

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>
---	--

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	44.828	10.331	23.208	-	23.208	20.431	23.851	14.188	9.912	Continuing	Continuing
1083: <i>Shore To Ship Com System</i>	-	-	14.430	-	14.430	19.407	23.851	14.188	9.912	Continuing	Continuing
3002: <i>Navy Strategic Comm Project</i>	42.438	10.331	8.778	-	8.778	1.024	-	-	-	0.000	62.571
9999: <i>Congressional Adds</i>	2.390	-	-	-	-	-	-	-	-	0.000	2.390

A. Mission Description and Budget Item Justification

The Shore to Ship Communications System develops communication system elements which provide positive command and control of deployed submarines. The Shore to Ship Communications System provides continuous assessment of the command and control links between the National Command Authority and missile platforms and is conducted to ensure compliance with Nuclear Technical Performance Criteria (NTPC). The Shore to Ship Communications System addresses joint system design issues for Emergency Action Message (EAM) distribution to all nuclear platforms and provides evaluation of joint interoperability of EAM delivery systems. Tools are developed to provide strategic command and control planning within the submarine shore infrastructure to support deployed ballistic missile submarines.

FY12 funds will be used for development activities necessary to award a competitive contract for system design and development of Nuclear Command, Control and Communications Long Term Solution (NC3 LTS) and an increase in development in Low Band Universal Communications System to reach Milestone C.

The E-6B Block I modification program corrects Airborne National Command Post program Follow-On Operational Test and Evaluation operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems by 2010. Block I designs, develops, integrates, and tests a Multi-Level Security system, Open Systems Architecture; replaces the intercommunications and Mission Computer Set; modifies the cooling, electrical, and Ultra-High Frequency Command, Control and Communications system; and addresses Internet Protocol Bandwidth Expansion impacts to pre-Block I baseline aircraft. Block I adds operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provides a foundation for evolutionary upgrades. Other modifications (Block IA Engineering Change Proposal (ECP)) include: an additional Auxiliary Power Unit to enhance power and cooling capabilities supporting the additional systems in the Multi-Level Security system, Open Systems Architecture, a Very Low Frequency Transmitter obsolescence replacement, and a High Power Transmit Set subsystem refurbishment.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>
---	--

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	46.170	10.331	10.328	-	10.328
Current President's Budget	44.828	10.331	23.208	-	23.208
Total Adjustments	-1.342	-	12.880	-	12.880
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.251	-			
• Program Adjustments	-	-	13.037	-	13.037
• Section 219 Reprogramming	-0.081	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.157	-	-0.157
• Congressional General Reductions Adjustments	-0.010	-	-	-	-

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *E-6B Strategic Communications UpgradeVLFTX*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2010	FY 2011
	2.390	-
	2.390	-
	2.390	-

Change Summary Explanation

Schedule:

(1083) NC3 LTS: The Request for Proposal (RFP) release was delayed from 4QFY10 to 2QFY11. As a result of the RFP delay, contract award, system design and development, Preliminary Design Review (PDR), Milestone C, system test events and system fielding were delayed accordingly.

(3002) Due to testing deficiencies and delays, the Systems Integration Lab (SIL) and Aircraft Developmental Testing for Block I was extended to 4Q FY10. This caused a delay in the Block I operational testing and operational evaluation (OPEVAL). The Low Rate Initial Production was extended to 4Q FY12. The Block I Full Rate Production decision and contract award was delayed until 1Q FY12 - until the completion of the Block I operational testing and OPEVAL.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0101402N: *Navy Strategic Comms*

Technical: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
---	--	---

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
1083: <i>Shore To Ship Com System</i>	-	-	14.430	-	14.430	19.407	23.851	14.188	9.912	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Funding for this project transferred from PE 0204163N beginning in FY12.

A. Mission Description and Budget Item Justification

This program develops communication system elements which provide positive Nuclear Command, Control and Communications (NC3) from originator to execution platforms. This portfolio of programs provides design and development for shore-to-ship transmit and receive communications systems.

The Low Band Universal Communications System (LBUCS) is a modernization program that will upgrade the Transmit and Receive subsystems of the Fixed Submarine Broadcast System (FSBS) which are approaching their operational end of life. LBUCS will ensure operational capability through the Very Low Frequency (VLF) architecture by providing system life extension and flexibility of submarine broadcast traffic to the submarine in stealth posture. The flexibility includes enhanced throughput and anti-jam capability, ensuring more operational products are delivered to a submarine without risking mast exposure. The flexibility further includes simplified shore architecture to maintain capability while maximizing use of shore nodes (Broadcast Keying Sites). LBUCS also provides an upgrade to the VLF receive system, with all interoperable waveforms, to ensure continued compliance with Nuclear Technical Performance Criteria.

The Nuclear Command, Control and Communications (NC3) Long-Term Solution (LTS) will replace the shore-based, nuclear command and control (NC2) message dissemination infrastructure of the NC3 Hybrid Solution while addressing capability gaps identified in the NC3 LTS Capability Based Analysis. The mission of the NC3 LTS is to provide a reliable, secure, timely and robust messaging capability between Senior Leadership (The President of the United States, Secretary of Defense, and Chairman of the Joint Chiefs of Staff), Combatant Commanders and United States nuclear force elements. Specifically, the NC3 LTS shall support the dissemination of Emergency Action Messages and other NC2 messages.

The Strategic Communications Assessment Program /Continued Evaluation Program provides constant assessment of the effectiveness of the end-to-end Nuclear Command and Control network and analysis of system performance in various mission locations.

Concept Development/System Planning provides Network Enabled Operation (NEO) that addresses Allied interoperability issues for submarine communications in an Internet Protocol (IP) environment. As new technologies are realized, coalition architectures are developed and tested to ensure continued interoperability. Concept Development/System Planning also provides for the modeling of unique Very Low Frequency/Low Frequency (VLF/LF) submarine communications capabilities which include large physical shore broadcast antennas, underwater depth penetration studies and interoperable VLF waveform analysis. Technologies to improve high voltage insulators, helix house bushings and antenna components used in the Fixed VLF transmit systems are evaluated and tested through the High Voltage Improvement Program. Development of Information Assurance solutions for the Broadcast Control Authority (BCA) and Submarine Operating Authority Wide Area Network are being investigated to mitigate vulnerability concerns.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>			
Notes/Comments: 1) FY12 LBUCS: Continue development of Production Representative Article (PRA) for transmit terminal 2) FY12 NC3 LTS: Award contract for system design and development, conduct Preliminary Design Review and begin development of the Capabilities Production Document					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2010	FY 2011	FY 2012
Title: Low Band Universal Communication System (LBUCS)			-	-	7.525 0
Articles:					
FY 2012 Plans: Take delivery of transmit Production Representative Articles. Complete transmit acquisition documentation, Capabilities Production Document and Information Support Plan for Milestone C. Commence transmit system Developmental Test / Operational Assessment.					
Title: Nuclear Command, Control, Communications Long Term Solution (NC3 LTS)			-	-	1.994 0
Articles:					
FY 2012 Plans: Award contract for system design and development. Commence development of NC3 LTS system. Commence development of the Capabilities Production Document in support of Milestone C. Commence development of acquisition documentation necessary to achieve Milestone C. Complete Production Design Review (PDR). United States Air Force funding commences and satisfies remainder of funding requirements.					
Title: Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP)			-	-	2.953 0
Articles:					
FY 2012 Plans: Conduct mission analysis of Ship Submersible Ballistic Nuclear Submarine (SSBN) Emergency Action Message (EAM) reception for a sample of SSBN patrols. Provide reports on performance, adherence to delivery time requirements and shortfalls. Complete and implement automated data collection and analysis tools to reduce latency time between missions and results availability.					
Title: Concept Development/Systems Planning			-	-	0.819 0
Articles:					
FY 2012 Plans: Conduct US/UK developmental testing between US Submarine Operating Authority and UK submarines to further validate Network Enabled Operation interoperability concepts and conduct Very Low Frequency interoperability studies.					
Title: High Voltage Improvement Program			-	-	0.834

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
---	--	---

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Articles:			0
FY 2012 Plans: Complete Electrically Small Antenna project. Continue dynamic tuning effort with large scale model test at Edgar Beauchamp High Voltage Test Facility. Continue work on partial discharge for use in early detection of helix house and antenna failures with the goal of being able to stop a failure before significant damage occurs. Complete outdoor helix effort with large scale model test at Edgar Beauchamp High Voltage Test Facility.			
Title: Broadcast Control Authority	-	-	0.305
Articles:			0
FY 2012 Plans: Develop candidate Submarine Operating Authority options for Information Assurance integration.			
Accomplishments/Planned Programs Subtotals	-	-	14.430

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	
• OPN/3107: <i>Submarine Broadcast</i>	0.000	0.000	9.692	0.000	9.692	0.791	0.000	0.000	0.000	0.000	10.483

D. Acquisition Strategy
 Low Band Universal Communications System (LBUCS): LBUCS is the modernization program that will upgrade the Transmit and Receive subsystems of the Fixed Submarine Broadcast System which are approaching their operational end of life. A cost plus incentive fee contract was awarded for Transmit subsystem development in 4Q FY09 with three sequential fixed price options Contract Line Item Numbers for production and deployment. The development of LBUCS Receive will commence in FY13.

The Nuclear Command, Control and Communications Long Term Solution (NC3 LTS): NC3 LTS will provide accurate and reliable delivery of time-critical messages for the nuclear forces by developing a Dedicated IP Network utilizing Defense Information Systems Network circuits. Milestone B for the program is projected in 4QFY11 with Milestone C occurring in 4QFY14. Contract planning activities commenced in 4QFY09, leading to a Request for Proposal release in 2QFY11 and corresponding contract award in 2QFY12. Full Operational Capability is expected in 4QFY17.

E. Performance Metrics
 LBUCS: FY12: Take delivery of Transmit Production Representative Article. Complete transmit acquisition documentation and Capabilities Production Document for Milestone C. Commence transmit system Developmental Testing/Operational Assessment.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
<p>NC3 LTS: FY12 : Award contract for system design and development. Complete Preliminary Design Review.</p> <p>Strategic Communications Assessment Program/Continuing Evaluation Program: FY12: Delivery of patrol reports and development plan for automated data collection and analysis toolset.</p> <p>Concept Development: FY12: Delivery of Network Enabled Operations testing scenarios and shore architecture design to support shore to submarine testing scenarios.</p> <p>High Voltage Improvement Program: FY12: Complete ferrite study to reduce loss and size of helix enclosure. Commence examination of new ferrites to allow greater broadcast signal.</p> <p>Broadcast Control Authority: FY12: Delivery of design options to incorporate Information Assurance (IA) capability.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
---	--	---

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	SSC PAC:San Diego, CA	18.861	-		-		-		-	Continuing	Continuing	Continuing
Ancillary Hardware Development	WR	SSC PAC:San Diego, CA	2.316	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC:San Diego, CA	50.733	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC Newport:Newport, RI	13.471	-		-		-		-	Continuing	Continuing	Continuing
SCAP/CEP: Systems Engineering	C/CPFF	APL/JHU:Baltimore, MD	43.049	-		-		-		-	Continuing	Continuing	Continuing
LBUCS: Systems Engineering	WR	SSC LANT:Charleston, SC	-	-		0.681	Oct 2011	-		0.681	Continuing	Continuing	Continuing
LBUCS: Primary Hardware Development	C/CPFF	SAIC:San Diego, CA	6.183	-		3.534	Nov 2011	-		3.534	Continuing	Continuing	Continuing
NC3LTS: Systems Engineering	MIPR	U.S. Army:Monmouth, NJ	7.622	-		0.525	Oct 2011	-		0.525	Continuing	Continuing	Continuing
NC3LTS: Ancillary Hardware	WR	SSC PAC:San Diego, CA	-	-		0.175	Oct 2011	-		0.175	Continuing	Continuing	Continuing
Shore to Ship: Ancillary Hardware	WR	SSC PAC:San Diego, CA	-	-		0.307	Nov 2011	-		0.307	Continuing	Continuing	Continuing
Shore to Ship: Systems Engineering	WR	SSC PAC:San Diego, CA	-	-		0.357	Nov 2011	-		0.357	Continuing	Continuing	Continuing
Subtotal			142.235	-		5.579		-		5.579			

Remarks
Total Prior Years Cost amounts shown are from PE 0204163N and are provided for context.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
---	--	---

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Development Support	WR	SSC PAC:San Diego, CA	4.853	-		-		-		-	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC:San Diego, CA	11.912	-		-		-		-	Continuing	Continuing	Continuing
Acquisition/Program Development	C/CPFF	CSA:San Diego, CA	1.506	-		-		-		-	Continuing	Continuing	Continuing
Technical Data	SS/CPFF	ANSOL:San Diego, CA	2.822	-		-		-		-	Continuing	Continuing	Continuing
Development Support 2	WR	SSC PAC:San Diego, CA	2.701	-		-		-		-	Continuing	Continuing	Continuing
LBUCS: Logistics Support	C/CPFF	TCI:Alfreda, GA	1.390	-		0.510	Oct 2011	-		0.510	Continuing	Continuing	Continuing
LBUCS: Information Assurance	C/CPFF	MERDAN:San Diego, CA	-	-		0.170	Oct 2011	-		0.170	Continuing	Continuing	Continuing
LBUCS: Information Assurance	WR	SSC PAC:San Diego, CA	-	-		0.204	Oct 2011	-		0.204	Continuing	Continuing	Continuing
LBUCS: Technical Data	C/CPFF	ANSOL:San Diego, CA	-	-		0.227	Oct 2011	-		0.227	Continuing	Continuing	Continuing
LBUCS: Acquisition/Program Development	C/CPFF	CSA:San Diego, CA	-	-		0.793	Oct 2011	-		0.793	Continuing	Continuing	Continuing
NC3LTS: Information Assurance	C/CPFF	MERDAN:San Diego, CA	-	-		0.050	Oct 2011	-		0.050	Continuing	Continuing	Continuing
NC3LTS: Technical Data	C/CPFF	ANSOL:San Diego, CA	-	-		0.350	Oct 2011	-		0.350	Continuing	Continuing	Continuing
NC3LTS: Acquisition/Program Development	C/CPFF	CSA:San Diego, CA	-	-		0.212	Oct 2011	-		0.212	Continuing	Continuing	Continuing
NC3LTS: Logistics Support	C/CPFF	TCI:Alfreda, GA	-	-		0.160	Oct 2011	-		0.160	Continuing	Continuing	Continuing
Shore to Ship: Software Development	WR	SSC PAC:San Diego, CA	-	-		0.207	Oct 2011	-		0.207	Continuing	Continuing	Continuing
Shore to Ship: Studies and Design	WR	SSC PAC:San Diego, CA	-	-		0.357	Oct 2011	-		0.357	Continuing	Continuing	Continuing
Shore to Ship: Acquisition/Program Development	WR	SSC PAC:San Diego, CA	-	-		0.222	Oct 2011	-		0.222	Continuing	Continuing	Continuing
Shore to Ship: Broadcast Control Authority	C/CPFF	Predicate Logic:San Diego, CA	-	-		0.508	Oct 2011	-		0.508	Continuing	Continuing	Continuing

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
---	--	---

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Subtotal			25.184	-		3.970		-		3.970			

Remarks
Total Prior Years Cost amounts shown are from PE 0204163N and are provided for context.

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
SCAP/CEP: Strategic OP Systems Performance Evaluation	C/CPFF	APL/JHU:Baltimore, MD	22.509	-		2.953	Dec 2011	-		2.953	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	COTF:Norfolk, VA	8.855	-		0.090	Oct 2011	-		0.090	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	SSC PAC:San Diego, CA	-	-		0.423	Oct 2011	-		0.423	Continuing	Continuing	Continuing
NC3LTS: System Testing	WR	COTF:Norfolk, VA	-	-		0.142	Oct 2011	-		0.142	Continuing	Continuing	Continuing
Subtotal			31.364	-		3.608		-		3.608			

Remarks
Total Prior Years Cost amounts shown are from PE 0204163N and are provided for context.

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Contractor Engineering Support	MIPR	U.S. Army:Monmouth, NJ	1.777	-		-		-		-	Continuing	Continuing	Continuing
LBUCS: Program Management	WR	SSC PAC:San Diego, CA	5.399	-		0.866	Oct 2011	-		0.866	Continuing	Continuing	Continuing
LBUCS: Travel	WR	SSC PAC:San Diego, CA	0.250	-		0.028	Oct 2011	-		0.028	Continuing	Continuing	Continuing
	WR		2.277	-		0.367	Oct 2011	-		0.367	Continuing	Continuing	Continuing

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
---	--	---

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NC3LTS: Government Engineering Support		SSC PAC:San Diego, CA											
NC3: Travel	WR	SSC PAC:San Diego, CA	-	-		0.012	Oct 2011	-		0.012	Continuing	Continuing	Continuing
Subtotal			9.703	-		1.273		-		1.273			

Remarks
Total Prior Years Cost amounts shown are from PE 0204163N and are provided for context.

	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	208.486	-		14.430		-		14.430			

Remarks
FY 2011 amounts shown are from PE 0204163N and are provided for context.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>

--	--	--

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>

--	--	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1083				
LBUCS: Milestone-C (MS-C)	3	2012	3	2012
LBUCS: Full Rate Production Milestone (FRP) - Transmit	3	2013	3	2013
LBUCS: Initial Operational Capability (IOC) - Transmit	3	2013	3	2013
LBUCS: Production Representative Article Program Review (PRA PR) - Receive	1	2013	1	2013
LBUCS: Fielding Program Review (FPR) - Receive	2	2015	2	2015
LBUCS: Capability Production Document (CPD)	3	2010	1	2012
LBUCS: Production Design Review (PDR) - Transmit	3	2010	3	2010
LBUCS: Critical Design Review (CDR) - Transmit	1	2011	1	2011
LBUCS: Technology Readiness Review (TRR) - Transmit	1	2012	1	2012
LBUCS: Production Representative Article (PRA) - Transmit	1	2010	2	2012
LBUCS: Production Representative Article (PRA) - Receive	1	2013	4	2014
LBUCS: Production Design Review (PDR) - Receive	3	2013	3	2013
LBUCS: Critical Design Review (CDR) - Receive	1	2014	1	2014
LBUCS: Developmental Test/Operational Assesment (DT/OA) - Transmit	2	2012	2	2012
LBUCS: Developmental Test/Technical Evaluation (DT/TE) - Transmit	1	2013	1	2013
LBUCS: Operational Test (OT) - Transmit	2	2013	2	2013
LBUCS: Developmental Test (DT) - Receive	1	2015	1	2015
LBUCS: Low Rate Initial Production (LRIP) - Transmit	1	2013	1	2013
LBUCS: Full Rate Production (FRP) - Transmit	4	2013	4	2015
LBUCS: Full Rate Production (FRP) - Receive	3	2015	4	2016
NC3 LTS: Milestone-B (MS-B)	4	2011	4	2011

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NC3 LTS: Production Design Review (PDR)	4	2012	4	2012
NC3 LTS: Critical Design Review (CDR)	2	2013	2	2013
NC3 LTS: Milestone-C (MS-C)	4	2014	4	2014
NC3 LTS: Full Rate Production Design Review (FRP DR)	3	2016	3	2016
NC3 LTS: Capabilities Design Document (CDD)	1	2010	1	2011
NC3 LTS: Capability Production Document (CPD)	3	2012	4	2013
NC3 LTS: Procurement Planning and Strategy Meeting (PPSM)	3	2010	3	2010
NC3 LTS: Request For Proposal (RFP)	2	2011	2	2011
NC3 LTS: Contract Award (CA)	2	2012	2	2012
NC3 LTS: Production Representative Article (PRA)	2	2012	2	2014
NC3 LTS: Test & Evaluation Master Plan (TEMP)	1	2010	3	2011
NC3 LTS: Developmental Test Pre Milestone-C (DT)	2	2014	3	2014
NC3 LTS: Integrated Testing/Operational Testing (IT/OT)	3	2014	4	2014
NC3 LTS: Developmental Test Post Milestone-C (DT)	3	2015	4	2015
NC3 LTS: Integrated Test (IT)	4	2015	1	2016
NC3 LTS: Operational Test (OT)	1	2016	2	2016
NC3 LTS: Low Rate Initial Production (LRIP)	1	2015	2	2015
NC3 LTS: Full Rate Production (FRP)	3	2016	4	2016

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>				PROJECT 3002: <i>Navy Strategic Comm Project</i>			
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
3002: <i>Navy Strategic Comm Project</i>	42.438	10.331	8.778	-	8.778	1.024	-	-	-	0.000	62.571
Quantity of RDT&E Articles	2	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The E-6B Block I modification program corrects Airborne National Command Post program Follow-On Operational Test and Evaluation operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems by 2011. Block I designs, develops, integrates, and tests a Multi-Level Security (MLS) system, Open Systems Architecture (OSA); replaces the intercommunications and Mission Computer Set; modifies the cooling, electrical, and Ultra-High Frequency Command, Control and Communications system; and addresses Internet Protocol Bandwidth Expansion impacts to pre-Block I baseline aircraft. Block I adds operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provides a foundation for evolutionary upgrades. Other modifications (Block IA Engineering Change Proposal (ECP)) include: an additional Auxiliary Power Unit to enhance power and cooling capabilities supporting the additional systems in the MLS system, OSA, a Very Low Frequency Transmitter obsolescence replacement, and a High Power Transmit Set subsystem refurbishment.

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

	FY 2010	FY 2011	FY 2012
Title: Conduct Developmental Test (DT) Governmental Training	7.025	3.255	0.280
Articles:	0	0	0
FY 2010 Accomplishments: Funding supports Block I and Block IA ECP Government acquisition planning, acquisition strategy adjustment, requirements analysis, industry conferences, Department of Defense (DoD) 5000 series document development and revision, program management, technical reviews, oversight, Systems Integration Lab (SIL) and aircraft modification and test, and contract management; design, test readiness, and Contract Data Requirements List (CDRL) reviews; functional and physical configuration audits; technical interchange and program management meetings; development and operational test planning, execution, and reporting in support of Government review and design approval of modifications.			
FY 2011 Plans: Continue Block IA ECP DT Governmental Training efforts.			
FY 2012 Plans: Continue Block IA ECP DT Governmental Training efforts.			
Title: Conduct DT Support Training	3.254	0.065	-
Articles:	0	0	
FY 2010 Accomplishments:			

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Funding will be used to buy Block I and Block IA ECP contract support services to perform engineering, management, trade studies, and analysis to develop acquisition documents; plan logistics and training; develop and monitor schedules and revisions to DoD 5000 series documents; attend industry conferences; perform engineering and architectural studies and analyses; modify and test the SIL and aircraft; conduct functional and physical configuration audits; and review CDRL for Block I and IA modifications.				
FY 2011 Plans: Continue and complete Block IA ECP DT Support Training efforts.				
Title: Prototype Aircraft Installation		29.906	7.011	8.000
		Articles: 2	0	0
FY 2010 Accomplishments: Funding supports Block I and Block IA ECP tasks allotted to the prime contractor including: program initiation, engineering research, design development, integration and test of Block I and IA ECP systems; preparation and presentation of the Block I and IA ECP designs and test readiness reviews; SIL and aircraft modification, functional and physical configuration audits; contractor developmental test planning, leading to Low Rate Initial Production (LRIP) approval and award.				
FY 2011 Plans: Continue Block IA ECP Prototype Aircraft Installation efforts.				
FY 2012 Plans: Continue Block IA ECP Prototype Aircraft Installation efforts.				
Title: Developmental/Operational Testing		2.253	-	0.498
		Articles: 0		0
FY 2010 Accomplishments: Complete contractor developmental testing for Block I on the aircraft and in the SIL. Begin operational testing to obtain a successful Operational Evaluation (OPEVAL) report.				
FY 2012 Plans: Begin and complete Block IA ECP operational testing to obtain a successful OPEVAL report.				
Accomplishments/Planned Programs Subtotals		42.438	10.331	8.778

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• APN 056400: <i>E-6 A/B Series</i>	102.309	149.164	165.253	0.000	165.253	158.906	182.369	217.654	202.601	384.103	1,819.048

D. Acquisition Strategy

Competitively awarded Cost Plus Award Fee development contract. The current contract was modified on 13 April 2007 to a Cost Plus Incentive Fee contract. A new sole source Firm Fixed Price (FFP) contract was awarded for LRIP in 4th quarter of FY2010 with Full Rate Production being a new sole source follow-on FFP contract.

E. Performance Metrics

Block I Milestone C decision achieved in 3rd quarter FY2010.
FRP Contract Award 2nd quarter FY2012
Block I IOC 3rd quarter FY2013

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
---	--	--

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development Block I *	C/CPIF	Rockwell Collins:Cedar Rapids, IA	142.319	-		-		-		-	0.000	142.319	142.319
Award Fees	C/CPAF	Rockwell Collins:Cedar Rapids, IA	3.751	-		-		-		-	0.000	3.751	3.751
Primary Hardware Development Block IA ECP**	C/CPIF	Rockwell Collins:Cedar Rapids, IA	28.369	7.011	Jan 2011	8.000	Dec 2011	-		8.000	0.824	44.204	44.254
Ancillary Hardware Development	C/CPFF	Rockwell Collins:Cedar Rapids, IA	4.933	-		-		-		-	0.000	4.933	4.933
Training Development WST	C/CPIF	Rockwell Collins:Cedar Rapids, IA	1.213	-		-		-		-	0.000	1.213	1.213
Subtotal			180.585	7.011		8.000		-		8.000	0.824	196.420	196.470

Remarks

* The Rockwell Collins Primary Hardware Development Block I contract was converted from a Competitively Awarded/Cost plus Award Fee to a Cost Plus Incentive Fee beginning in FY07.
 ** The Rockwell Collins Primary Hardware Development Block IA Engineering Change Proposal (ECP) contract was definitized in July 2010.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analyses	Various	Various:Not Specified	4.412	0.065	Feb 2011	-		-		-	0.000	4.477	
Subtotal			4.412	0.065		-		-		-	0.000	4.477	

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCAD:Patuxent River, MD	0.668	-		-		-		-	0.000	0.668	
Operational Test & Evaluation	WR	NAWCAD:Patuxent River, MD	2.148	-		-		-		-	0.000	2.148	

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>

--	--	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Navy Strategic Communications</i>				
Acquisition Milestones: Milestones: Milestone C (MS C) (Blk I)	3	2010	3	2010
Acquisition Milestones: Milestones: Initial Operational Capability (IOC)	3	2013	3	2013
Acquisition Milestones: Production: LRIP Phase (APN)	3	2010	4	2012
Acquisition Milestones: Production: Full Rate Production (FRP) (Blk I)	1	2012	4	2016
Test and Evaluation: Technical Evaluation: SIL Contractor/Developmental Testing (CT/DT) (Blk I)	1	2010	4	2010
Test and Evaluation: Technical Evaluation: A/C Contractor/Developmental Testing (CT/DT) (Blk I)	1	2010	4	2010
Test and Evaluation: Operational Evaluation: Operational Testing (OPEVAL) (Blk I)	4	2010	2	2011
Production Milestones: Contract Awards: Contract Award Low Rate Initial Production APN (LRIP) (Blk I)	4	2010	4	2010
Production Milestones: Contract Awards: Full Rate Production (FRP) Contract Award (Blk I)	2	2012	2	2012
Production Milestones: Decisions: Full Rate Production (FRP) Decision/Start (Blk I)	1	2012	1	2012
Deliveries: LRIP Deliveries: LRIP Block I Deliveries	4	2011	4	2012
Deliveries: FRP Deliveries: FRP Block I Deliveries	1	2013	4	2016

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>				PROJECT 9999: <i>Congressional Adds</i>				
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: <i>Congressional Adds</i>	2.390	-	-	-	-	-	-	-	-	0.000	2.390
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011
Congressional Add: E-6B Strategic Communications UpgradeVLFTX	2.390	-
FY 2010 Accomplishments: Funding will support Block IA Engineering Change Proposal (ECP) tasks allotted to the prime contractor for Block IA development.		
Congressional Adds Subtotals	2.390	-

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.