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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>					PE 0604503N: <i>SSN-688 & Trident Modernization</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	1,095.441	89.083	82.620	89.672	-	89.672	82.880	99.607	97.220	88.984	Continuing	Continuing
0219: <i>Sub Sonar Improvement (ENG)</i>	699.928	52.099	53.835	55.674	-	55.674	57.388	58.197	59.521	60.480	Continuing	Continuing
0742: <i>Sub Integrated Ant System</i>	223.690	24.202	18.395	18.777	-	18.777	14.276	28.534	24.546	15.169	Continuing	Continuing
0775: <i>Submarine Supt Equip Prog</i>	5.775	1.241	1.297	1.318	-	1.318	1.363	1.395	1.422	1.445	Continuing	Continuing
1411: <i>Sub Tact Comm System</i>	166.048	11.541	9.093	13.903	-	13.903	9.853	11.481	11.731	11.890	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Submarine Support Equipment Program develops and improves submarine Electronic Warfare Support (EWS) technology, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in an increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Enhancements are necessary for submarine EWS to be operationally effective in the following mission areas: Joint Littoral Warfare, Joint Surveillance, Space and Electronic Warfare and Intelligence Collection, Maritime protection, and Joint Strike.

The Submarine Sonar Improvement Program delivers block updates to Sonar Systems and improved Sensors installed on SSN 688, 688I, SSN 21, VIRGINIA, SSBN, and SSGN Class Submarines to maintain clear acoustical, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization, and contact following. Current developments are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement.

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1319: Research, Development, Test & Evaluation, Navy		PE 0604503N: SSN-688 & Trident Modernization			
BA 5: System Development & Demonstration (SDD)					
B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	90.180	82.620	88.156	-	88.156
Current President's Budget	89.083	82.620	89.672	-	89.672
Total Adjustments	-1.097	0.000	1.516	-	1.516
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.100	0.000			
• SBIR/STTR Transfer	-2.198	0.000			
• Program Adjustments	0.000	0.000	1.147	-	1.147
• Rate/Misc Adjustments	0.001	0.000	0.369	-	0.369

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization				PROJECT 0219: Sub Sonar Improvement (ENG)			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0219: Sub Sonar Improvement (ENG)	699.928	52.099	53.835	55.674	-	55.674	57.388	58.197	59.521	60.480	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
This program delivers block updates to Sonar Systems installed on SSN 688, 688I, SSN 21, VIRGINIA, SSBN, and SSGN Class Submarines to maintain clear acoustical, tactical and operational superiority over submarines and surface combatants in all scenarios through detection, classification, localization, and contact following. Acoustics Rapid COTS Insertion (A-RCI) was a multi-phased evolutionary development geared toward addressing acoustic superiority issues through the rapid introduction of interim development products applicable to all classes of submarines. A-RCI Phase I and II introduced Towed Array processing improvements, Phase III introduced Spherical Array processing improvements, and Phase IV provided High Frequency (HF) Array processing improvements for SSN 688I, SSGN, VIRGINIA, and SSN 21 Class Submarines. As part of CNO N972's plan to maintain acoustic superiority for in-service submarines, a joint cooperative effort with PEO IWS-5 was established to deliver annual Advanced Processing Builds (APBs) to prevent obsolescence and deliver ongoing capability improvements. The capabilities in the APBs will be integrated as part of A-RCI certified system. Sensor efforts provide increased operational capabilities for littoral operations, situational awareness, and reliability improvements.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: APB Productionization Articles: Description: APB productionization provides for the transition of APB capability improvements to the Fleet for the integration, testing and formal certification. FY 2012 Accomplishments: Continued Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification. FY 2013 Plans:									13.934	14.002	14.859	
									0	0	0	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization			PROJECT 0219: Sub Sonar Improvement (ENG)				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014
Continue Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification.											
FY 2014 Plans: Continue Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification.											
Title: Integration and Testing									37.898	39.833	40.815
Articles:									0	0	0
Description: Integration and Testing provides support to integrated and test APB's into all submarine classes with numerous sensor systems.											
FY 2012 Accomplishments: Supported Advanced Processing Builds installed on SSN 688I, SSN 688, SSBN 730, SSN 21, SSGN 726, and VA Class.											
FY 2013 Plans: Supports Advanced Processing Builds installed on SSN 688I, SSN 688, SSBN 730, SSN 21, SSGN 726, and VA Class.											
FY 2014 Plans: Supports Advanced Processing Builds installed on SSN 688I, SSN 688, SSBN 730, SSN 21, SSGN 726, and VA Class.											
Title: Future Sensor Capability									0.267	0.000	0.000
Articles:									0		
Description: Improves array capabilities, long-range passive detection, and component reliability through development of state-of-the-art technologies.											
FY 2012 Accomplishments: Developed a Non-Traditional Sensor System to furnish the sonar suite with previously-unavailable search tactics. Continued initiatives with single crystal, vector sensor, and fiber optic sonar technologies.											
Accomplishments/Planned Programs Subtotals									52.099	53.835	55.674
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN/BLI 214700: SSN Acoustics	175.950	155.332	179.415		179.415	193.586	224.285	184.213	244.235	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization				PROJECT 0219: Sub Sonar Improvement (ENG)			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN/BLI 214705: SSN Acoustics Installation	36.431	35.542	20.023		20.023	26.289	28.493	40.981	29.170	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
Acoustic Systems: A-RCI utilizes an open architecture and Commercial Off-the-Shelf products in support of new and upgraded sonar systems. A follow-on development and production sole source cost plus incentive fee contract was awarded to General Dynamics, Advanced Information Systems in August 2009 and to Lockheed Martin Maritime Systems & Sensors in April 2010. Program Review with Milestone Decision Authority was conducted in November 2011 granting approval for the FY12 production option.											
E. Performance Metrics											
The A-RCI program will modernize approximately 25% of the SSN Fleet per year through executing bi-annual software Advanced Processing Builds (APBs) and bi-annual hardware Technical Insertions (TIs).											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE				PROJECT					
1319: Research, Development, Test & Evaluation, Navy						PE 0604503N: SSN-688 & Trident				0219: Sub Sonar Improvement (ENG)					
BA 5: System Development & Demonstration (SDD)						Modernization									
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPIF	LMC:Manassas, VA	261.554	19.416	Dec 2011	21.052	Dec 2012	22.412	Dec 2013	-		22.412	Continuing	Continuing	Continuing
Ancillary Hardware Development	SS/CPFF	ARL University of Texas:Austin, TX	21.800	3.061	Feb 2012	3.113	Mar 2013	3.170	Mar 2014	-		3.170	Continuing	Continuing	Continuing
Systems Engineering	SS/CPFF	Johns Hopkins APL:Baltimore, MD	24.255	2.980	Dec 2011	3.030	Dec 2012	3.082	Dec 2013	-		3.082	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	Lockheed Eagan:MN -Keyport	21.276	3.024	Jan 2012	3.075	Jan 2013	3.127	Jan 2014	-		3.127	Continuing	Continuing	Continuing
Primary Hardware Development	C/CPIF	Progeny Systems:Manassas, VA	33.481	6.171	Jan 2012	6.257	Jan 2013	6.363	Jan 2014	-		6.363	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC:Newport, RI	143.445	6.250	Jan 2012	5.987	Dec 2012	5.951	Dec 2013	-		5.951	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC:Carderock, MD	15.705	2.514	Dec 2011	2.557	Dec 2012	2.674	Dec 2013	-		2.674	Continuing	Continuing	Continuing
Subtotal			521.516	43.416		45.071		46.779		0.000		46.779			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development	C/CPIF	General Dynamics, AIS:Fairfax, VA	142.553	3.015	Dec 2011	3.066	Dec 2012	3.118	Dec 2013	-		3.118	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	Sedna Digital,:Manassas, VA	16.757	4.004	Dec 2011	4.072	Dec 2012	4.141	Dec 2013	-		4.141	Continuing	Continuing	Continuing
Subtotal			159.310	7.019		7.138		7.259		0.000		7.259			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>							R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>				PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i>				

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test and Evaluation	WR	OPTEVFOR:Norfolk, VA	7.404	0.600	Jan 2012	0.610	Dec 2012	0.620	Dec 2013	-		0.620	Continuing	Continuing	Continuing
Subtotal			7.404	0.600		0.610		0.620		0.000		0.620			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	C/FFP	URS Technical Services:Washington, DC	10.100	0.814	Jan 2012	0.814	Dec 2012	0.814	Dec 2013	-		0.814	0.000	12.542	
Travel	WR	NAVSEA:Washington, DC	1.598	0.250	Dec 2011	0.202	Dec 2012	0.202	Dec 2013	-		0.202	Continuing	Continuing	Continuing
Subtotal			11.698	1.064		1.016		1.016		0.000		1.016			

			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			699.928	52.099		53.835		55.674		0.000		55.674			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

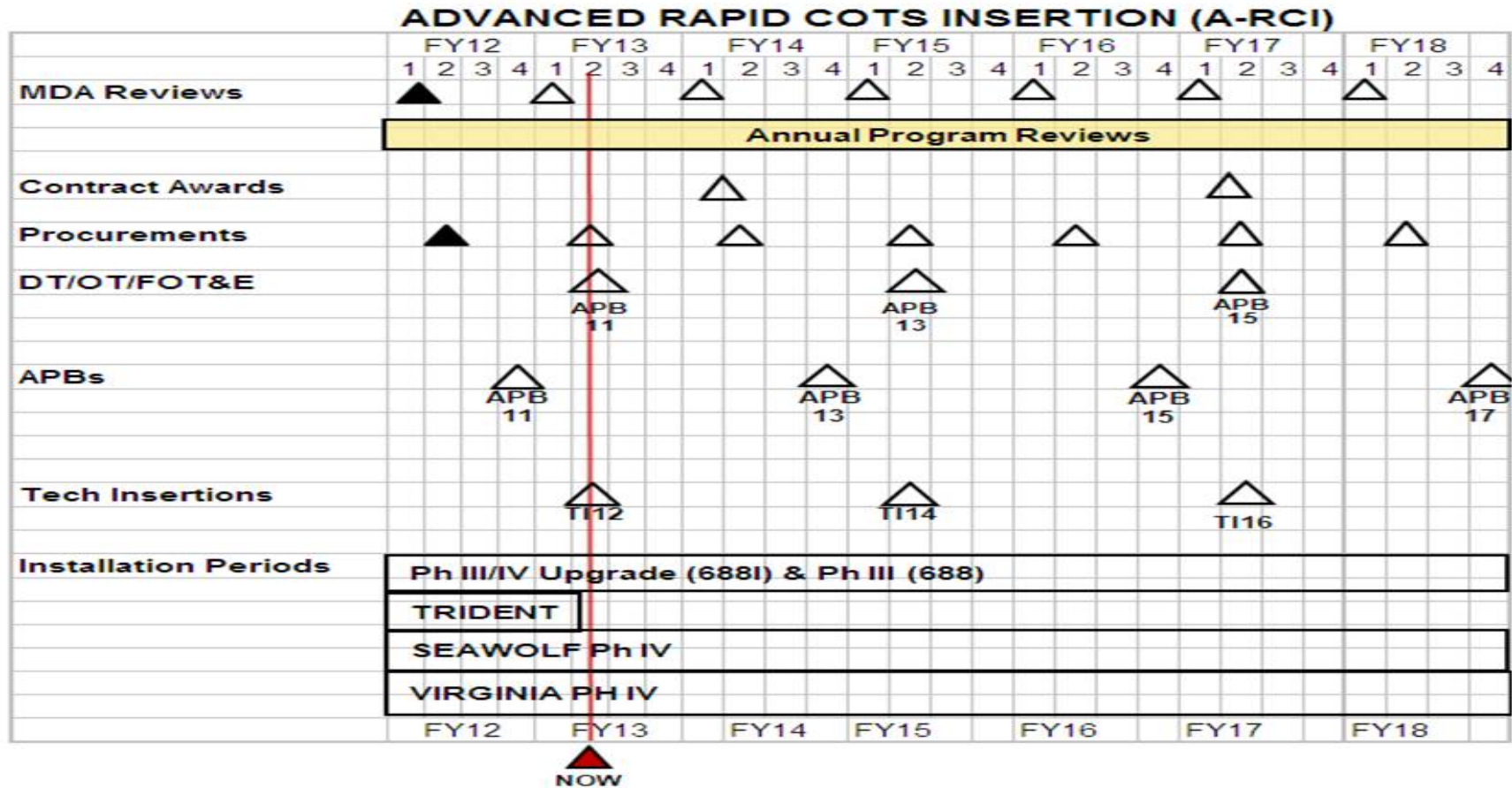
1319: Research, Development, Test & Evaluation, Navy
BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604503N: SSN-688 & Trident
Modernization

PROJECT

0219: Sub Sonar Improvement (ENG)



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>	PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 0219</i>				
ACOUSTICS	1	2012	4	2018
Acquisition Milestones	1	2012	1	2018
Annual Program Review	1	2012	4	2018
Contract Awards	1	2012	3	2014
Procurements	2	2012	2	2018
DT/OT/FOT&E Tests	1	2012	2	2012
APB Deliveries	1	2012	4	2012
Tech Insertions	2	2012	2	2015
Installation Periods	1	2012	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization				PROJECT 0742: Sub Integrated Ant System			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0742: Sub Integrated Ant System	223.690	24.202	18.395	18.777	-	18.777	14.276	28.534	24.546	15.169	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Submarine Integrated Antenna System project (0742) provides for the development and testing of submarine antennas designed to meet emerging submarine requirements of: (a) Improved frequency coverage and data rate capabilities of submarine antennas and their interface to the External Communications System, (b) Improved submarine antenna performance and data rate while the submarine is operating at speed and depth, (c) Antenna compatibility with new waveforms and transceiver equipment, (d) Improved stealth capability of existing and future antennas and (e) Improved antenna design to reduce Total Ownership Cost. This project funds research and development for submarine antennas including (1) Pre-Planned Product Improvement (P3I) efforts to existing antennas including Outboard Electronics (OE)-538/BRC Multi-Function Antenna, (2) OE-562 Submarine, High Data Rate (SubHDR) system development of components for reliability improvements, (3) Development of new systems including Advanced High Data Rate (AdvHDR), (4) Commence support of Submarine Communications Buoy (SCB) Project Arrangement with United Kingdom (UK), and (5) Towed Buoy Antenna (AN/BRR-6/6B) system development of components for reliability improvements. The efforts listed above will provide Ship Submersible Nuclear (SSN), Ship Submersible Ballistic Nuclear (SSBN) and Ship Submersible Guided Nuclear (SSGN) platforms with improved communications capabilities to support future Joint, Allied, and Naval operations.

JUSTIFICATION FOR BUDGET ACTIVITY:

This project is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

Notes/Comments:

FY14 OE-538: Complete Operational Assessment (OA), complete development/update of required Milestone C acquisition documents.

FY14 SubHDR: Continue development of components identified by research and analysis. Complete UNDEX development and testing.

FY14 Advanced High Data Rate (AdvHDR): Complete risk mitigation demonstrations and technology maturation efforts towards technology readiness assessments in preparation of Advanced Development Model (ADM) Demonstration. Complete ADM demonstration.

FY14 Submarine Communications Buoy (SCB): Continue support for SCB Project Arrangement with United Kingdom and continue providing program, contract, and system engineering management support for Submarine Communications Buoy.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2012	FY 2013	FY 2014
Title: Antenna Transition Engineering	6.944	4.096	4.227
Articles:	0	0	0

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization	PROJECT 0742: Sub Integrated Ant System		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: - Continued to provide emerging requirements and satellite communications (SATCOM) database/link analysis for other development programs in support of current & future communication architectures. - Continued Pre-Planned Product Improvement (P3I) investigation and development efforts towards legacy antenna systems. - Continued concept engineering, new technology evaluations, and assessments in support of current and future submarine antenna applications, to include HM&E interfaces. - Continued to investigate multiple usage antennas, including antennas that can be used for communications and other functions. - Commenced BRR-6 component design specification/modification for reliability improvements. - Commenced BRR-6 component development and testing for reliability improvements.				
FY 2013 Plans: - Continue to provide emerging requirements and SATCOM database/link analysis for other development programs in support of current & future communication architectures. - Continue P3I investigation and development efforts towards legacy antenna systems. - Continue concept engineering, new technology evaluations, and assessments in support of current and future undersea antenna applications, to include HM&E interfaces. - Continue to investigate multiple usage antennas, including antennas that can be used for communications and other functions.				
FY 2014 Plans: - Continue to provide emerging requirements and SATCOM database/link analysis for other development programs in support of current & future communication architectures. - Continue P3I investigation and development efforts towards legacy antenna systems. - Continue concept engineering, new technology evaluations, and assessments in support of current and future undersea antenna applications, to include HM&E interfaces. - Continue to investigate multiple usage antennas, including antennas that can be used for communications and other functions.				
Title: Outboard Electronics (OE)-538 Articles:		7.652 0	3.972 0	4.180 0
FY 2012 Accomplishments: - Continued Increment 2 system design, manufacture & testing of Engineering Design Model (EDM) to validate the design supports Fleet requirements (MUOS/Link-16/Iridium). - Continued Capabilities Production Document (CPD) and applicable Integrated Logistics Support (ILS) documentation to support Low-Rate Initial Production (LRIP) decision.				

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization	PROJECT 0742: Sub Integrated Ant System		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
- Continued development/update of required Milestone C acquisition documents. FY 2013 Plans: - Complete Increment 2 system design, manufacture and testing of EDM. - Complete CPD and continue applicable ILS documentation to support LRIP decision. - Continue development/update of required Milestone C acquisition documents. - Complete Developmental Test (DT). FY 2014 Plans: - Complete applicable ILS documentation to support LRIP decision. - Complete development/update of required Milestone C acquisition documents. - Complete Operational Assessment (OA).				
Title: Submarine High Data Rate (SubHDR) Pre-Planned Product Improvement (P3I) Articles:		3.557 0	5.151 0	3.937 0
FY 2012 Accomplishments: - Continued Underwater Explosion (UNDEX) development and testing. - Completed research and analysis on SubHDR components to increase performance reliability. - Commenced development of components identified by research and analysis for performance reliability improvements. FY 2013 Plans: - Continue development of components identified by research and analysis for performance reliability improvements. - Continue UNDEX development and testing. FY 2014 Plans: - Continue development of components identified by research and analysis. - Complete UNDEX development and testing.				
Title: Advanced High Data Rate (AdvHDR) Articles:		3.208 0	2.634 0	1.489 0
FY 2012 Accomplishments: - Continued design and acquisition documentation development in support of Milestone B. - Continued system definition/risk reduction and system development efforts based on risk mitigation hardware. - Continued technology maturation and demonstration efforts. - Continued system development engineering efforts. FY 2013 Plans:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
- Complete design and Capability Development Document (CDD) in support of Advanced Development Model (ADM) demonstration. - Continue system definition/risk reduction and system development efforts based on risk mitigation hardware. - Continue technology maturation. - Continue demonstration efforts. - Continue system development engineering efforts. FY 2014 Plans: - Complete system definition/risk reduction and system development efforts based on risk mitigation hardware. - Complete technology maturation. - Complete system development engineering efforts. - Complete demonstration for Advanced Development Model (ADM).				
Title: Towed Buoy Antenna (AN/BRR-6/6B) Articles: Description: AN/BRR-6/6B previously funded under Transition Engineering Project for development efforts and SAMS Program for procurement and sustainment efforts. FY 2014 Plans: - Commence support for BRR-6 Program providing program, contract, logistics, and system engineering management. - Commence component design specification/modification for reliability improvements. - Commence component development, system integration, and testing for reliability improvements.		0.000	0.000	2.6740
Title: Submarine Communications Buoy (SCB) Articles: Description: A project arrangement between the United States and the United Kingdom. FY 2012 Accomplishments: - Commenced support for SCB Project Arrangement with United Kingdom. - Commenced component design specification development of candidate SCB components. - Commenced development of demonstration plan for SCB components. - Commenced performance evaluation of the candidate SCB components. FY 2013 Plans: - Continue support for SCB Project Arrangement with United Kingdom. - Continue component design specification development of candidate SCB		2.8410	2.5420	2.2700

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
components. - Continue development of demonstration plan for SCB components. - Continue performance evaluation of the candidate SCB components. FY 2014 Plans: - Continue support for SCB Project Arrangement with United Kingdom. - Continue component design specification development for candidate SCB components. - Continue development of demonstration plan for SCB components. - Continue performance evaluation of the candidate SCB components.												
Accomplishments/Planned Programs Subtotals										24.202	18.395	18.777
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• 313000: Submarine Communications	75.198	69.025	74.376		74.376	73.068	55.737	76.117	80.416	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
Program Milestones (MS): Outboard Electronics (OE)-538: 4th Quarter (QTR) FY14 Milestone C (MS C); 4th QTR FY16 Full Rate Production (FRP) Decision Review. Advanced High Data Rate (AdvHDR): 4th QTR FY14 Advanced Development Model (ADM) Demonstration.												
Test and Evaluation (T&E) Milestones: OE-538: 4th QTR FY13 Developmental Test (DT) for MS C; 2nd QTR FY14 Operational Assessment (OA) for MS C; 2nd QTR FY16 DT for FRP; 3rd QTR FY16 Operational Test (OT) for FRP.												
E. Performance Metrics												
FY14 OE-538: Complete Milestone C Decision Review. FY14 Submarine High Data Rate (SubHDR): Complete Underwater Explosion (UNDEX) development and testing. FY14 AdvHDR: Complete Advanced Development Model (ADM) Demonstration.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization				PROJECT 0742: Sub Integrated Ant System					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Digital Interface Dev (Submarine High Data Rate - SubHDR)	C/CPAF	Raytheon:Marlboro, MA	3.545	0.000		0.000		0.000		-		0.000	0.000	3.545	3.545
Digital Dev (SubHDR)	C/CPAF	Raytheon:Marlboro, MA	8.182	0.000		0.000		0.000		-		0.000	0.000	8.182	8.182
Hardware Dev (SubHDR)	WR	NUWC:Newport, RI	2.888	0.000		0.000		0.000		-		0.000	0.000	2.888	Continuing
Hardware Dev (SubHDR SHF/FOT)	C/CPAF	Raytheon:Marlboro, MA	14.632	0.000		0.000		0.000		-		0.000	0.000	14.632	14.632
Hardware Dev (Antenna Trans Eng)	C/CPAF	Sippican:Marion, MA	2.207	0.000		0.000		0.000		-		0.000	0.000	2.207	2.207
Hardware Dev (Communications at Speed and Depth - CSD)	C/CPAF	Apogen:San Diego, CA	2.800	0.000		0.000		0.000		-		0.000	0.000	2.800	2.800
Systems/Hardware Dev (CSD)	C/CPAF	Various:Various	36.623	0.000		0.000		0.000		-		0.000	0.000	36.623	Continuing
Systems/Hardware Dev (Submarine Communications Buoy - SCB)	WR	NSWC:Philadelphia	0.000	1.900	May 2012	2.316	Nov 2012	1.250	Nov 2013	-		1.250	Continuing	Continuing	Continuing
Hardware Dev (Outboard Electronics (OE)-538)	C/CPIF	Submarine Antenna Joint Venture:SAJV: MA and NH	17.564	1.170	Aug 2012	0.218	Mar 2013	1.000	May 2014	-		1.000	Continuing	Continuing	Continuing
Systems Engineering (OE-538)	WR	NUWC:Newport, RI	3.975	1.310	Jan 2012	1.258	Oct 2012	1.075	Oct 2013	-		1.075	Continuing	Continuing	Continuing
Systems Engineering (SubHDR)	C/CPFF	Raytheon:Marlboro, MA	6.316	0.000		0.000		0.000		-		0.000	0.000	6.316	6.316
System Engineering (SubHDR)	WR	NUWC:Newport, RI	15.807	0.354	Jan 2012	0.400	Dec 2012	0.400	Dec 2013	-		0.400	Continuing	Continuing	Continuing
Systems Engineering (Advanced High Data Rate - AdvHDR)	WR	NUWC:Newport, RI	6.412	0.800	Nov 2011	0.802	Nov 2012	0.432	Nov 2013	-		0.432	Continuing	Continuing	Continuing
System Engineering (Antenna Trans Eng)	WR	NUWC:Newport, RI	30.728	2.086	Nov 2011	2.813	Nov 2012	3.277	Nov 2013	-		3.277	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization				PROJECT 0742: Sub Integrated Ant System					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering (CSD)	Various	Various:Various	4.628	0.000		0.000		0.000		-		0.000	0.000	4.628	
System Engineering (CSD)	WR	SSC PAC:San Diego, CA	3.048	0.000		0.000		0.000		-		0.000	0.000	3.048	
Systems Engineering (SCB)	C/CPFF	FSI:San Diego, CA	0.000	0.550	Oct 2011	0.100	Oct 2012	0.250	Oct 2013	-		0.250	0.000	0.900	
Systems Engineering (CSD)	WR	NUWC:Newport, RI	18.521	0.000		0.000		0.000		-		0.000	0.000	18.521	Continuing
UNDEX Kit Development (SubHDR)	C/CPFF	Raytheon:Marlboro, MA	5.475	0.000		0.000		0.000		-		0.000	0.000	5.475	5.475
Technology Maturation/ Demonstrations Dev (Advanced High Data Rate - AdvHDR)	C/CPAF	NUWC:Newport, RI	7.671	0.799	Dec 2011	0.642	Dec 2012	0.524	Nov 2013	-		0.524	Continuing	Continuing	Continuing
Research and Analysis Reliability Dev (Submarine High Data Rate - SubHDR)	WR	NUWC:Newport, RI	1.329	2.818	Jan 2012	0.780	Dec 2012	0.600	Dec 2013	-		0.600	Continuing	Continuing	Continuing
Systems Engineering (AdvHDR)	WR	NUWC:Newport, RI	3.392	0.486	Nov 2011	0.468	Nov 2012	0.200	Nov 2013	-		0.200	Continuing	Continuing	Continuing
Systems Engineering (BRR-6)	C/CPFF	FSI:San Diego, CA	0.000	0.000		0.000		0.210	Oct 2013	-		0.210	0.000	0.210	
Hardware Dev (Antenna Trans Eng)	WR	NUWC:Newport, RI	0.000	0.185	Apr 2012	0.000		0.000		-		0.000	0.000	0.185	
Systems Engineering (Antenna Trans Eng)	WR	NSWC:Philadelphia, PA	0.000	1.932	Sep 2012	0.000		0.000		-		0.000	0.000	1.932	
Hardware (Antenna Trans Eng)	WR	NSWC:Philadelphia, PA	0.000	0.590	Apr 2012	0.000		0.000		-		0.000	0.000	0.590	
Systems Engineering/ Hardware Dev (BRR-6)	WR	NUWC:Newport, RI	0.000	0.000		0.000		1.142	Nov 2013	-		1.142	0.000	1.142	
Systems Engineering/ Hardware Dev (BRR-6)	WR	NSWC:Philadelphia, PA	0.000	0.000		0.000		1.032	Nov 2013	-		1.032	0.000	1.032	
Research and Analysis Reliability Dev (Submarine High Data Rate - SubHDR)	C/CPAF	TBD:TBD	0.000	0.000		3.356	Sep 2013	2.100	Sep 2014	-		2.100	0.000	5.456	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>						PROJECT 0742: <i>Sub Integrated Ant System</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			195.743	14.980		13.153		13.492		0.000		13.492			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support (AdvHDR)	C/CPFF	Cambridge Intl:Arlington, VA	0.903	0.128	May 2012	0.103	Nov 2012	0.020	Nov 2013	-		0.020	Continuing	Continuing	Continuing
Integrated Logistics Support (Antenna Trans Eng)	C/CPFF	TCI:Fairfax, VA	0.050	0.000	May 2012	0.000		0.000		-		0.000	0.000	0.050	0.050
Integrated Logistics Support (Outboard Electronics - OE-538)	C/CPFF	Cambridge Intl:Arlington, VA	1.670	1.875	May 2012	0.276	Nov 2012	0.420	Nov 2013	-		0.420	Continuing	Continuing	Continuing
Integrated Logistics Support (Communications at Speed and Depth - CSD)	C/CPFF	TCI:Fairfax, VA	0.283	0.000	May 2012	0.000		0.000		-		0.000	0.000	0.283	
Cost Estimating(Submarine Communication Buoy - SCB)	C/CPFF	BAH:San Diego, CA	0.000	0.050	Oct 2011	0.025	Nov 2012	0.066	Nov 2013	-		0.066	0.000	0.141	
Acquisition Documentation (Various)	C/CPFF	Various:Various	1.132	0.000		0.000		0.000		-		0.000	0.000	1.132	1.132
Cost Estimating (BRR-6)	C/CPFF	BAH:San Diego, CA	0.000	0.000		0.000		0.030	Nov 2013	-		0.030	0.000	0.030	
Integrated logistics Support (BRR-6)	WR	NUWC:Newport, RI	0.000	0.000		0.000		0.100	Nov 2013	-		0.100	0.000	0.100	
Subtotal			4.038	2.053		0.404		0.636		0.000		0.636			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization				PROJECT 0742: Sub Integrated Ant System					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation (Communication at Speed and Depth - CSD)	WR	COTF:Norfolk, VA	0.637	0.000		0.000		0.000		-		0.000	0.000	0.637	
Test & Evaluation (Outboard Electronics (OE)-538)	WR	COTF:Norfolk, VA	0.424	1.178	Jan 2012	0.117	Oct 2012	0.250	Oct 2013	-		0.250	Continuing	Continuing	Continuing
Test & Evaluation (Submarine High Data Rate - SubHDR)	WR	NUWC:Newport, RI	0.603	0.000		0.540	Dec 2012	0.500	Dec 2013	-		0.500	Continuing	Continuing	Continuing
Developmental/ Operational T&E (Advanced High Data Rate - AdvHDR)	WR	COTF:Norfolk, VA	0.065	0.022	Nov 2011	0.018	Nov 2012	0.018	Nov 2013	-		0.018	Continuing	Continuing	Continuing
Developmental/ Operational T&E (AdvHDR)	WR	NUWC:Newport, RI	0.605	0.115	Nov 2011	0.170	Nov 2012	0.170	Nov 2013	-		0.170	Continuing	Continuing	Continuing
Developmental/ Operational T&E (OE-538)	WR	NUWC:Newport, RI	0.616	2.425	Jan 2012	0.814	Oct 2012	0.735	Oct 2013	-		0.735	Continuing	Continuing	Continuing
Test & Evaluation (CSD)	WR	SSC PAC:San Diego, CA	2.497	0.000		0.000		0.000		-		0.000	0.000	2.497	
Test & Evaluation (SCB)	WR	NUWC:Newport, RI	0.000	0.214	Nov 2011	0.025	Nov 2012	0.535	Nov 2013	-		0.535	0.000	0.774	
Subtotal			5.447	3.954		1.684		2.208		0.000		2.208			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support (SubHDR)	C/CPFF	CSA:San Diego, CA	2.042	0.477	Nov 2011	0.475	Nov 2012	0.337	Nov 2013	-		0.337	Continuing	Continuing	Continuing
Program Management Support (AdvHDR)	C/CPFF	CSA:San Diego, CA	6.191	0.941	Nov 2011	0.431	Nov 2012	0.125	Nov 2013	-		0.125	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization						PROJECT 0742: Sub Integrated Ant System			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support (Antenna Trans Eng)	C/CPFF	CSA:San Diego, CA	1.947	0.680	Nov 2011	0.884	Nov 2012	0.950	Nov 2013	-		0.950	Continuing	Continuing	Continuing
Program Management Support (CSD)	C/CPFF	CSA:San Diego, CA	4.819	0.000		0.000		0.000		-		0.000	0.000	4.819	
Program Management Support (Submarine Communications Buoy - SCB)	C/CPFF	CSA:San Diego, CA	0.000	0.200	Nov 2011	0.076	Nov 2012	0.169	Nov 2013	-		0.169	0.000	0.445	
Program Management Support (OE-538)	C/CPFF	CSA:San Diego, CA	3.183	0.917	Nov 2011	1.288	Nov 2012	0.700	Nov 2013	-		0.700	Continuing	Continuing	Continuing
Acquisition Workforce	Various	Various:Various	0.280	0.000		0.000		0.000		-		0.000	0.000	0.280	0.280
Program Management Support (BRR-6)	C/CPFF	CSA:San Diego, CA	0.000	0.000		0.000		0.160	Nov 2013	-		0.160	0.000	0.160	
Subtotal			18.462	3.215		3.154		2.441		0.000		2.441			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			223.690	24.202		18.395		18.777		0.000		18.777			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

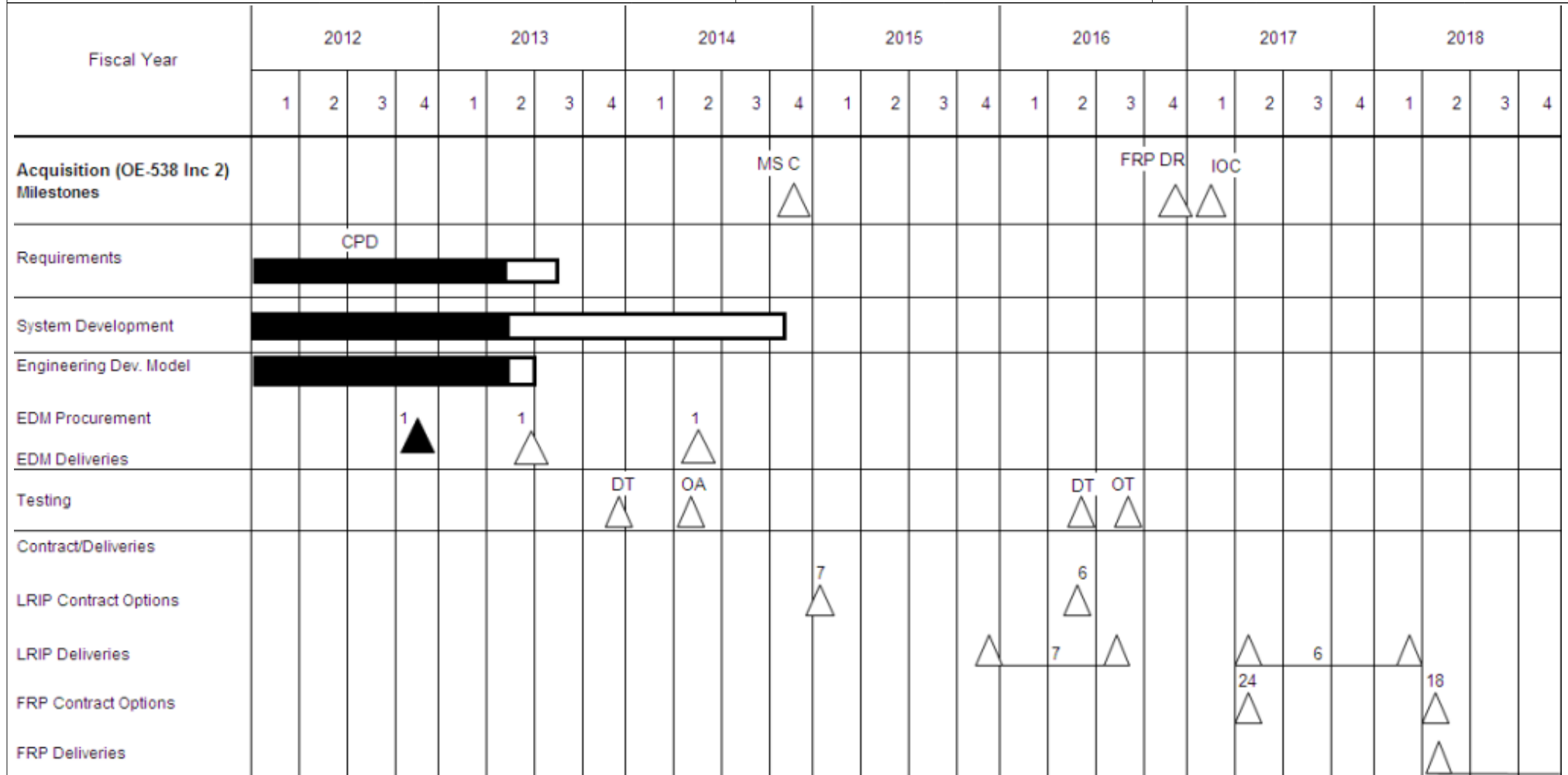
1319: Research, Development, Test & Evaluation, Navy
BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604503N: SSN-688 & Trident
Modernization

PROJECT

0742: Sub Integrated Ant System



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

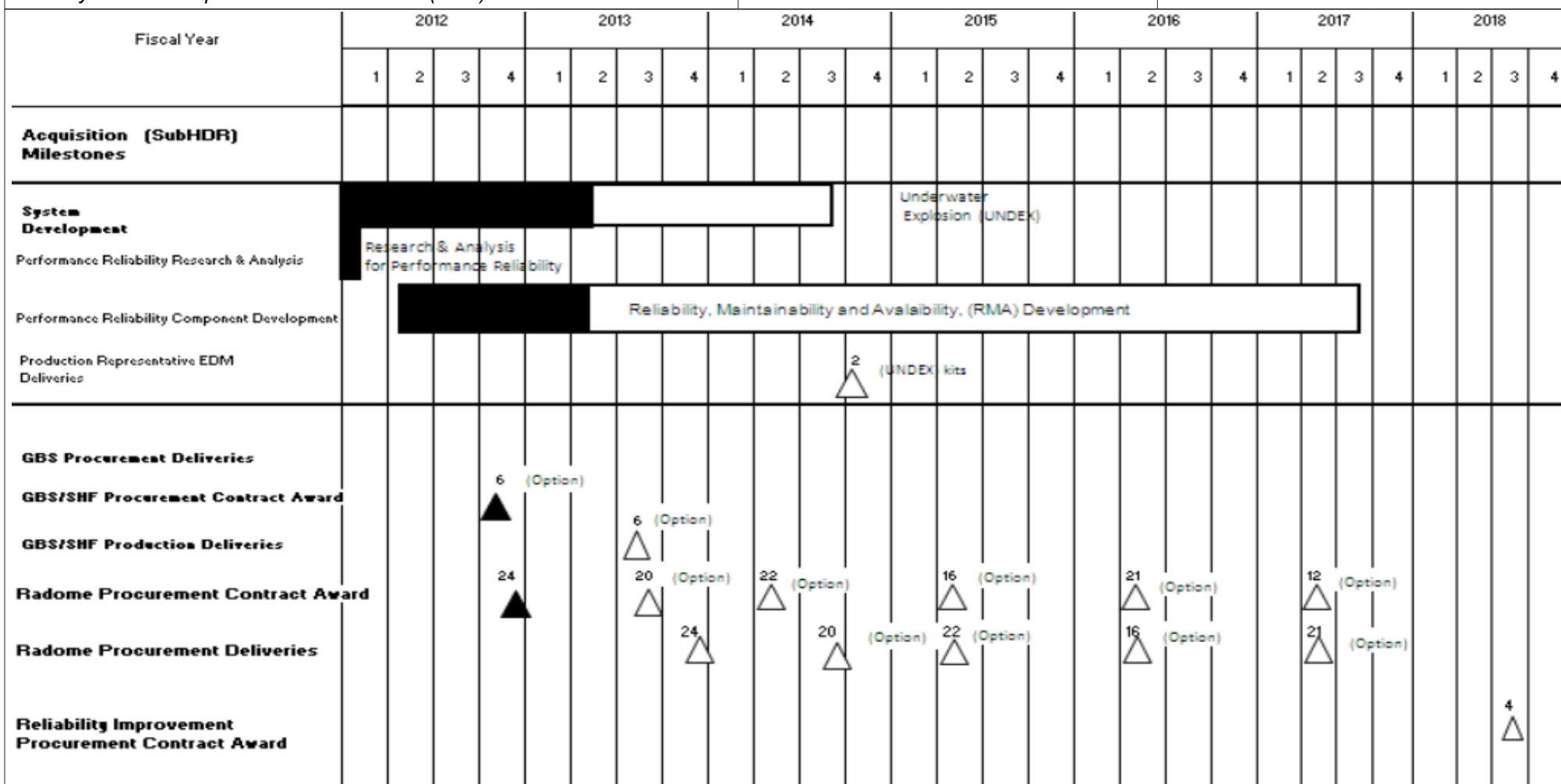
1319: Research, Development, Test & Evaluation, Navy
BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604503N: SSN-688 & Trident
Modernization

PROJECT

0742: Sub Integrated Ant System



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy																				DATE: April 2013																
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)												R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization								PROJECT 0742: Sub Integrated Ant System																
Fiscal Year	2012				2013				2014				2015				2016				2017				2018											
	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								
Acquisition (AdvHDR) Milestones					Technology Development																				OLC MDD											
													ADM Demo																OLC MDD							
Requirements	CDD																				OLC ICD								OLC AoA							
Technology Demonstration					DEMO																															
					Technology Maturation																															
System Development																																				
Engineering Dev. Model																																				
Development Test																																				
Contract/Deliveries (Down select)																																				
Vendor 1																																				
Vendor 2																																				

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy																							DATE: April 2013					
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)												R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization								PROJECT 0742: Sub Integrated Ant System								
Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	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
Acquisition (SCB)																												
Milestones																												
Project Agreement with United Kingdom																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy										DATE: April 2013																						
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)										R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization										PROJECT 0742: Sub Integrated Ant System												
Fiscal Year	2012				2013				2014				2015				2016				2017				2018							
	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				
Towed Buoy Antenna (BRR-6/6B) Components Development for Reliability Improvements									Tow Cable Improvements																							
									Rotary Joint Improvements																							
																	Antenna and Amplifier Improvements															
									Servo Valve Isolation																							
									Faliure Analysis on Key Items																							
									Faliure Analysis on Tow Cable																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>	PROJECT 0742: <i>Sub Integrated Ant System</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0742				
Outboard Electronics (OE)-538 Milestone C (MS C) Decision	4	2014	4	2014
OE-538 Full Rate Production Decision Review (FRP DR)	4	2016	4	2016
OE-538 Initial Operational Capability (IOC)	1	2017	1	2017
OE-538 Capability Production Document (CPD)	1	2012	3	2013
OE-538 System Development	1	2012	4	2014
OE-538 Engineering Development Model (EDM)	1	2012	2	2013
OE-538 2nd EDM Procurement	4	2012	4	2012
OE-538 1st EDM Delivery	3	2013	3	2013
OE-538 2nd EDM Delivery	2	2014	2	2014
OE-538 Developmental Test (DT) for Milestone C (MS C)	4	2013	4	2013
OE-538 Operational Assessment (OA)	2	2014	2	2014
OE-538 DT for Full Rate Production (FRP)	2	2016	2	2016
OE-538 Operational Test (OT)	3	2016	3	2016
OE-538 Low-Rate Initial Production (LRIP) Contract Option Year 1	1	2015	1	2015
OE-538 LRIP Deliveries Year 1	4	2015	3	2016
OE-538 LRIP Contract Option Year 2	2	2016	2	2016
OE-538 LRIP Deliveries Year 2	2	2017	1	2018
OE-538 Full Rate Production (FRP) Contract Options Year 1	2	2017	2	2017
OE-538 FRP Contract Options Year 2	2	2018	2	2018
OE-538 FRP Deliveries Year 1	2	2018	4	2018
Submarine High Data Rate (SubHDR) Under Water Explosion (UNDEX) Development	1	2012	3	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization		PROJECT 0742: Sub Integrated Ant System	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
SubHDR Research & Analysis for Performance Reliability		1	2012	1	2012
SubHDR Performance Reliability Component Development/Test		2	2012	3	2017
SubHDR Production Representative Engineering Development Model (EDM) Deliveries		4	2014	4	2014
SubHDR GBS/SHF Procurement Contract Award		4	2012	4	2012
SubHDR GBS/SHF Production Deliveries		3	2013	3	2013
SubHDR Radome Procurement Contract Awards		4	2012	2	2017
SubHDR Radome Production Deliveries		4	2013	2	2017
SubHDR Reliability Procurement Contract Award		3	2018	3	2018
Advanced High Data Rate (AdvHDR) Technology Development		1	2012	4	2014
AdvHDR Advanced Development Model (ADM) Demonstration		4	2014	4	2014
AdvHDR Material Development Decision (MDD) Optical Laser Communications (OLC)		3	2017	3	2017
AdvHDR Capabilities Development Document (CDD)		1	2012	2	2013
AdvHDR Initial Capability Document (ICD) for OLC		1	2016	2	2017
AdvHDR Analysis of Alternative (AoA) for OLC		4	2017	4	2018
AdvHDR Demonstration (DEMO)		1	2012	4	2014
AdvHDR Technology Maturation		1	2012	3	2014
SCB Project arrangement with United Kingdom (UK)		2	2012	4	2015
Towed Buoy Antenna (BRR-6/6B) Towed Cable Improvements		1	2014	4	2015
BRR-6/6B Rotary Joint Improvement		1	2014	4	2015
BRR-6/6B Antenna and Amplifier Improvements		1	2014	4	2016
BRR-6/6B Server Valve		1	2014	4	2015
BRR-6/6B Failure Analysis on Key Items		1	2014	4	2015
BRR-6/6B Failure Analysis on Tow Cable		1	2014	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization				PROJECT 0775: Submarine Supt Equip Prog			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0775: Submarine Supt Equip Prog	5.775	1.241	1.297	1.318	-	1.318	1.363	1.395	1.422	1.445	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Submarine Support Equipment Program develops and improves techniques, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability 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 Electronic Warfare Support (EW) systems to be operationally effective in the following mission areas: Joint Littoral Warfare; Joint Intelligence Surveillance Recognizance (ISR), Indications and Warnings; Electronic Warfare, Information Operations, Special Operations, and Force (SOF) Support. Efforts include: (1) Integration the technology developed and transitioned from the Advanced Submarine Support Equipment Program (ASSEP), project 0770, into the tactical EW system; (2) Resolution of software trouble reports during technology updates, from fleet feedback reports, and Submarine Warfare Federated Tactical System (SWFTS)/Non Propulsion Electronic System (NPES) Tactical Local Area Network (TACLAN) migrations; (3) Integration, test, and installation of COTS technology for system enhancements. The Electronic Warfare (EW) Development Projects include the development of: Distant EW Support and Remote Log-In, Capability and Technical Initiatives, next generation processes, architecture and radar wideband miniaturization. OPNAV direction provided for Next Generation EW in reference dated 17 June 12, SER N97/12U144401. RDTE Funding line supports the entire AN/BLQ-10 EW procurement program. Average FY OPN and SCN hardware procurement yearly funds are \$100M.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Submarine Support Equipment Program									1.241	1.297	1.318	
									Articles: 0	0	0	
FY 2012 Accomplishments: Updated AN/BLQ-10 software baseline changes for SWFTS and NPES. Researched, tested and integrated technical insertion upgrades to the AN/BLQ-10 system. Tested the next generation of technical insertion processors. Initiated integration and testing of TI-APB 11.												
FY 2013 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy								DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>				PROJECT 0775: <i>Submarine Supt Equip Prog</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2012	FY 2013	FY 2014	
Update AN/BLQ-10 software baseline changes for SWFTS and NPES. SPR Resolution, and Software Enhancement. Develop, integrate and test TI-14 Processor Upgrades, Remote Log-In, Rapid Reprogramming of Threat Libraries, and ES Server Correlator. Finish integration and testing of TI-APB-11.											
FY 2014 Plans: Update AN/BLQ-10 software baseline changes for SWFTS and NPES. Research, test and integrate technical insertion upgrades to the AN/BLQ-10 system. Test the next generation of technical insertion processors. Commence integration and testing of TI-APB 13.											
Accomplishments/Planned Programs Subtotals								1.241	1.297	1.318	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN/256000: <i>Submarine Supt Equip Prog</i>	82.241	34.050	49.475		49.475	53.134	61.977	72.126	73.261	Continuing	Continuing
• SCN/201300: <i>VIRGINIA Class Submarine</i>	53.896	54.974	27.706		27.706	56.512	57.650	58.821	60.015	Continuing	Continuing
• RDT&E/0604558N: <i>Submarine Tactical Warfare System</i>	1.500	1.300	1.500		1.500	1.500	1.500	1.500	1.526	Continuing	Continuing
Remarks											
D. Acquisition Strategy AN/BLQ-10 (V) EW System - Procurements are executed/managed in accordance with the Acquisition Strategy Report (Rev 6) for AN/BLQ-10(V) EW System dtd 12/14/09 and the Acquisition Plan (Rev 8) for AN/BLQ-10(V) EW System dtd 12/15/09.											
E. Performance Metrics The RDD program goal is to respond to urgent operational needs within 30 days and provide for rapid development and fielding of prototype solutions within 270 days.											

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Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604503N: SSN-688 & Trident
Modernization

PROJECT

0775: Submarine Supt Equip Prog

Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
Quarter	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
AN/BLQ-10 Baseline SWFTS and NPES Changes, SPR Resolution and Software Enhancements: Software Upgrade	S/W Upgrade				S/W Upgrade				S/W Upgrade				S/W Upgrade				S/W Upgrade				S/W Upgrade				S/W Upgrade			
Technical Insertion: Development, Integration & Test																												
TI-14: Processor Upgrades, Remote Log-In, Rapid Reprogramming of Threat Libraries																												
TI-14: ES Server Correlator																												
TI-16: Embedded Built-In-Test and Groom and ES Server, Processor Upgrades																												
TI-18: ES On-Board Trainer (OBT)																												
TI-APB: Integration & Test																												
APB-11																												
APB-13																												
APB-15																												
APB-17																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>	PROJECT 0775: <i>Submarine Supt Equip Prog</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0775				
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY12	2	2012	2	2012
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY13	2	2013	2	2013
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY14	2	2014	2	2014
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY15	2	2015	2	2015
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY16	2	2016	2	2016
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY17	2	2017	2	2017
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY18	2	2018	2	2018
TI: Development, Integration & Test: TI-14: Processor Upgrades, Remote Log-In, Rapid Reprom. of Threat Libraries	3	2012	3	2013
TI: Development, Integration & Test: TI-14: ES Server Correlator	4	2012	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization		PROJECT 0775: Submarine Supt Equip Prog
		Start		End
Events by Sub Project		Quarter	Year	Quarter Year
TI: Development, Integration & Test: TI-16: Embedded BIT & Groom & ES Server Processor Upgrades		3	2015	2 2016
TI: Development, Integration & Test: TI-18: ES On-Board Trainer, Next Generation Architecture		3	2017	2 2018
TI-APB: Integration & Test: APB-11		1	2012	4 2013
TI-APB: Integration & Test: APB-13		1	2014	4 2015
TI-APB: Integration & Test: APB-15		1	2016	4 2017
TI-APB: Integration & Test: APB-17		1	2018	4 2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization				PROJECT 1411: Sub Tact Comm System			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1411: Sub Tact Comm System	166.048	11.541	9.093	13.903	-	13.903	9.853	11.481	11.731	11.890	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
Common Submarine Radio Room (CSRR) transforms LOS ANGELES, OHIO and SEAWOLF Class radio rooms from suites of class-specific, closed system equipment to a common design which incorporates Open System Architecture communications equipment. CSRR will leverage VIRGINIA Class Exterior Communications System (ECS) design, utilize VIRGINIA Class ECS Control and Management software, apply a systems approach to design and implementation of Joint Maritime Communication System, and maximize use of Commercial Off-the-Shelf (COTS) products and emerging technologies. The Submarine Tactical Communications System project (1411) provides submarines with communications systems designed to: (a) enhance data throughout the automation and integrated network management; (b) convert to ForceNet and tactical data networks; (c) provide submarine Internet Protocol (IP) connectivity; (d) be interoperable with other joint United States and combined allied military networks; and (e) improve reliability, maintainability, and availability. This is accomplished by providing the submarine with a properly integrated mix of fully interoperable Navy standard and COTS communication equipment covering a wide range of frequencies and modes. The Common Submarine Radio Room (CSRR) integrates COTS and Government Off-The-Shelf components into a single radio room configuration for all classes of submarines. CSRR leverages and continues the development of VIRGINIA Class ECS which includes Open Systems Architecture design. The project utilizes land-based integration test facilities to integrate C41 program of record components into the open architecture prior to fleet implementation on all submarine platforms. This project funds the development of a replacement Simulation/Stimulation suite to support testing and training requirements. The project includes system engineering efforts associated with demonstration of new technology which will allow submarines to connect to the global information grid and participate in strike groups, as well as joint operations. The new technology will ensure the submarine's continued ability to participate in network-centric warfare and exploit its inherent stealth capabilities in support of the joint and combined fight to achieve total battlespace dominance.												
JUSTIFICATION FOR BUDGET ACTIVITY:												
This program is funded under ENGINEERING and MANUFACTURING DEVELOPMENT because it encompasses development and demonstration of new end-items prior to production approval decision.												
Funding in FY14 is to complete CSRR modernization of Increment 1 Version 3 for SEAWOLF and Ship Submersible Ballistic Nuclear (SSBN) class submarines. Commence Inc 1 Ver 3 SSBN Operator Multi-Purpose Reconfigurable Training System (MRTS) software development. Conduct Inc 1 Ver 3 Operational Test (OT) test deferrals, Special Operations Force (SOF) testing and Verification of Correction of Deficiencies (VCD) testing defined in the Inc 1 Ver 3 OT report. Conduct required Inc 1 Ver 3 SSBN Emergency Action Message (EAM) certification testing, data analysis and Targeting Change Message (TCM) testing. Correct Inc 1 Ver 3 cable management plan design deficiencies identified on all Inc 1 Ver 3 platforms in the Departure From Specification (DFS) documentation. Commence Federal Information System Management Act (FISMA) statutory requirement for cyber security compliance and correction of Inc 1 Ver 1 - Ver 3 cyber security deficiencies. Commence												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>	PROJECT 1411: <i>Sub Tact Comm System</i>
Increment 1 Version 4 systems engineering development and platform specific builds of Control & Management software incorporating Inc 1 Ver 4 capabilities. Commence development of the MRTS software for Inc 1 Ver 4 capabilities.			
Acquisition Decision Memorandum signed by Assistant Secretary of Navy for Research, Development & Acquisition dated 15 July 2008 approved consolidating Increments 1 and 2 to a single Increment 1 with multiple block upgrades (Versions).			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
Title: Common Submarine Radio Room (CSRR)		11.541	9.093
		0	0
Articles: FY 2012 Accomplishments: - Continued Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 3 CSRR baseline for LOS ANGELES operator and VIRGINIA maintenance trainer. - Continued implementation of Increment 1 Version 3 security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Completed CSRR modernization of Increment 1 Version 3 for VIRGINIA and continued modernization on the SEAWOLF and SSGN class submarines. - Supported Follow-on Operational Test & Evaluation (FOT&E) of the CSRR Increment 1 Version 3 baseline on LOS ANGELES platform. - Commenced CSRR systems engineering development for modernization of Increment 1 Version 3 for SSBN class submarines. - Continued LOS ANGELES, VIRGINIA and SSGN Increment 1 Version 3 modernization and upgrade of Control and Management software due to End of Life (EOL) issues due to Commercial Off-the-Shelf equipment obsolescence. - Commenced development of the Increment 1 Version 3 Control and Management software for SEAWOLF and SSBN capabilities and provide platform specific builds. FY 2013 Plans: - Complete Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 3 CSRR baseline for LOS ANGELES operator and VIRGINIA maintenance trainer. - Continue implementation of Increment 1 Version 3 security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Complete CSRR systems engineering and modernization of Increment 1 Version 3 for SSGN and continue systems engineering and modernization for SEAWOLF and SSBN class submarines. - Complete Follow-on Operational Test & Evaluation (FOT&E) of the CSRR Increment 1 Version 3 baseline on the LOS ANGELES platform. - Complete VIRGINIA, LOS ANGELES, and SSGN Increment 1 Version 3 upgrade of Control and Management software baseline.		13.903	0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>		PROJECT 1411: <i>Sub Tact Comm System</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012	FY 2013	FY 2014
- Continue development for platform specific builds of Control & Management software Increment 1 Version 3 capabilities for VIRGINIA, LOS ANGELES, SEAWOLF, SSGN and SSBN incorporating End of Life (EOL) issues due to equipment obsolescence. - Continue development of platform specific builds of Increment 1 Version 3 Control and Management software for SEAWOLF and SSBN capabilities. FY 2014 Plans: - Complete CSRR systems engineering development for modernization of Increment 1 Version 3 for SSBN and SEAWOLF class submarines. - Complete development of platform specific builds of Increment 1 Version 3 Control and Management software for SEAWOLF and SSBN capabilities. - Complete implementation of Increment 1 Version 3 security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Commence Federal Information System Management Act (FISMA) statutory requirement for cyber security compliance and correction of Inc 1 Ver 1 - Ver 3 cyber security deficiencies. - Continue development of platform specific builds of Control & Management software Increment 1 Version 3 capabilities for VIRGINIA, LOS ANGELES, SEAWOLF, SSGN and SSBN incorporating End of Life (EOL) issues due to equipment obsolescence. - Commence Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 3 CSRR baseline for SSBN operator trainer. Conduct Inc 1 Ver 3 OT test deferrals, SOF testing and Verification of Correction of Deficiencies (VCD) testing defined in the Inc 1 Ver 3 OT report. Conduct required Inc 1 Ver 3 SSBN Emergency Action Message (EAM) certification testing and data analysis and Targeting Change Message (TCM) testing. Correct Inc 1 Ver 3 cable management plan design deficiencies identified on all Inc 1 Ver 3 platforms in the Departure From Specification (DFS) documentation. - Commence implementation of Increment 1 Version 4 security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Commence MRTS software upgrade for Increment 1 Version 4 CSRR baseline for LOS ANGELES and SSBN operator trainer and VIRGINIA maintenance trainer. - Commence CSRR Increment 1 Version 4 system engineering development and modernization for the LOS ANGELES, SSBN and VIRGINIA class submarines. - Commence development of platform specific builds of Increment 1 Version 4 Control and Management software for LOS ANGELES, SSBN and VIRGINIA capabilities.					
Accomplishments/Planned Programs Subtotals			11.541	9.093	13.903

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>			PROJECT 1411: <i>Sub Tact Comm System</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Complete</u>	<u>Total Cost</u>
• 313000: <i>Submarine Communications</i>	75.198	69.025	74.376		74.376	73.068	55.737	76.117	80.416	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
Common Submarine Radio Room (CSRR) transforms LOS ANGELES, OHIO, VIRGINIA and SEAWOLF Class radio rooms from suites of class-specific, closed system equipment to a common design which incorporates Open System Architecture (OSA). CSRR applies a systems approach to design and implementation of Joint Maritime Communication System (JMCOMS), and maximize use of Commercial Off-the-Shelf (COTS) products and emerging technologies. Program Milestones: Increment 1 Version 3 Developmental Test & Evaluation (DT) scheduled 3Q FY12, Follow-on Test & Evaluation (FOT&E) 4Q FY12 on a LOS ANGELES platform. Increment 1 Version 3 Fielding Decision 3Q FY13. Increment 1 Version 3 OT test deferrals 3QFY14. Increment 1 Version 4 Preliminary Design Review (PDR) 2Q FY14, Critical Design Review (CDR) 2Q FY15, DT 3Q FY16, FOT&E 4Q FY16, Fielding Decision 1Q FY17.											
E. Performance Metrics											
FY12-FY14 Common Submarine Radio Room (CSRR) reduces the overall cost for implementation of Command, Control, Communications Computer, Intelligence (C41) Programs of Record (POR) components into the submarine external communications system by implementing block upgrades and reducing the integration/ installation costs. The amount of RDT&E funding is dependent on the number of baselines being integrated and tested in any given year.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE					PROJECT				
1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						PE 0604503N: SSN-688 & Trident Modernization					1411: Sub Tact Comm System				
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	C/CPFF	SSC PAC:San Diego, CA	2.776	0.000		0.000		0.000		-		0.000	0.000	2.776	2.776
Hardware Development	C/CPFF	SSC LANT:Charleston, SC	0.211	0.220	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Multi-Crypto System (MCS) Development	C/CPFF	Motorola:Scottsdale, Arizona	10.214	0.000		0.000		0.000		-		0.000	0.000	10.214	10.214
Software Development	WR	SSC PAC:San Diego, CA	2.068	0.000		0.000		0.000		-		0.000	0.000	2.068	2.068
Software Development	WR	NUWC:Newport, RI	5.498	0.354	Nov 2011	0.000		0.000		-		0.000	0.000	5.852	5.852
Multi-Purpose Reconfigurable Training System (MRTS) Development	C/CPFF	NAVAIR:Orlando, FL	15.037	0.969	Jan 2012	1.421	Jan 2013	1.726	Jan 2014	-		1.726	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC:Newport, RI	33.041	2.916	Nov 2011	3.463	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Eng/Design Version 4	WR	NUWC:Newport, RI	7.084	0.000		0.000		6.184	Nov 2013	-		6.184	Continuing	Continuing	Continuing
Site Platform Integration/ Certification	WR	NUWC:Newport, RI	12.117	0.434	Nov 2011	0.127	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Broadcast Control Authority/Operational Control (BCA/OPCON) architecture	WR	NUWC:Newport, RI	3.683	0.000		0.000		0.000		-		0.000	0.000	3.683	3.683
Software Development (CSRR)	C/CPAF	Lockheed Martin:Eagan, MN	30.978	2.944	Dec 2011	2.384	Nov 2012	0.000		-		0.000	0.000	36.306	36.306
Software Development (CSRR)	TBD	TBD:TBD	0.000	0.000		0.000		3.699	Nov 2013	-		3.699	Continuing	Continuing	Continuing
Subtotal			122.707	7.837		7.395		11.609		0.000		11.609			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>						PROJECT 1411: <i>Sub Tact Comm System</i>			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	NUWC:Newport, RI	3.071	0.330	Dec 2011	0.000		0.225	Nov 2013	-		0.225	Continuing	Continuing	Continuing
Software Engineering	WR	SSC PAC:San Diego, CA	2.969	0.239	Nov 2011	0.125	Nov 2012	0.285	Nov 2013	-		0.285	Continuing	Continuing	Continuing
Information Security/ Information Assurance (INFOSEC/IA) Certification	WR	SSC PAC/SSC LANT:San Diego, CA/Charleston, SC	18.128	1.123	Nov 2011	1.087	Nov 2012	1.438	Nov 2013	-		1.438	Continuing	Continuing	Continuing
Subtotal			24.168	1.692		1.212		1.948		0.000		1.948			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental/ Operational Test and Evaluation (T&E)	C/CPFF	COTF, JITC:Various	9.283	1.406	Dec 2011	0.486	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			9.283	1.406		0.486		0.000		0.000		0.000			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	CSA:San Diego, CA	9.890	0.606	Nov 2011	0.000		0.346	Nov 2013	-		0.346	Continuing	Continuing	Continuing
Subtotal			9.890	0.606		0.000		0.346		0.000		0.346			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			166.048	11.541		9.093		13.903		0.000		13.903			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy																DATE: April 2013																
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)								R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization								PROJECT 1411: Sub Tact Comm System																
	2012				2013				2014				2015				2016				2017				2018							
Fiscal Year	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				
Acquisition Milestones	Inc1V3 Early Fielding Decision ▲				Inc1V3 Fielding Decision △				Decision								Inc1V4 Fielding Decision △															
Technical Reviews									I1V4 PDR ○				I1V4 CDR ○												I1V5 PDR ○							
Contracts																																
Software/Lockheed Martin																																
Software/Contract recomplete									△																							
System Development	Inc1V3 Development Phase																				Inc1V5 Development Phase											
Technology Demonstration													Inc1V4 Development Phase																			
Test & Evaluation	CSRR Inc1V3 FOT&E																CSRR Inc1V4 FOT&E															
Development Test	Inc1V3 DT ▲ JITC Certification								Inc1V3 OT Deferrals & SOF Testing △								Inc1V4 DT △ JITC Certification															
Operational Test	Inc1V3 OT ▲																Inc1V4 OT △															
Production (Increment I)																																
LRIP																																
LRIP Deliveries																																
FRP Award																																
FRP Deliveries																																
Procurement Inc 1 mod kits	11 ▲				11 △				15 △				11 △				10 △				15 △				25 △							
Installation Inc 1 mod kits					8 ▲				11 △				11 △				13 △				10 △				10 △				14 △			
Support Facility: Turn Key Installations	7												2				1								1							

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i>	PROJECT 1411: <i>Sub Tact Comm System</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1411				
Early Fielding Decision (Increment 1 Version 3)	2	2012	2	2012
Fielding Decision (Inc 1 Ver 3)	3	2013	3	2013
Fielding Decision (Increment 1 Version 4)	1	2017	1	2017
Technical Reviews (Inc 1 Ver 4 Preliminary Design Review (PDR))	2	2014	2	2014
Technical Reviews (Inc 1 Ver 4 Critical Design Review (CDR))	2	2015	2	2015
Technical Reviews (Increment 1 Version 5 Preliminary Design Review (PDR))	2	2018	2	2018
Technology Demonstration (Inc 1 Ver 3) Development Phase	1	2012	2	2014
Technology Demonstration (Inc 1 Ver 4) Development Phase	1	2014	4	2017
Technology Demonstration (Inc 1 Ver 5) Development Phase	1	2017	4	2018
Contracts (Software---Lockheed Martin)	1	2012	1	2014
Contracts (Software---Follow-On)	4	2013	4	2018
Development Test (DT) (Inc 1 Ver 3) Joint Interoperability Test Command (JITC) Certification	3	2012	3	2012
Follow-on Operational Test & Evaluation (FOT&E) (Inc 1 Ver 3)	4	2012	1	2013
Increment 1 Ver 3 Operational Test (OT) deferrals & Special Operations Force (SOF) testing	3	2014	3	2014
DT (Inc 1 Ver 4) JITC Certification	3	2016	3	2016
FOT&E (Inc 1 Ver 4)	4	2016	4	2016
Procurement (Increment 1 Modernization Kits)	2	2012	3	2018
Installation (Inc 1 Modernization Kits)	4	2012	4	2018