Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*							
COST ($ in Millions)	**FY 2009 Actual**	**FY 2010 Estimate**	**FY 2011 Base Estimate**	**FY 2011 OCO Estimate**	**FY 2011 Total Estimate**	**FY 2012 Estimate**	**FY 2013 Estimate**	**FY 2014 Estimate**	**FY 2015 Estimate**	**Cost To Complete**	**Total Cost**
Total Program Element	28.031	36.799	26.894	0.000	26.894	25.758	20.441	18.547	16.432	Continuing	Continuing
0725: *Communication Automation*	13.377	15.409	6.805	0.000	6.805	11.811	12.749	10.932	8.682	Continuing	Continuing
1083: *Shore To Ship Com System*	14.654	19.797	20.089	0.000	20.089	13.947	7.692	7.615	7.750	Continuing	Continuing
9999: *Congressional Adds*	0.000	1.593	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.564

A. Mission Description and Budget Item Justification

The Communications Automation Program - This project is a continuing program that provides for automation and communications upgrades for fleet tactical users. It includes Tactical Messaging, Automated Digital Network System (ADNS), Tactical Switching Ashore, High Frequency Internet Protocol/Sub Network Relay. In Fiscal Year (FY) 10 and 11, begin Common Radio Room communications for requirements analysis, system design and the Mobile Networking High Band Increments 1 and 2.

ADNS is the method by which tactical Navy units transfer Internet Protocol (IP) data to Navy and Department of Defense communities on the Global Information Grid (GIG). ADNS serves as a gateway to enable joint and coalition interoperability for these tactical assets and ensures GIG connectivity. ADNS allows unclassified, secret, top secret traffic, and various joint, allied, and coalition services to interconnect to the Defense Information Systems Network ashore via Radio paths and pier connectivity.

Tactical Messaging: Tactical Messaging developed joint, combined, individual, and organizational message handling for ships and submarines, Tactical Mobile units, Marine Corps vans, and selected Military Sealift Command and Coast Guard platforms. Tactical Messaging develops fleet interfaces to the Defense Messaging System and legacy ashore messaging systems.

Tactical Switching Ashore will support the migration of the shore sites and their terrestrial interconnections into a coherent, scalable, network capability.

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 which provides continuous assessment of the command and control links between the National Command Authority and missile platforms 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.

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FY11 funds will be used for ADNS development, an increase in Common Radio Room development, Maritime Aerial Layer Network (MALN), an increase in development for NC3 LTS and an increase in development in Low Band Universal Communications System to reach Milestone C.

B. Program Change Summary ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	26.527	37.431	0.000	0.000	0.000
Current President's Budget	28.031	36.799	26.894	0.000	26.894
Total Adjustments	1.504	-0.632	26.894	0.000	26.894
• Congressional General Reductions		-0.154			
• Congressional Directed Reductions		-2.000			
• Congressional Rescissions	0.000	-0.078			
• Congressional Adds		1.600			
• Congressional Directed Transfers		0.000			
• Reprogrammings	2.122	0.000			
• SBIR/STTR Transfer	-0.618	0.000			
• Program Adjustments	0.000	0.000	26.894	0.000	26.894

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2009	FY 2010
Project: 9999: *Congressional Adds*		
Congressional Add: *Shipboard Automated Radio Room System*	0.000	1.593
Congressional Add Subtotals for Project: 9999	0.000	1.593
Congressional Add Totals for all Projects	0.000	1.593

Change Summary Explanation

Technical: Not applicable.

Schedule:

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ADNS: ADNS Increment (INC) III Submarine development efforts were added to reflect current requirements. The contract award for the INC III Submarine Development was delayed due to legal and contractual issues. The delay impacted the Preliminary Design Review (PDR), Critical Design Review (CDR) and Test Asset Decision events. Operational Testing (OT) for ADNS INC III planned for 2nd Qtr FY10. Full Rate Production Decision Review (FRPDR) planned for 4th Qtr FY10.

MALN Inc 1 (Formerly MNH Inc 1) : Milestone B slipped from 3Q FY10 to 2Q FY11. No impact to related BLI 3057 OPN.

NC3 LTS: Milestone B slipped from 4Q FY10 to 4Q FY11.

FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.

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COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
0725: *Communication Automation*	13.377	15.409	6.805	0.000	6.805	11.811	12.749	10.932	8.682	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project is a continuing program that provides for automation and communications upgrades for Fleet tactical users. Tactical Messaging provides processing, storage, distribution and forwarding of General Service organizational messages on ships and submarines.

Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting naval, coalition and joint enclaves worldwide. ADNS utilizes off the shelf equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) II provides capabilities of load balancing, radio frequency restoral, initial quality of service to include application prioritization, initial traffic management, and enhancements designed to maximize use of available bandwidth for surface, shore, and airborne platforms. ADNS INC III converges all Navy tactical voice, video, and data requirements into a converged IP data stream. ADNS INC III interoperates with higher bandwidth satellites, supporting up to 25 mega bytes per second (Mbps) of throughput on unit level ships and up to 50 Mbps on force level ships. Increment III architecture also incorporates an IPv4/IPv6 dual stack and a cipher text security architecture to align to joint and coalition networks, in addition to greater security utilizing the High Assurance Internet Protocol (IP) Encryptor devices. ADNS INC III serves as the Navy tactical interface for IP Networking with Joint Tactical Radio System, and Advanced Extremely High Frequency. Future ADNS capabilities will utilize emerging technologies to integrate with additional Department of Defense C4I Programs to improve interstrike group networking and extend the network to the tactical edge.

The Tactical Switching Ashore (TSw) program rebuilds 1970s based shore high frequency based infrastructure to current and future scalable technical standards in order to provide a commercially standardized, technically compliant, and robust network. TSw is the shore component for Consolidated Afloat Networks and Enterprise Services. TSw will migrate the shore sites and their terrestrial interconnections into a coherent, scalable, network-centric capability. While leveraging off recent shore upgrades for the major shore communication regions, TSw will incorporate a system integrator approach to develop, design, and implement a plan to remove bandwidth limitations, create failover communication paths, provide secure and available communications, provide dynamic bandwidth management, and reduce costly dependencies on legacy systems. This plan is designed to increase efficiencies, and reduce manpower and the overall footprint of the Navy's shore sites. In addition, TSw will provide an enterprise-wide network operations capability providing full network situational awareness, network visualization, network management and control, and automation capabilities. TSw will bring new technologies and capabilities that converge legacy, circuit-based, communications to a standard, integrated, and interoperable IP network. This enabling system, of which United States Navy enterprise network (FORCEnet) is a part, supports the four pillars of Sea Power 21 by providing the infrastructure required to support collaborative decision-making, faster decision cycles, and shared superior situational awareness required for

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
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overseas contingency operations and to mitigate network vulnerabilities. FY10 will continue the development for the implementation of all-IP interoperability allowing for the removal of the remaining legacy and Navy network architectures. TSw will develop the end to end quality of service providing global situational awareness, survivability, and bandwidth expansion to ensure a robust, reliable, scaleable, sustainable, and dynamic failover global network architecture. TSw will develop the integration plan to maximize the DISN core for transport, research, develop and test, and route diversification, and distributed joint services to allow access anywhere via distributed services. In FY11, TSw has no developmental requirements.

Battle Force Tactical Network (BFTN) Increment 1 is the new name for the High Frequency Internet Protocol/Sub Network Relay program replaces legacy Battle force Email 66 and enables delivery of IP based collaboration services over high frequency (HF) assets. The intent is to provide an interoperable, low data rate, multi-node, beyond-line-of-sight tactical edge networking capability using existing HF radio infrastructure. Supports Tactical Edge Networking and provides data path backbone for both airborne and afloat forces. Supports increased data exchange with coalition forces.

Maritime Aerial Layer Network (MALN) Increment 1 (previously Mobile Networking High Band (MNH)) is the Navy solution set to support the Joint Aerial Layer Network (JALN). This collaborative effort will provide an overarching solution to fleet communications and networking requirements. MALN provides an advanced wideband communications network which was initiated in response to Littoral Combat Ship (LCS) requirements to communicate with off-board systems via a NAVSEA SBIR program. Inc. 1 will provide a networking radio designed to operate in an open ocean environment and support multiple naval platforms. This radio will provide a common wireless networking capability aboard LCS with applicability to other hull types, as well as other networked applications.

Maritime Aerial Layer Network (MALN) Increment 2 is an advanced wideband communications network which will transport intelligence data, non-traditional Intelligence, Surveillance, and Reconnaissance (ISR) communications, and backbone network traffic using IP-based connectivity to achieve GIG (Global Information Grid) interoperability. It will reuse frequencies via narrow-beam antennas. Inc. 2 provides theater-wide connectivity to units outside degraded satellite communication areas. Features next generation directional antenna technology to support multiple node connections.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Automated Digital Network System (ADNS)	7.375	8.171	3.154	0.000	3.154
FY 2009 Accomplishments: Developed system modification of ADNS Increment (INC) III for High Assurance Internet Protocol Encryptor (HAIPE) integration and submarines platforms. Developed acquisition documents,					

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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
specifications, and capability requirements for ADNS INC III Subs. Developed and updated system and subsystem interface designs for integration with new Satellite Communications (SATCOM) and Radio Frequency (RF) paths. Began research and evaluation of emergent technology maturity for inclusion into future capabilities developed for ADNS systems to include Next Generation Command and Control Processor (NGC2P). *FY 2010 Plans:* Conduct ADNS INC III Developmental Testing (DT), conduct Operational Testing (OT) of ADNS INC III and Joint Interoperability Test Command (JITC) Certification of ADNS INC III. Continue the development of dynamic Quality of Service (QoS)/Ethernet modems. Continue the development of the system modification of ADNS INC III for HAIPE integration. Continue the development of acquisition documents, specifications, and capability requirements for ADNS INC III Subs. Continue the system development and demonstration phase for ADNS INC III for submarines. Perform acceptance test for ADNS INC III Subs, and begin the Common Submarine Radio Room (CSRR) integration effort. Continue the development of and update to system and subsystem interface designs for integration with new SATCOM and RF paths, as they emerge. Continue the research and evaluation of emergent technology maturity for inclusion into future capabilities developed for ADNS systems. The 5 procured units are submarine production representative units received from the vendor which will be utilized for the ongoing efforts listed in FY10 plans. *FY 2011 Base Plans:* Develop Traffic Engineering via Multiprotocol Label Switching/Virtual Private Networks (MPLS-VPNs) to support advance load distribution in ADNS INC III. ADNS INC III will enhance joint and coalition interoperability through new network routing architectures. Continue the CSRR integration effort for ADNS INC III submarine systems, and conduct the Operational Assessment for ADNS INC III submarine systems. Future ADNS capabilities will enhance network mobility for aircraft by developing a mobile ad hoc network (MANET) architecture. ADNS INC II and III will develop reduced size, weight and power (SWAP) designs for submarines, aircraft, and small vessels. Continue the development					

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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
of updated system and subsystem interface designs for integration with new SATCOM and Radio Frequency (RF) paths, as they emerge. Continue the research and evaluation of emergent technology maturity for inclusion into future capabilities developed for ADNS systems.					
Tactical Messaging (NAVMACS) *FY 2009 Accomplishments:* Developed and tested efforts for emerging technology to transition Tactical Messaging into a Service Oriented Architecture to align with DoD Official Information exchange (OIE) of the future and enable mobile tactical users to better support reporting for Maritime Domain Awareness.	1.145	0.000	0.000	0.000	0.000
Tactical Switching (Ashore) *FY 2009 Accomplishments:* Completed Increment II Spiral B development that continued from FY08. Completed the design, development, testing and implementation of the upgrades to the Tactical Switching (TSw) and Network Operations Center (NOC) systems allowing for full integration with the Joint Community on the All Internet Protocol (IP) Global Information Grid (GIG). Developed and designed the implementation plan to eliminate the remaining legacy and Navy unique networking elements that remain in the Tactical Switching architecture. This allowed for full All IP interoperability and integration between Navy forces and the forces of other branches of the service in the Joint battlespace allowing for full Network Centric Warfare. Provided for full direct access for Navy war fighters through the Navy Regional Network Operations Security Centers (RNOSCs) to the All IP GIG for full warfighting application data exchange. Provided the mechanism for dynamically and automatically managed real time integrated Information Assurance and security . Provided for Quality of Service (QoS) enabled traffic flow prioritization and fully automated dynamic bandwidth management. This new capability requires only a minimal amount of manual intervention and will provide for full integration between the Navy and Joint operational enclaves over UNCLAS, Secret, Sensitive Compartmented Information (SCI) and multiple Combined Enterprise Regional Information Exchange System (CENTRIXS) network enclaves.	3.771	2.336	0.000	0.000	0.000

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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
The integration of Navy and Joint operational enclaves over multiple security domains provides key foundational connectivity required to support the Navy's Maritime Domain Awareness efforts. *FY 2010 Plans:* FY10 will continue the development for the implementation of ALL-IP interoperability allowing for the removal of the remaining legacy and Navy unique network architectures. Additionally, TSw will develop the end to end QoS providing global situational awareness, survivability, and bandwidth expansion to ensure a robust, reliable, scaleable, sustainable, and dynamic failover for a global network architecture.					
Battle Force Tactical Network (BFTN) Increment 1 (formerly SNR/HFIP) *FY 2009 Accomplishments:* Program renamed Battle Force Tactical Network (BFTN) Increment 1. Conducted market survey and testing for modems with increased data rates supporting High Frequency (HF) and Ultra High Frequency (UHF) Systems. Investigated new technologies in support of BFTN Increment 1 (formally SNR/HFIP). Efforts involved studies or development/testing of potential technologies for future program insertion.	1.031	0.000	0.000	0.000	0.000
Martime Aerial Layer Network Inc 1 (Formerly MNH Inc 1) *FY 2010 Plans:* Prepare acquisition documentation and Analysis of Alternatives (AoA). Obtain Milestone B Decision. Award prime prototype/Engineering Development Module (EDM) contract and begin system development. *FY 2011 Base Plans:* Program is renamed Maritime Aerial Layer Network (MALN) Increment 1. Continue system development for prototypes/EDMs. Obtain Milestone C.	0.000	1.961	0.937	0.000	0.937

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Martime Aerial Layer Network Inc 2 (Formerly MNH Inc 2) *FY 2010 Plans:* Begin preparing acquisition documentation and Analysis of Alternatives (AoA). Conduct technology demonstration. Prepare for Milestone B Decision. *FY 2011 Base Plans:* Program is renamed Maritime Aerial Layer Network (MALN) Increment 2. Develop the following acquisition documents: Acquisition Program Baseline (APB), Acquisition Strategy (AS), Capability Development Document (CDD) and Test Evaluation Master Plan (TEMP). Survey and explore waveform elements (i.e., discovery, modulation, encryption, network management, multiple access methods, bandwidth utilization and scalability) to identify and incorporate best of breed inclusion in the prototype/Engineering Development Module (EDM) solution. Prepare Request For Proposal (RFP) for FY12 EDM contract award. Obtain Milestone B Decision.	0.000	2.941	2.714	0.000	2.714
Acquisition Workforce Fund *FY 2009 Accomplishments:* Funded acquisition workforce fund.	0.055	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	13.377	15.409	6.805	0.000	6.805

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/3050/1: *Ship Comm Auto-Tactical Messaging*	2.647	3.880	0.341	0.000	0.341	4.904	5.343	1.724	1.347	Continuing	Continuing
• OPN/3050/2: *Ship Comm Auto-ADNS*	51.451	35.301	50.528	0.000	50.528	55.324	51.306	47.209	47.667	Continuing	Continuing
	47.746	27.175	22.672	0.000	22.672	23.926	20.754	20.381	20.661	Continuing	Continuing

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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/3050/3: *Ship Comm Auto-Tactical Switching*											
• OPN/3057/1: *Comm Items Under $5M-BFTN Inc 1*	8.670	13.322	8.677	0.000	8.677	9.296	5.261	0.000	0.000	0.000	45.226
• OPN/3057/2: *Comm Items Under $5M-MALN Inc 1*	0.000	0.000	0.000	0.000	0.000	2.146	10.032	18.135	18.435	Continuing	Continuing
• OPN/3057/3: *Comm Items Under $5M-MALN Inc 2*	0.000	0.000	0.000	0.000	0.000	0.873	2.426	8.777	8.964	Continuing	Continuing

D. Acquisition Strategy

Automated Digital Network System (ADNS): Evolutionary acquisition approach with overlapping development and implementation phases for defined Increment I, II, and III baselines. Increment I , II , and III will use competitively awarded contracts to implement changes consistent with acquisition initiatives. ADNS leverages Commercial Off The Shelf (COTS) products while capitalizing on acquisition reform initiatives to achieve material savings in the logistics, installation, integration and training areas. Where feasible, differing types of advantageous contract vehicles will be used to provide flexibility, decreased contract administrative costs, and encourage acquisition streamlining through the use of COTS products.

Tactical Messaging: Tactical Messaging provides tactical war fighters with Command, Control, and Communication (C3) functionalities and functions in an open architecture environment. The program uses state-of-the-art technology that reduces operator training, technical support, maintenance, and overall life cycle system costs. The system uses COTS hardware and software and Government Off the Shelf (GOTS) furnished software.

Tactical Switching Ashore: Evolutionary acquisition approach with overlapping development and implementation increments. Use existing contract vehicles during Increment I implementation of procurement upgrades to existing shore legacy equipment at the major communication centers (Naval Computer & Telecommunications Area Master Station (NCTAMS) Pacific (PAC), NCTAMS Atlantic (LANT), NCTAMS Europe Central (EURCENT), Naval Computer & Telecommunications Station (NCTS) Bahrain, and NCTS San Diego) and to include 40+ shore communication facilities (Communication Stations (COMSTATIONs), Naval Operations Centers (NOCs), Mini-NOCs, and Standard Tactical Data Entry Point (STEP) sites). Increment I upgrades serve as an enabler to Increment II activities. Based upon the future shore communication architecture as defined by the Navy, Increment II transitions the Navy's 3 NCTAMS and two major Network Control Terminal (NCT) Shore infrastructure to a 2 regional network operations and security center (RNOSC) and 1 global network operations and security center (GNOSC) concept to achieve a Joint/Department of Defense (DoD) Net-Centric environment. Increment II will be organized into two steps. Each step will build upon the previous step and serve as risk mitigation for the succeeding step. This strategy provides flexibility in a rapidly evolving technology environment and allows earlier implementation of developmental

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technology as it becomes available. The Increment III strategy is to maximize the use of joint resources. Tactical Switching will maximize the Defense Information Systems Network (DISN) Core for unified Navy transport, allowing for route diversification and distributed joint services allowing access anywhere via distributed services.

Maritime Aerial Layer Network (MALN) will utilize an incremental approach to address capability gap analysis/studies. Contracts are anticipated to be awarded with LRIP options built in. An evolutionary acquisition strategy will be used to insert technology migration.

E. Performance Metrics

ADNS - Included in the ADNS program goals are the improvements to bandwidth throughput, to connectivity to multiple Radio Frequency (RF) paths, greater security, and system capability delivered within a smaller form factor. The ADNS program will, at a minimum, provide bandwidth throughput enhancements resulting in an increase from 2Mbps to 25 Mbps. ADNS will also provide the ability to transport data across multiple paths simultaneously vice the current limitations of single or secondary paths. ADNS will reduce the rack unit (U) requirement from 81U to 54U and investigate the ability to reduce this Unit allocation for smaller Navy platforms. ADNS will provide greater security posture by encrypting each enclave, and securing the core via cipher text.
Tactical Switching - Provide Evaluation, Research and Design for Joint IP Shore C4ISR Architectures. Leverages COTS technology to achieve Navy NetOps-Enterprise Network Management in support of FORCEnet. Efforts include Design of Infrastructure, Operational Testing, Network Control, Independent Verification & Validation Agent, Configuration Management, Analysis and Assessment support, Risk Management, Modeling and Simulation, Test Planning/Testing QA, System Engineering, and I/A Support. Metric: Numerous potential integration catastrophes have been mitigated.
MALN - Reduce the number of Network Communications capability gaps, in a SATCOM denied environment, to technology gaps.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy			DATE: February 2010
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Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	PO	SSC PAC/LANT	1.025	0.000		0.000		0.000		0.000	0.000	1.025	Continuing
Primary Hardware Development	Various/ CPFF	Northrop Grumman McLean, Virginia	7.793	0.000		0.000		0.000		0.000	0.000	7.793	Continuing
Primary Hardware Development	Various/ CPFF	General Dynamics Maryland	11.069	6.840	Apr 2010	2.666	Apr 2011	0.000		2.666	0.000	20.575	Continuing
Primary Hardware Development	Various/ CPFF	SRA San Diego	0.000	0.016	Dec 2009	0.006	Dec 2010	0.000		0.006	0.000	0.022	Continuing
Primary Hardware Development	Various/ FFP	Boeing Washington State	0.000	1.347	Jan 2010	1.106	Jan 2011	0.000		1.106	0.000	2.453	Continuing
Primary Hardware/ Software	Various/ CPFF	Air Force Various	2.078	0.000		0.000		0.000		0.000	0.000	2.078	Continuing
Primary Hardware/ Software	Various/ CPFF	RSS/Harris Melobourne, FL	0.000	0.324	Dec 2009	0.400	Dec 2010	0.000		0.400	0.000	0.724	Continuing
Integration and Test	Various/ CPFF	RSS/Harris Melobourne, FL	0.000	0.400	Dec 2009	0.100	Dec 2010	0.000		0.100	0.000	0.500	Continuing
Integration and Test	WR	SSC PAC/LANT	0.365	0.792	Feb 2010	0.217	Feb 2011	0.000		0.217	0.000	1.374	Continuing
Integration and Test	Various/ CPFF	VAR Various	0.030	0.049	Dec 2009	0.018	Dec 2010	0.000		0.018	0.000	0.097	Continuing
Systems Engineering	WR	SSC PAC/LANT	19.531	2.373	Nov 2009	1.039	Nov 2010	0.000		1.039	0.000	22.943	Continuing
Systems Engineering	Various/ Various	VAR Various	6.096	0.000		0.000		0.000		0.000	0.000	6.096	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
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Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
Systems Engineering	MIPR	CECOM (MITRE) New Jersey	0.585	0.000		0.000		0.000		0.000	0.000	0.585	Continuing
Systems Engineering	WR	NUWC Newport, RI	0.761	0.208	Dec 2009	0.076	Dec 2010	0.000		0.076	0.000	1.045	Continuing
Prime Mission Product	PO	SSC PAC/LANT	4.353	0.000		0.000		0.000		0.000	0.000	4.353	Continuing
		Subtotal	53.686	12.349		5.628		0.000		5.628	0.000	71.663	

Remarks

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
Development Support	WR	SSC PAC/LANT	0.160	0.000		0.000		0.000		0.000	0.000	0.160	Continuing
Software Development	Various/ Various	VAR Various	7.250	0.000		0.000		0.000		0.000	0.000	7.250	Continuing
Integrated Logistics Support	WR	SSC PAC/LANT	0.000	0.060	Nov 2009	0.062	Nov 2010	0.000		0.062	0.000	0.122	Continuing
Integrated Logistics Support	Various/ Various	VAR Various	1.150	0.000		0.000		0.000		0.000	0.000	1.150	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 0725: *Communication Automation*

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
Documentation	Various/ Various	VAR Various	0.706	0.000		0.000		0.000		0.000	0.000	0.706	Continuing
Technical Data	Various/ Various	VAR Various	0.500	0.000		0.000		0.000		0.000	0.000	0.500	Continuing
Studies and Analysis	WR	SSC PAC/LANT	0.960	0.000		0.000		0.000		0.000	0.000	0.960	Continuing
		Subtotal	10.726	0.060		0.062		0.000		0.062	0.000	10.848	

Remarks

Test and Evaluation ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	SSC PAC/LANT	4.632	1.912	Dec 2009	0.873	Nov 2010	0.000		0.873	0.000	7.417	Continuing
Developmental Test & Evaluation	MIPR	JTIC Fort Huachuca, AZ	0.145	0.099	Oct 2009	0.037	Oct 2010	0.000		0.037	0.000	0.281	Continuing
Operational Test & Evaluation	WR	COMOPTEVOR Norfolk, VA	0.776	0.367	Nov 2009	0.134	Nov 2010	0.000		0.134	0.000	1.277	Continuing
Operational Test & Evaluation	Various/ Various	VAR Various	4.955	0.000		0.000		0.000		0.000	0.000	4.955	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 0725: *Communication Automation*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010 Cost	FY 2010 Award Date	FY 2011 Base Cost	FY 2011 Base Award Date	FY 2011 OCO Cost	FY 2011 OCO Award Date	FY 2011 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	10.508	2.378		1.044		0.000		1.044	0.000	13.930	

Remarks

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010 Cost	FY 2010 Award Date	FY 2011 Base Cost	FY 2011 Base Award Date	FY 2011 OCO Cost	FY 2011 OCO Award Date	FY 2011 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various/ Various	VAR Various	0.546	0.000		0.000		0.000		0.000	0.000	0.546	Continuing
Contractor Engineering Support	Various/ CPFF	SSC PAC/LANT	0.000	0.000		0.000		0.000		0.000	0.000	0.000	Continuing
Government Engineering Support	WR	SSC PAC/LANT	0.817	0.000		0.000		0.000		0.000	0.000	0.817	Continuing
Program Management Support	WR	SSC PAC/LANT	2.485	0.000		0.000		0.000		0.000	0.000	2.485	Continuing
Program Management Support	Various/ CPAF	VAR Various	7.863	0.500	Nov 2009	0.000		0.000		0.000	0.000	8.363	Continuing
Program Management Support	Various/ CPAF	BAH McLean, Virginia	0.000	0.122	Nov 2009	0.071	Nov 2010	0.000		0.071	0.000	0.193	Continuing
Acquisition Workforce	Various/ Various	VAR Various	0.055	0.000		0.000		0.000		0.000	0.000	0.055	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 0725: *Communication Automation*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010 Cost	FY 2010 Award Date	FY 2011 Base Cost	FY 2011 Base Award Date	FY 2011 OCO Cost	FY 2011 OCO Award Date	FY 2011 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			11.766	0.622		0.071		0.000		0.071	0.000	12.459	

Remarks

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	86.686	15.409		6.805		0.000		6.805	0.000	108.900	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204163N: *Fleet Tactical Development*	**PROJECT** 0725: *Communication Automation*

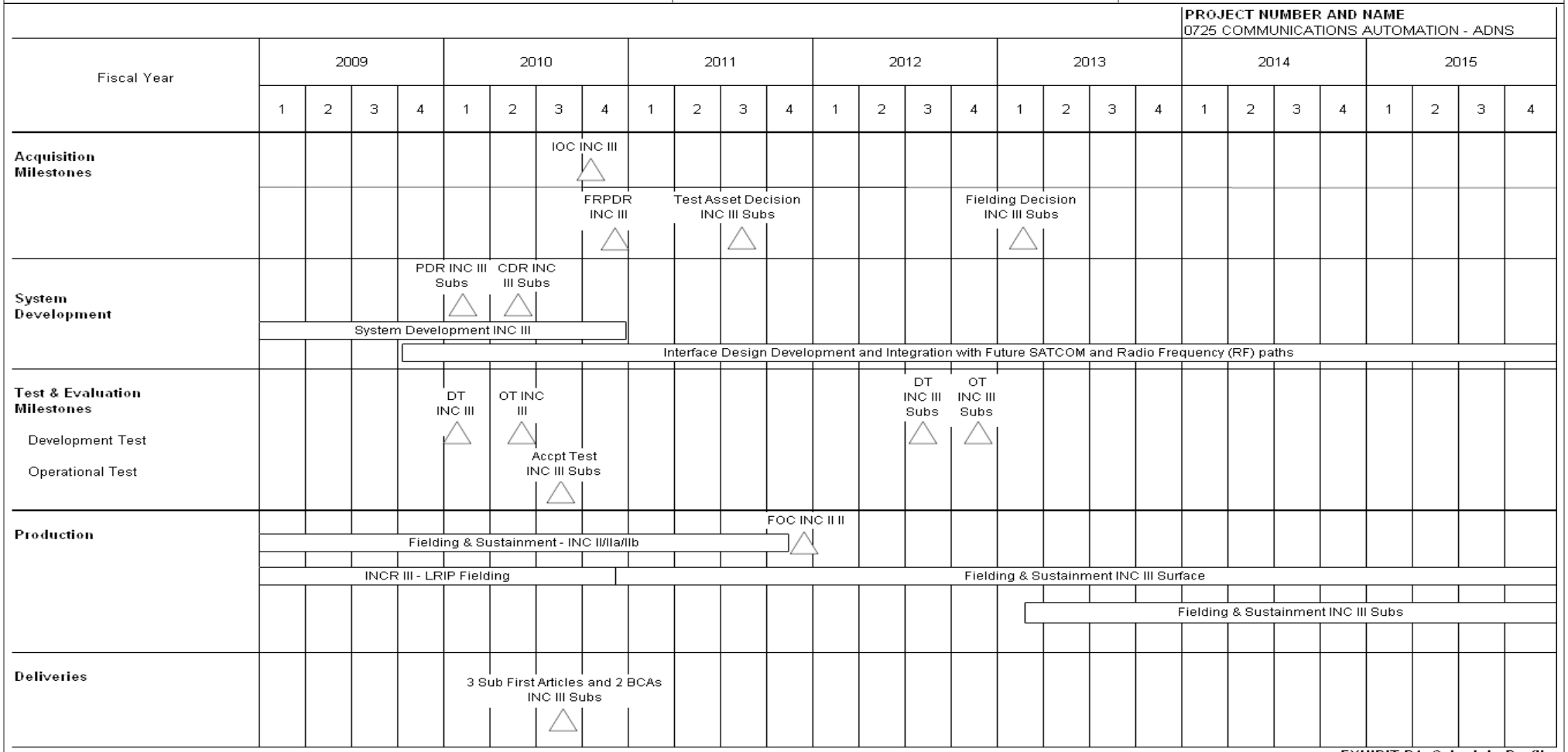


EXHIBIT R4, Schedule Profile

Note 1: Contract award for INC III Submarine Development was delayed due to legal and contractual issues. The delay impacted the Preliminary Design Review (PDR), Critical Design Review (CDR) and Test Asset Decision events.

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204163N: *Fleet Tactical Development*	**PROJECT** 0725: *Communication Automation*

PROJECT NUMBER AND NAME
0725 COMMUNICATIONS AUTOMATION - TACTICAL MESSAGING

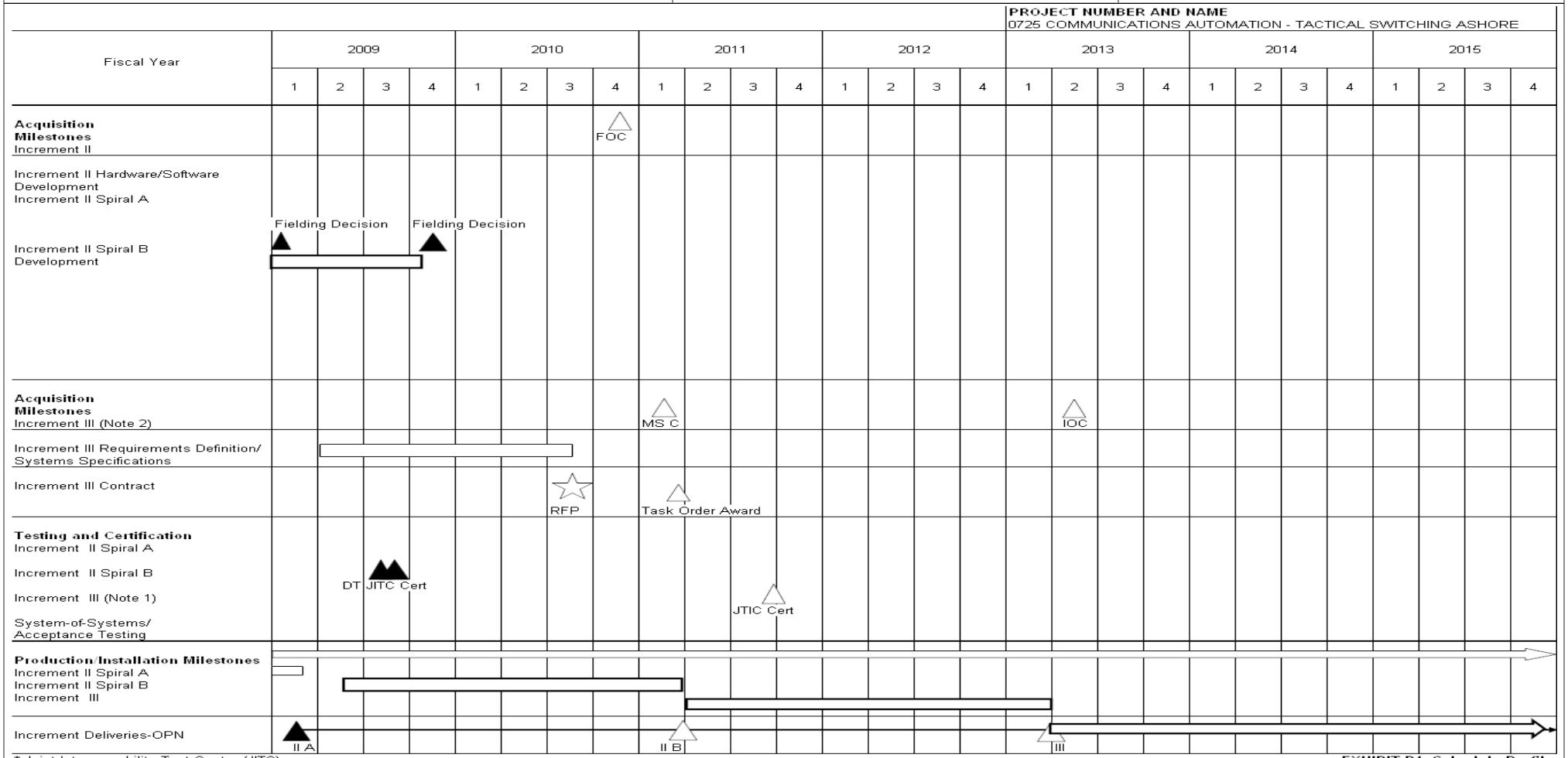
Fiscal Year	2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
System Development (Note 1)																												
Software S/W Delivery (DMS Proxy V 1.0) (Note 2)																												
Test & Evaluation Milestones Interoperability Demonstration JITC IV&V Certification																												
Deliveries (Note 3, 4)				9			9																					

TSC/C CDS

Notes:
1/ Navy discontinued TSC/C CDS Jan 8, 2009
2/ Software Deliveries canceled per Navy decision which redefined the way ahead for Naval Messaging.
3/ Quantities of deliveries were changed to reflect updated fielding plan.
4/ Deliveries represent OPN hardware quantities.

EXHIBIT R4, Schedule Profile

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204163N: *Fleet Tactical Development*	**PROJECT** 0725: *Communication Automation*

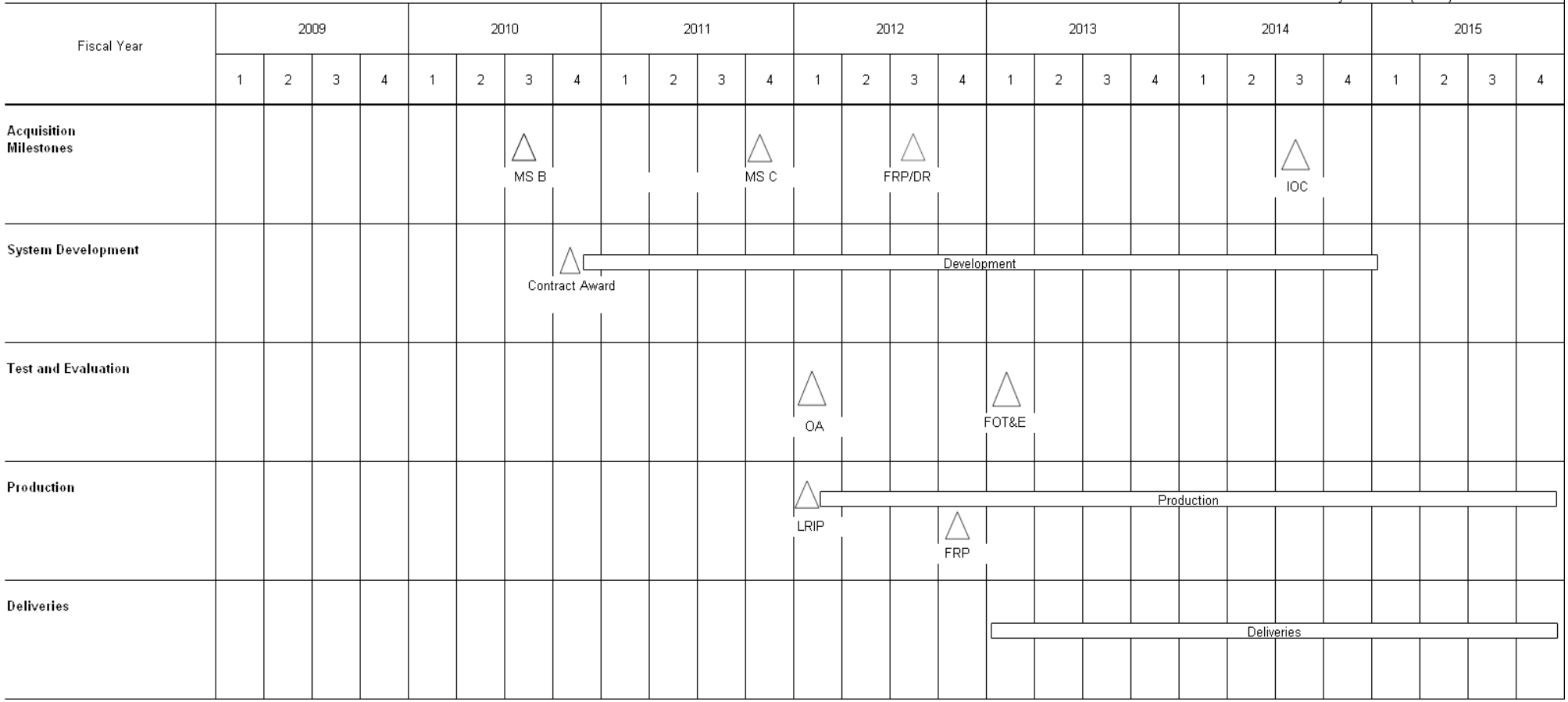


* Joint Interoperability Test Center (JITC)
Note 1 - FY11 Milestone C is production only. No development is required.

EXHIBIT R4, Schedule Profile

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204163N: *Fleet Tactical Development*	**PROJECT** 0725: *Communication Automation*

PROJECT NUMBER AND NAME
0725 COMMUNICATIONS AUTOMATION - Maritime Aerial Layer Network (MALN) Inc 1

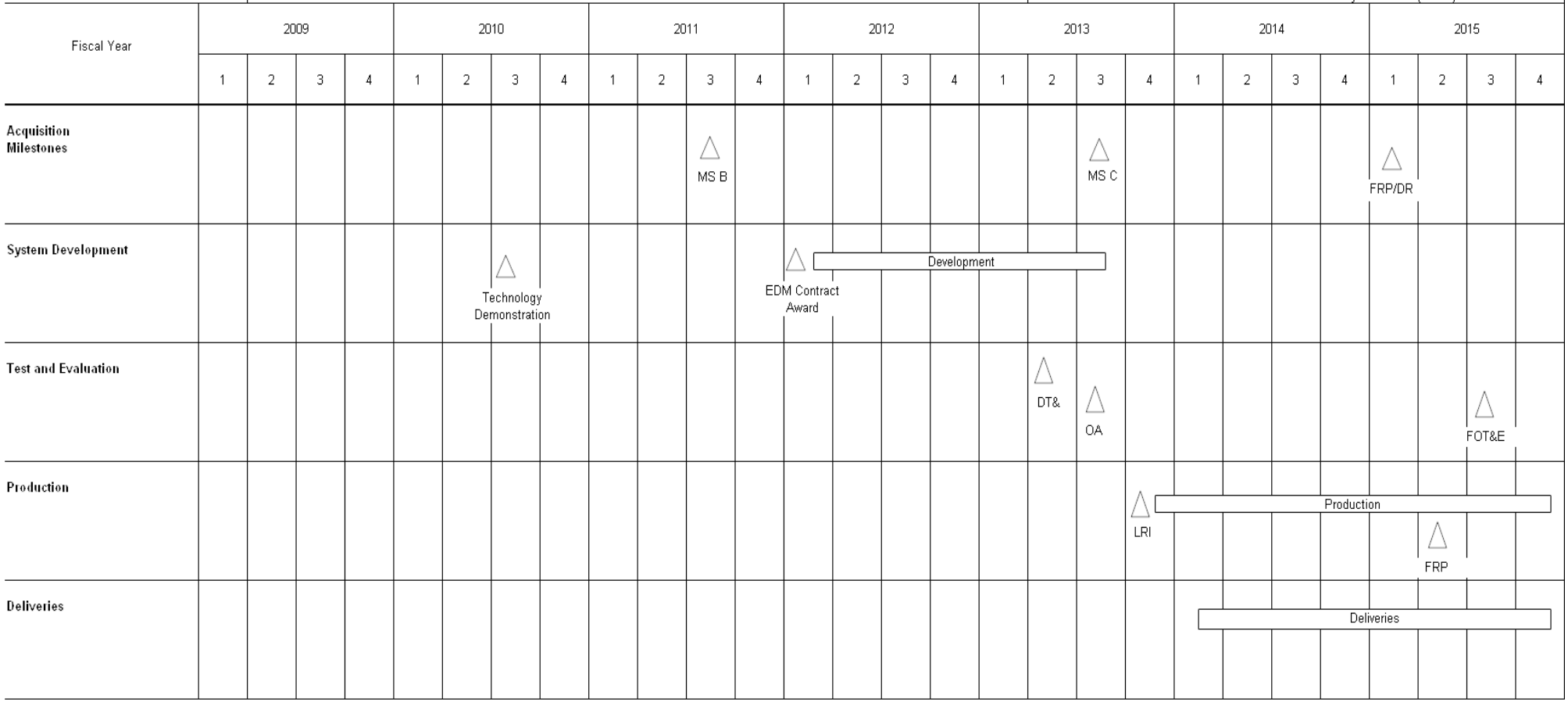


Notes:
1. Schedule update to more accurately depict program plans. No impact to related BLI 3057 OPN.
2. MS B slipped from 1QFY10 to 3QFY10, and MS C from 2QFY11 to 4QFY11. Full Rate Production (FRP) decision planned for 3QFY12.

EXHIBIT R4, Schedule Profile

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204163N: *Fleet Tactical Development*	**PROJECT** 0725: *Communication Automation*

PROJECT NUMBER AND NAME
0725 COMMUNICATIONS AUTOMATION - Maritime Aerial Layer Network (MALN) INC 2



Notes:
1. Schedule update to more accurately depict program plans. No impact to related BLI 3057 OPN.
2. MS B slipped from 1QFY10 to 3QFY11, and MS C from 1QFY12 to 3QFY13. Full Rate Production (FRP) decision planned for 1QFY15.

EXHIBIT R4, Schedule Profile

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 0725: *Communication Automation*

Schedule Details

	Start		End	
Event	Quarter	Year	Quarter	Year
ADNS: INCREMENT III_Interface Design Development with SATCOM and Radio Frequency (RF) paths	4	2009	4	2015
ADNS: INCREMENT III_Fielding and Sustainment Inc III Surface	4	2010	4	2015
ADNS: INCREMENT III_Subs Preliminary Design Review (PDR)	1	2010	1	2010
ADNS: INCREMENT III_Subs Critical Design Review (CDR)	2	2010	2	2010
ADNS: INCREMENT III_Subs Acceptance Test	3	2010	3	2010
ADNS: INCREMENT III_Subs Deliver 3 Sub First Articles and 2 BCAs	3	2010	3	2010
ADNS: INCREMENT III_Subs Test Asset Decision	3	2011	3	2011
ADNS: INCREMENT III_Subs Developmental Testing (DT)	3	2012	3	2012
ADNS: INCREMENT III_Subs Operational Testing (OT)	4	2012	4	2012
ADNS: INCREMENT III_Fielding Decision	1	2013	1	2013
ADNS: INCREMENT III_Subs Initial Operational Capability (IOC)	1	2013	1	2013
ADNS: INCREMENT III_Subs Fielding and Sustainment	1	2013	4	2015
TACTICAL MESSAGING: System Development TS/C CDS	1	2009	3	2009
-TACTICAL SWITCHING: Increment II FOC	4	2010	4	2010
-TACTICAL SWITCHING: Increment II Spiral B Hardware/Software Development	1	2009	4	2009
-TACTICAL SWITCHING: Increment III Requirements Definition/Systems Specifications	2	2009	3	2010
-TACTICAL SWITCHING: Increment III Hardware/Software Production Contract Award	1	2011	1	2011
-TACTICAL SWITCHING: Increment III Milestone C	1	2011	1	2011

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 0725: *Communication Automation*

	Start		End	
Event	Quarter	Year	Quarter	Year
-TACTICAL SWITCHING: Increment III IOC	2	2013	2	2013
-TACTICAL SWITCHING: Development Testing (DT) Increment II Spiral B	3	2009	3	2009
-TACTICAL SWITCHING: JTIC Increment III (Note 1)	3	2011	3	2011
-TACTICAL SWITCHING: IV&V/JITC Increment II Spiral B	3	2009	3	2009
-TACTICAL SWITCHING: Systems of Systems Testing	1	2009	1	2015
-TACTICAL SWITCHING: Increment II Spiral A Production/Installation	1	2009	1	2009
-TACTICAL SWITCHING: Increment II Spiral B Production/Installation	2	2009	1	2011
-TACTICAL SWITCHING: Increment III Production/Installation	2	2011	4	2015
-TACTICAL SWITCHING: Deliveries - OPN	1	2009	1	2013
MALN INC 1: Milestone B (MS B)	3	2011	3	2011
MALN INC 1: Contract Award	4	2011	4	2011
MALN INC 1: System Development	3	2011	4	2014
MALN INC 1: Milestone C (MS C)	3	2012	3	2012
MALN INC 1: Operational Assessment (OA)	4	2012	4	2012
MALN INC 1: Full Rate Production / Decision Review (FRP/DR)	3	2012	3	2012
MALN INC 1: Production	4	2012	4	2015
MALN INC 1: Low Rate Initial Production (LRIP)	3	2012	3	2012
MALN INC 1: Full Rate Production (FRP)	2	2013	2	2013
MALN INC 1: Follow On Test & Evaluation (FOT&E)	3	2013	3	2013
MALN INC 1: Deliveries	3	2013	4	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204163N: *Fleet Tactical Development*	**PROJECT** 0725: *Communication Automation*

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
MALN INC 1: Initial Operational Capability (IOC)	2	2015	2	2015
MALN INC 2: Technology Demonstration	3	2010	3	2010
MALN INC 2: Milestone B (MS B)	3	2011	3	2011
MALN INC 2: EDM Contract Award	1	2012	1	2012
MALN INC 2: System Development	1	2012	3	2013
MALN INC 2: Developmental Test & Evaluation (DT&E)	2	2013	2	2013
MALN INC 2: Milestone C (MS C)	3	2013	3	2013
MALN INC 2: Operational Assessment (OA)	3	2013	3	2013
MALN INC 2: Low Rate Initial Production (LRIP)	4	2013	4	2013
MALN INC 2: Production	4	2013	4	2015
MALN INC 2: Deliveries	1	2014	4	2015
MALN INC 2: Full Rate Production / Decision Review (FRP/DR)	1	2015	1	2015
MALN INC 2: Full Rate Production (FRP)	2	2015	2	2015
MALN INC 2: Follow On Test & Evaluation (FOT&E)	3	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 1083: *Shore To Ship Com System*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
1083: *Shore To Ship Com System*	14.654	19.797	20.089	0.000	20.089	13.947	7.692	7.615	7.750	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project develops communication system elements which provide positive Command and Control (C2) of deployed submarines. This project provides enhancements to the shore-to-ship transmitting systems and provides submarine capabilities to the Broadcast Control Authority (BCA) consistent with the Network Operation Center (NOC) architecture. The BCA provides the oversight and control for all fixed submarine broadcasts.

The Low Band Universal Communications System (LBUCS) will ensure operational capability through the Very Low Frequency (VLF) architecture to ensure 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 a replacement of the VLF receive system to ensure continued compliance with NTPC.

The Nuclear Command, Control and Communications Long Term Solution (NC3 LTS) is an acquisition program to replace the NC3 Hybrid Solution (NC3 HS) with a new NC3 architecture, the Defense Information Systems Network (DISN) Dedicated IP Network (DIN) NC3 LTS system. The primary function and mission of NC3 LTS is to provide accurate and reliable delivery of time-critical messages for the nuclear forces. Specifically, the NC3 LTS shall support the dissemination of EAMs, Nuclear Command and Control (NC2) messages including Nuclear Planning and Execution System (NPES) messages for force management, force direction, execution, and situation monitoring.

The Continued Evaluation Program (CEP) provides constant assessment of the effectiveness of the end-to-end network.

Allied interoperability issues for submarine communications in an IP environment are being investigated. Coalition architectures are developed and tested to address continued interoperability as new technology is applied. Interoperability between coalition Submarine Operating Authorities (SUBOPAUTH) and submarines under US operational control are evaluated to determine the most effective approaches for interoperability in an environment dealing with changing North Atlantic Treaty Organization (NATO) standards for submarine communication. These standards migrate from serial to IP based systems. The US and UK have agreed to develop a Network Enabled Operation (NEO) capability. This includes both submarine communications and Operational Control (OPCON) at shore sites. A SUBOPAUTH architecture provides for back-up capability among the four BCA/OPCONs to ensure Continuity-of-Operations Procedure in the event of a BCA outage. Concept

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204163N: *Fleet Tactical Development*	**PROJECT** 1083: *Shore To Ship Com System*

Development/System Planning provides Network Enabled Operations ensuring the integration of multiple combinations of US - Allied data exchange. This is achieved within and between the dimensional constraints of the US and Allied BCA/OPCON spaces. Concept Development/System Planning also provides the modeling of unique Very Low Frequency/Low Frequency (VLF/LF) submarine communications from the large physical shore broadcast antennas to underwater depth penetration can be reflected in the future BCA/OPCON planning tools. 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 (HVIP).

Notes/Comments:
1) FY11 LBUCS: Complete development of PRA for transmit terminal.
2) FY11 NC3 LTS: Release Request for Proposal to industry.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Low Band Universal Communication System (LBUCS)	5.938	9.311	5.867	0.000	5.867
FY 2009 Accomplishments: Completed Request for Proposal (RFP). Awarded Prime Contract for Production Representative Article (PRA) development of transmit terminal for testing. Contractor commenced development and integration of LBUCS transmit hardware and software.					
FY 2010 Plans: Commence PRA. Contractor continues development effort and Integration of LBUCS transmit hardware and software. Commence Capabilities Production Document (CPD) development for transmit terminal in support of Milestone C. Complete Preliminary Design Review (PDR) for transmit terminal. Complete Critical Design Review (CDR) for transmit terminal. Continue updating acquisition documentation for Milestone C. Commence preparations of acquisition documentation for receive terminal.					
FY 2011 Base Plans: Complete acquisition documentation for Milestone C. Complete CPD for transmit terminal. Continue PRA development.					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 1083: *Shore To Ship Com System*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Nuclear Command, Control, Communications Long Term Solution (NC3 LTS) *FY 2009 Accomplishments:* Continued development of Capability Development Document (CDD). Continued development of Request For Proposal/System Performance Specification (RFP/SPS). Commenced development of Test and Evaluation Master Plan (TEMP). Continued preparation of Milestone B acquisition documentation. *FY 2010 Plans:* Complete development of Request For Proposal/System Performance Specification (RFP/SPS). Continue development of Test and Evaluation Master Plan (TEMP). Continue preparation of Milestone B acquisition documentation. Complete CDD. *FY 2011 Base Plans:* Release RFP/SPS to industry. Complete TEMP. Complete MS B and issue Development Contract.	3.858	4.817	8.908	0.000	8.908
Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP) *FY 2009 Accomplishments:* Continued strategic communications capabilities and deficiencies assessment for evaluation of Nuclear Strategic Communications and Emergency Action Message (EAM) delivery. *FY 2010 Plans:* Continue strategic communications capabilities and deficiencies assessment for evaluation of Nuclear Strategic Communications and EAM delivery. *FY 2011 Base Plans:* Conduct mission analysis of TACAMO transmission and Ship Submersible Ballistic Nuclear Submarine (SSBNs) EAM reception for all SSBN patrols during FY11. Provide reports on performance,	2.361	3.760	3.600	0.000	3.600

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 1083: *Shore To Ship Com System*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
adherence to delivery time requirements and shortfalls. Develop automated data collection and analysis tools to reduce latency time between missions and results availability.					
Concept Development/Systems Planning *FY 2009 Accomplishments:* Continued the integration of Joint/Allied Network Enabled Operations (NEO) with other US Navy enterprise network (FORCEnet) applications. *FY 2010 Plans:* Continue the integration of Joint/Allied NEO with other FORCEnet applications. *FY 2011 Base Plans:* Conduct US/UK developmental testing between US and UK Submarine Operating Authority (SUBOPAUTH) to validate NEO interoperability concepts.	1.519	0.944	0.850	0.000	0.850
High Voltage Improvement Program *FY 2009 Accomplishments:* Continued examination of ultra quick cut off devices to prevent overload conditions. Commenced examination of Nanocrystalline Ferrites to reduce the loss and size of Helix Enclosures. *FY 2010 Plans:* Complete examination of ultra quick cut off devices to prevent overload conditions. Continue examination of Nanocrystalline Ferrites to reduce the loss and size of Helix Enclosures. *FY 2011 Base Plans:* Complete the study of new ferrites to reduce the loss and size of Helix Enclosures. Commence the examination of the new ferrites to dynamic tuning elements with the goal of lowering of shore antenna frequencies allowing for greater broadcast signal in seawater depth penetration.	0.446	0.516	0.486	0.000	0.486

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204163N: *Fleet Tactical Development*	PROJECT 1083: *Shore To Ship Com System*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Broadcast Control Authority *FY 2009 Accomplishments:* Commenced development of SUBOPAUTH communications tools to automate functionality at the SUBOPAUTH to reduce operational workload. *FY 2010 Plans:* Continue development of SUBOPAUTH communications tools. *FY 2011 Base Plans:* Complete development of waterspace management and messaging automation support tools, integrate into SUBOPAUTH toolset, and deliver to the fleet.	0.459	0.449	0.378	0.000	0.378
Acquisition Workforce Fund *FY 2009 Accomplishments:* FY09: Funded acquisition workforce fund	0.073	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	14.654	19.797	20.089	0.000	20.089

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/3107: *Submarine Broadcast Support*	3.130	0.105	0.000	0.000	0.000	13.885	24.695	32.421	31.362	Continuing	Continuing

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 (FSBS) which are approaching their operational end of life. A cost plus incentive fee contract will be awarded for Transmit subsystem

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
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development in 4Q FY09 with three sequential fixed price options Contract Line Item Numbers (CLINs) for production and deployment. Contract award for the receive subsystem modernization is expected in 4Q FY12.

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 Defense Information Systems Network (DISN) Dedicated IP Network (DIN). Milestone B for the program is projected in 4Q FY11 with Milestone C occurring in 3Q FY14. Contract planning activities commenced in 4Q FY09, leading to a Request for Proposal release in 4Q FY10 and corresponding contract award in 3Q FY11. Full Operational Capability (FOC) is expected in 4Q FY17.

E. Performance Metrics

LBUCS: FY11: Continue development of Production Representative Article (PRA) for transmit terminal. Complete Capabilities Production Document (CPD).

NC3 LTS: FY11 : Release Request for Proposal to industry.

Continuing Evaluation Program (CEP): FY11: Delivery of patrol reports and development plan for automated data collection and analysis toolset.

Concept Development: FY11: Delivery of Network Enabled Operations (NEO) testing scenarios and shore architecture design to support the testing scenarios.

High Voltage Improvement Program: FY11: Complete Ferrite study to reduce loss and size of Helix enclosure. Commence examination of new Ferrites to allow greater broadcast signal.

Broadcast Control Authority (BCA): FY11: Delivery of a concept of operations document for automation tools and a users manual for operations within the BCA.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy			DATE: February 2010
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Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	Various/ Various	Various Various	18.861	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Ancillary Hardware Development	Various/ Various	Various Various	0.611	0.201	Feb 2010	0.400	Nov 2010	0.000		0.400	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	APL/JHU Baltimore, MD	29.925	3.124	Dec 2009	2.100	Dec 2010	0.000		2.100	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC San Diego, CA	43.909	0.670	Feb 2010	0.685	Nov 2010	0.000		0.685	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC Newport Newport, RI	12.973	0.498	Feb 2010	0.498	Nov 2010	0.000		0.498	Continuing	Continuing	Continuing
Systems Engineering	MIPR	U.S. Army Monmouth, NJ	7.097	0.525	Nov 2009	0.525	Nov 2010	0.000		0.525	Continuing	Continuing	Continuing
Systems Engineering	Various/ Various	Various Various	16.154	0.000		0.000		0.000		0.000	0.000	16.154	Continuing
Primary Hardware Development	WR	NAVSEA Washington, DC	0.000	3.211	Feb 2010	3.900	Feb 2010	0.000		3.900	Continuing	Continuing	Continuing
Primary Hardware Development	C/CPIF	SAIC San Diego, CA	0.000	6.183	Feb 2010	6.842	Feb 2010	0.000		6.842	Continuing	Continuing	Continuing
Ancillary Hardware Development	WR	SSC PAC San Diego, CA	1.130	0.374		0.744		0.000		0.744	0.000	2.248	Continuing
		Subtotal	130.660	14.786		15.694		0.000		15.694			

Remarks

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
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Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
Development Support	WR	Various Various	4.068	0.785	Feb 2010	0.759	Nov 2010	0.000		0.759	Continuing	Continuing	Continuing
Software Development	WR	SSC Pacific San Diego, CA	10.184	1.728	Feb 2010	1.661	Nov 2010	0.000		1.661	Continuing	Continuing	Continuing
Integrated Logistics Support	Various/ Various	Various Various	1.175	0.215	Feb 2010	0.215	Nov 2010	0.000		0.215	Continuing	Continuing	Continuing
Acquisition/Program Development	Various/ Various	Various Various	1.245	0.261	Feb 2010	0.261	Nov 2010	0.000		0.261	Continuing	Continuing	Continuing
Technical Data	Various/ Various	Various Various	2.822	0.000		0.000		0.000		0.000	0.000	2.822	Continuing
Development Support	WR	SSC PAC San Diego, CA	2.171	0.530		0.000		0.000		0.000	0.000	2.701	Continuing
		Subtotal	21.665	3.519		2.896		0.000		2.896			

Remarks

Test and Evaluation ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
Strategic OP Systems Performance Evaluation	C/CPFF	APL/JHU Baltimore, MD	19.194	0.104	Dec 2009	0.106	Dec 2010	0.000		0.106	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
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Test and Evaluation ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
System Testing	Various/ Various	Various Various	8.407	0.448	Feb 2010	0.448	Dec 2010	0.000		0.448	Continuing	Continuing	Continuing
		Subtotal	27.601	0.552		0.554		0.000		0.554			

Remarks

Management Services ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
Contractor Engineering Support	MIPR	U.S. Army Monmouth, NJ	1.576	0.201	Nov 2009	0.201	Dec 2010	0.000		0.201	Continuing	Continuing	Continuing
Government Engineering Support	WR	Various Various	1.821	0.456	Feb 2010	0.456	Dec 2010	0.000		0.456	Continuing	Continuing	Continuing
Program Management Support	Various/ Various	Various Various	5.166	0.233	Feb 2010	0.238	Dec 2010	0.000		0.238	Continuing	Continuing	Continuing
Travel	WR	Various Various	0.200	0.050	Oct 2009	0.050	Oct 2010	0.000		0.050	Continuing	Continuing	Continuing
Acquisition Workforce	Various/ Various	Various Various	0.073	0.000		0.000		0.000		0.000	0.000	0.073	Continuing
		Subtotal	8.836	0.940		0.945		0.000		0.945			

Remarks

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy			DATE: February 2010
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	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	188.762	19.797		20.089		0.000		20.089			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
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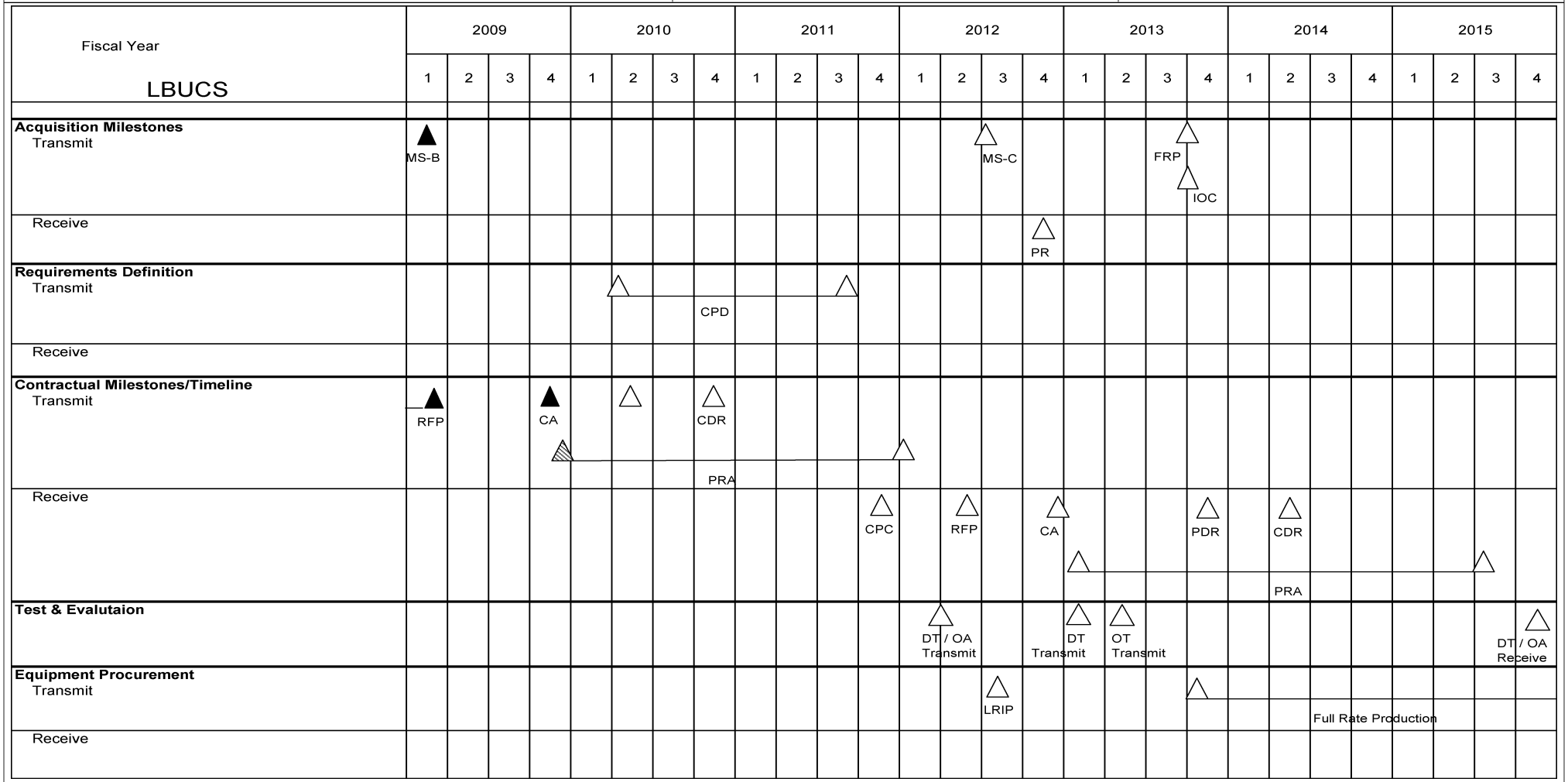

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
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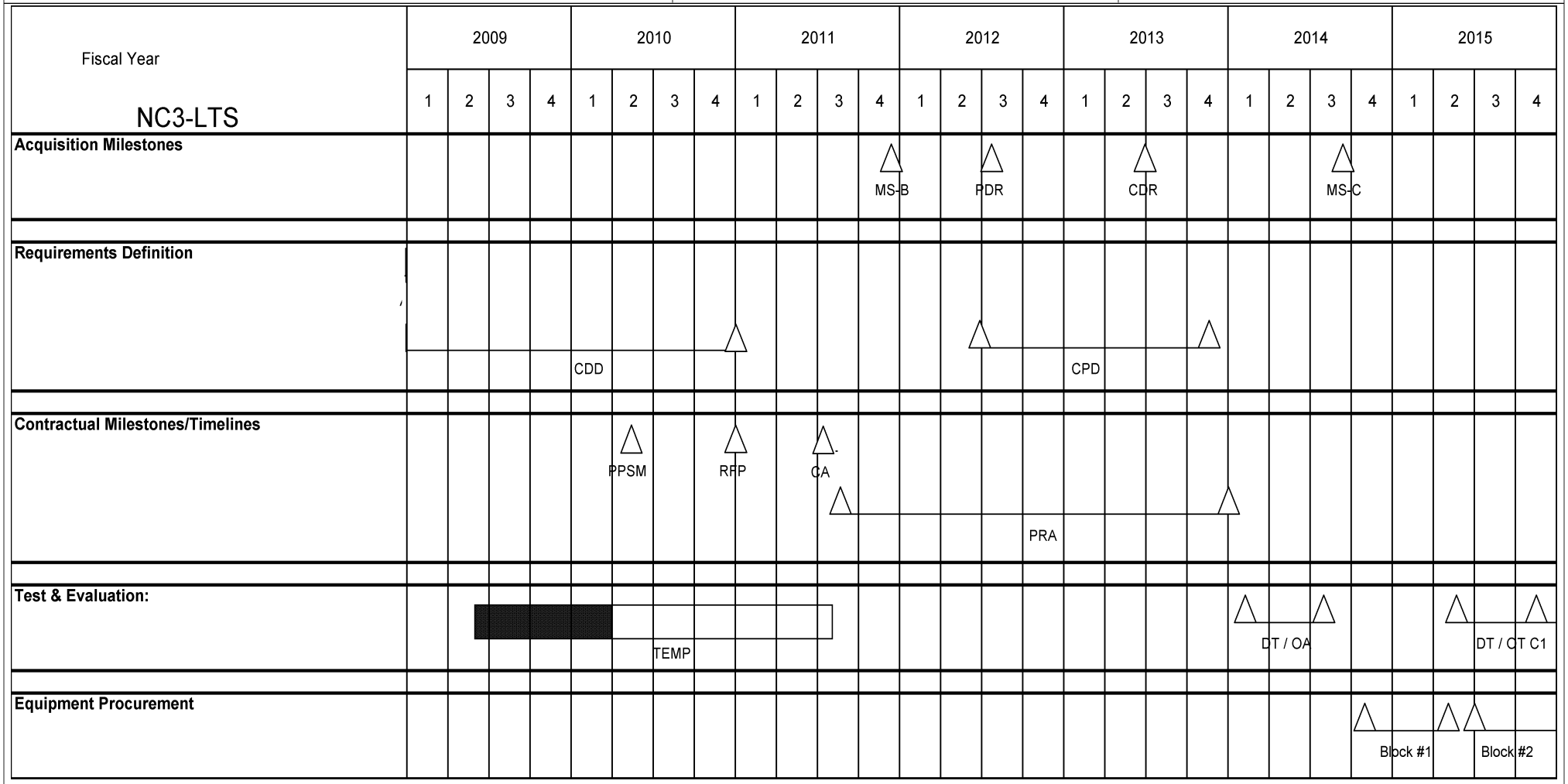

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
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Schedule Details

	Start		End	
Event	Quarter	Year	Quarter	Year
LBUCS: MS B	1	2009	1	2009
LBUCS: MS C	3	2012	3	2012
LBUCS: FRP - Transmit	3	2013	3	2013
LBUCS: IOC - Transmit	3	2013	3	2013
LBUCS: PR - Receive	4	2012	4	2012
LBUCS: CPD	2	2010	3	2011
LBUCS: RFP - Transmit	1	2009	1	2009
LBUCS: Contract Award - Transmit	4	2009	4	2009
LBUCS: PDR - Transmit	2	2010	2	2010
LBUCS: CDR - Transmit	4	2010	4	2010
LBUCS: PRA - Transmit	4	2009	1	2012
LBUCS: CPC - Receive	4	2011	4	2011
LBUCS: RFP - Receive	2	2012	2	2012
LBUCS: Contract Award - Receive	4	2012	4	2012
LBUCS: PRA - Receive	1	2013	3	2015
LBUCS: PDR - Receive	4	2013	4	2013
LBUCS: CDR - Receive	2	2014	2	2014
LBUCS: Test & Evaluation (DT/OA) - Transmit	1	2012	1	2012

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
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	Start		End	
Event	Quarter	Year	Quarter	Year
LBUCS: Test & Evaluation (DT/C1) - Transmit	1	2013	1	2013
LBUCS: Test & Evaluation (OT/C1) - Transmit	2	2013	2	2013
LBUCS: Test & Evaluation (DT/OA) - Receive	4	2015	4	2015
LBUCS: LRIP - Transmit	3	2012	3	2012
LBUCS: Full Rate Production - Transmit	4	2013	4	2013
NC3 LTS: MS B	4	2011	4	2011
NC3 LTS: PDR	3	2012	3	2012
NC3 LTS: CDR	2	2013	2	2013
NC3 LTS: MS C	3	2014	3	2014
NC3 LTS: CDD	1	2009	4	2010
NC3 LTS: CPD	2	2012	4	2013
NC3 LTS: PPSM	2	2010	2	2010
NC3 LTS: RFP	4	2010	4	2010
NC3 LTS: Contract Award	3	2011	3	2011
NC3 LTS: PRA	3	2011	4	2013
NC3 LTS: Test & Evaluation Master Plan	2	2009	3	2011
NC3 LTS: Test & Evaluation (DT)	1	2014	3	2014
NC3 LTS: Test & Evaluation (OA)	1	2014	3	2014
NC3 LTS: Test & Evaluation - Development (DT&E) C1	2	2015	4	2015
NC3 LTS: Test & Evaluation - Operational (OT&E) C1	4	2015	4	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
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	Start		End	
Event	Quarter	Year	Quarter	Year
NC3 LTS: Equipment Deployment (Block 1)	4	2014	2	2015
NC3 LTS: Equipment Deployment (Block 2)	2	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
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COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	1.593	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.564
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Adds

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010
Congressional Add: Shipboard Automated Radio Room System *FY 2010 Plans:* Shipboard Automated Radio Room System	0.000	1.593
Congressional Adds Subtotals	0.000	1.593

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Congressional Adds

E. Performance Metrics

Congressional Adds