Measures, Exterior Communications, Submarine Regional Warfare System, Navigation, Total Ship Monitoring, Imaging, Tactical Acoustic Communications, Radar, Interior Communications, Tactical Support Devices, Fiber Optic Cable Subsystem, and Special Purpose Subsystems, such as Battle Force Team Trainer and others. VIRGINIA Class Submarine specific development efforts include requirements definition, software, hardware development, software/hardware test, prototype production, and electronic integration as well as physical integration into the platform.			
FY 2010 Accomplishments: Continued the development of system level and other subsystem improvements to maintain VIRGINIA Class commonality to backfit fleet.			
FY 2011 Plans: Continue the development of system level and other subsystem improvements to maintain VIRGINIA Class commonality to backfit fleet.			
FY 2012 Plans: Continue the development of system level and other subsystem improvements to maintain VIRGINIA Class commonality to backfit fleet.			
Accomplishments/Planned Programs Subtotals	30.453	36.318	33.917

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1950: *New Design SSN Combat Sys Dev*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• SCN/2013: *VA CL*	3,957.406	5,132.688	4,756.976	0.000	4,756.976	4,858.997	6,453.990	6,275.879	5,284.274	16,668.364	83,900.007
• O&M,N/0204283N: *Sub Ops & Safety*	44.262	53.141	54.453	0.000	54.453	50.672	51.151	52.111	53.193	Continuing	Continuing
• OPN/0942: *VA CL Support Equipment*	98.384	132.039	100.693	0.000	100.693	126.152	66.634	107.245	42.901	Continuing	Continuing

D. Acquisition Strategy

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN) to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and NGNN became a part of the IPPD process. The Program Office is managing two multi-year contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships.

E. Performance Metrics

Successful completion of Milestone III Review. Successful completion of Final Operational Test and Evaluation (FOT&E) for Technology Insertion (TI)-08 and Block III. Successful implementation of Reduced Total Ownership Costs (RTOC) initiatives.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1950: *New Design SSN Combat Sys Dev*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PTR Corrections	Various	Various:TBD	30.088	-		-		-		-	0.000	30.088	
Unique Virginia Class Improvements	Various	Various:TBD	19.345	13.254	Mar 2011	10.360	Nov 2011	-		10.360	112.384	155.343	
Advanced Display Sys (AN/UYQ-70)	SS/CPIF	Lockheed Martin:St. Paul, MN	31.105	1.038	Mar 2011	1.059	Nov 2011	-		1.059	9.110	42.312	
Photonics	C/CPIF	Kollmorgen:Northampton, MA	51.293	1.500	May 2011	1.530	May 2012	-		1.530	12.880	67.203	
Electronic Support Measures	C/FFP	Lockheed Martin:Syracuse, NY	38.067	-		-		-		-	0.000	38.067	
Platform Integration	SS/CPFF	Electric Boat:Groton, CT	44.376	1.200	Nov 2010	1.224	Nov 2011	-		1.224	10.367	57.167	
Technology Refreshment	Various	Various:TBD	20.355	-		-		-		-	0.000	20.355	
Technical Direction Agent	WR	NUWC:Newport, RI	265.505	8.000	Mar 2011	8.160	Jan 2012	-		8.160	69.114	350.779	
Technology Refreshment/Info. Assurance	C/CPFF	Progeny Systems:Manassas, VA	30.186	1.500	Mar 2011	1.530	Nov 2011	-		1.530	12.880	46.096	
Systems Engineering	WR	NSWC:Carderock, MD	8.643	0.800	Mar 2011	0.816	Nov 2011	-		0.816	6.912	17.171	
Systems Engineering	WR	SSC:Charleston, SC	5.546	0.500	Mar 2011	0.510	Nov 2011	-		0.510	4.399	10.955	
Systems Engineering	WR	NUWC:Keyport, WA	10.253	0.225	Nov 2010	0.230	Nov 2011	-		0.230	1.885	12.593	
Miscellaneous	Various	Various:TBD	120.707	5.801	Mar 2011	5.848	Nov 2011	-		5.848	47.438	179.794	
		Subtotal	675.469	33.818		31.267		-		31.267	287.369	1,027.923	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Various:TBD	6.212	-		-		-		-	0.000	6.212	
		Subtotal	6.212	-		-		-		-	0.000	6.212	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1950: *New Design SSN Combat Sys Dev*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support Services/ ETS	C/CPAF	EG&G:Rockville, MD	19.271	2.500	Mar 2011	2.650	Dec 2011	-		2.650	24.504	48.925	
DAWDF	Various	Various:Various	0.195	-		-		-		-	0.000	0.195	
		Subtotal	19.466	2.500		2.650		-		2.650	24.504	49.120	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	701.147	36.318		33.917		-		33.917	311.873	1,083.255	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*	**PROJECT** 1950: *New Design SSN Combat Sys Dev*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*	**PROJECT** 1950: *New Design SSN Combat Sys Dev*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1950				
Ship Authorization (SSN 785)	1	2010	1	2010
Ship Delivery (779)	1	2010	1	2010
Post Shakedown Availability (PSA SSN 777)	1	2010	3	2010
Post PSA Modernization (SSN 777)	1	2010	3	2010
Post Shakedown Availability (PSA SSN 778)	2	2010	4	2010
Milestone III (MSIII)	4	2010	4	2010
Full Operational Capability (FOC)	4	2010	4	2010
Ship Delivery (SSN 780)	4	2010	4	2010
Post Shakedown Availability (PSA SSN 779)	4	2010	4	2011
Post PSA Modernization (SSN 779)	4	2010	4	2011
DT-IIIB (NPES)	4	2010	1	2011
Ship Authorization (SSN 786/787)	1	2011	1	2011
DT-IIIA1 (Arctic)	2	2011	2	2011
OT-IIIA1 (Arctic)	2	2011	2	2011
OT-IIIB (NPES)	2	2011	3	2011
Post Shakedown Availability (PSA SSN 780)	2	2011	2	2012
Post PSA Modernization (SSN 780)	2	2011	2	2012
Ship Delivery (SSN 781)	3	2011	3	2011
DT-IIIA2 (DDS)	4	2011	2	2012
Ship Authorization (SSN 788/789)	1	2012	1	2012
OT-IIIA2 (DDS)	1	2013	2	2013

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 1950: *New Design SSN Combat Sys Dev*

	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Ship Delivery (SSN 782)	3	2012	3	2012
Post Shakedown Availability (PSA SSN 781)	2	2012	2	2013
Post PSA Modernization (SSN 781)	2	2012	2	2013
Ship Authorization (SSN 790/791)	1	2013	1	2013
Post Shakedown Availability (PSA SSN 782)	1	2013	4	2013
Post PSA Modernization (SSN 782)	1	2013	4	2013
Ship Delivery (SSN 783)	2	2013	2	2013
Ship Authorization (SSN 792/793)	1	2014	1	2014
Post Shakedown Availability (PSA SSN 783)	1	2014	1	2015
Post PSA Modernization (SSN 783)	1	2014	1	2015
Ship Delivery (SSN 784)	2	2014	2	2014
Post Shakedown Availability (PSA SSN 784)	4	2014	2	2015
Ship Authorization (SSN 794/795)	1	2015	1	2015
Ship Delivery (SSN 785)	2	2015	2	2015
Post Shakedown Availability (PSA SSN 785)	4	2015	2	2016
Ship Authorization (SSN 796/797)	1	2016	1	2016
Ship Delivery (SSN 786)	1	2016	1	2016
Post Shakedown Availability (PSA SSN 786)	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 3062: *Submarine Multi-Mission Team Trainer*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3062: *Submarine Multi-Mission Team Trainer*	4.217	5.460	2.990	-	2.990	2.732	2.797	2.857	2.907	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

To achieve desired submarine force readiness levels, it is necessary to construct highly sophisticated shore based Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment. The Combat Control System (CCS) MK1, CCS MK2, and AN/BYG-1, along with sonar systems AN/BSY-1, AN/BQQ-5, and AN/BQQ-10 are installed on SSN and SSGN Class submarines. These tactical systems are planned for future upgrades with the next hardware and software revisions which will provide enhanced war fighter capabilities. The Tactical Acoustic Rapid COTS (commercial-off-the-shelf) Insertion (ARCI) Phased upgrades are also being installed with future revisions. The Advanced Processing Builds (APB) and Technical Insertion (TI) sensors, which feed technology insertion into the CCS/Acoustic development, directly impact the trainers.

The Submarine Multi-Mission Team Trainer (SMMTT) supports operator, employment, strike, and Battle Group training for enlisted and officer pipelines. The SMMTT providesoperators and combat teams the opportunity to train ashore, prior to, and between deployments. The shore based training provides a means of maintaining team proficiency in stand alone or in combined team mode prior to ship deployment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Submarine Multi-Mission Team Trainer	4.217	5.460	2.990
Articles:	0	0	0
Description: To achieve desired submarine force readiness levels, it is necessary to construct highly sophisticated shore based Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment.			
FY 2010 Accomplishments: FY10 Develops implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. This effort also includes new sensor developments and simulation to match advancements in tactical systems supported by SMMTT.			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 3062: *Submarine Multi-Mission Team Trainer*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY11 Develops implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. This effort also includes new sensor developments and simulation to match advancements in tactical systems supported by SMMTT. ***FY 2012 Plans:*** FY12 Develops implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays.			
Accomplishments/Planned Programs Subtotals	4.217	5.460	2.990

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/566100: *Submarine Training Device Mods*	17.312	26.603	30.086	0.000	30.086	17.109	20.732	17.349	17.818	Continuing	Continuing

D. Acquisition Strategy

The SMMTT program software development is accounted for in this RDT&E line. All production kits are procured in OPN PE 0804731N BLI 566100, cost code TD009.

E. Performance Metrics

Within 90 days of introduction to the Fleet, this RDTEN project shall develop required changes to the Control's & Display's Documentation and Interface Description Language (IDL) Interfaces for the initial development for new sensors that are required to simulate/stimulate that TI/APB for the AN/BQQ-5 and AN/BYG-1 in the Submarine Multi-Mission Team Trainer.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 3062: *Submarine Multi-Mission Team Trainer*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Development	Reqn	NSWC/CD:Bethesda, MD	14.941	5.060	Feb 2011	2.590	Dec 2011	-		2.590	10.426	33.017	30.427
Component Development	C/CPFF	ARL:UT Austin	1.155	0.400	Feb 2011	0.400	Jan 2012	-		0.400	1.600	3.555	3.155
		Subtotal	16.096	5.460		2.990		-		2.990	12.026	36.572	33.582

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.096	5.460		2.990		-		2.990	12.026	36.572	33.582

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*	**PROJECT** 3062: *Submarine Multi-Mission Team Trainer*

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*	**PROJECT** 3062: *Submarine Multi-Mission Team Trainer*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604558N: *New Design SSN*	**PROJECT** 3062: *Submarine Multi-Mission Team Trainer*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3062				
Interface Design Updates	3	2010	3	2016
Software Development Updates (SIM/STIM)	4	2010	4	2016
Software Builds	4	2010	4	2016
Advanced Processing Build (APB) Upgrades	1	2010	1	2016
SSGN 726 Development	2	2010	2	2013
SSGN Build	1	2011	2	2011
Hard Ware Tech Insertion Updates	1	2010	1	2015
SSN 21 Software Testing	1	2010	1	2013
SSN 21 EDM Delivery	2	2010	2	2010
TI-0x New Sensor Simulation Development	1	2010	1	2013
TI-0x New Sensor Simulation EDM Updates	1	2010	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 9999: *Congressional Adds*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9999: *Congressional Adds*	30.274	-	-	-	-	-	-	-	-	0.000	30.274
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Adds.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011
Congressional Add: Advanced Manufacturing for Sumbarine Bow Domes and Rubber Boots ***FY 2010 Accomplishments:*** Develop manufacturing processes for bow domes w/o autoclave	1.593	-
Congressional Add: Common Command and Control System Module ***FY 2010 Accomplishments:*** Develop a Common Command and Control System Module for submarines that is less costly and facilitates more efficient upgrades / changes and use of personnel.	4.780	-
Congressional Add: Mold in Place Coating Development for the Submarine Fleet ***FY 2010 Accomplishments:*** Development of Mold-In-Place (or Cast-In-Place) technology for composite bow domes.	1.992	-
Congressional Add: SMALL BUSINESS TECHNOLOGY INSERTION ***FY 2010 Accomplishments:*** Research and development efforts for fresh, creative, and innovative solutions to the Navy's requirements for high risk/high reward components of submarine combat system development. Various combat system component technology insertions/upgrades (torpedo, photonics, navigation data distribution, etc.) to reduce the cost of ship acquisition.	19.917	-
Congressional Add: Submarine Automated Test and Re-Test (ATRT) ***FY 2010 Accomplishments:*** Submarine Automated Test and Re-Test (ATRT) Develop an application to use Automated Test and Re-Test (ATRT) technology in testing of submarine systems.	1.992	-
Congressional Adds Subtotals	30.274	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604558N: *New Design SSN*	PROJECT 9999: *Congressional Adds*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Adds.