EXHIBIT R-2, RDT&E Budget Item Justification						**DATE:** February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7				**R-1 ITEM NOMENCLATURE** 0204163N FLEET COMMUNICATIONS			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**27.508**	**23.582**	**26.696**	**24.832**	**12.496**	**18.904**	**11.110**
0725 Communications Automation	17.170	9.520	11.570	10.711	3.450	4.640	3.335
1083 Shore to Ship Communications	10.338	13.069	15.126	14.121	9.046	14.264	7.775
9999 AN-USQ-155 Card Upgrade		0.993					

(U) 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 (formerly Naval Modular Automated Communications System/Single Messaging Solution II (NAVMACS/SMSII), Joint Network Management System (JNMS), Automated Digital Network System (ADNS), Naval Global Directory Services, and Tactical Switching Ashore [formerly Shore Infrastructure Modernization (SIM)].

ADNS is the method by which tactical Navy units (Surface, Subsurface, and Air Assets) transfer Internet Protocol (IP) data to Navy and Department of Defense (DoD) 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. Utilization of ADNS allows Unclassified, Secret, Top Secret traffic, as well as various Joint, Allied, and Coalition services to interconnect to the Defense Information Systems Network (DISN) ashore via multiple Radio Frequency (RF) paths and pier connectivity.

Tactical Messaging, formerly Naval Modular Automated Communications System II / Single Message Solution (NAVMACS II/SMS II) developed joint/combined individual and organizational message handling for United States Naval ships and submarines, Tactical Mobile (TacMobile) units, United States Marine Corp (USMC) vans, and selected Military Sealift Command (MSC) and United States Coast Guard (USCG) platforms. Tactical Messaging (NAVMACS II/SMS) develops fleet interfaces to the Defense Message System (DMS) and legacy ashore messaging systems. DMS Proxy will develop the interface with Integrated Shipboard Networks System (ISNS) to allow removal of DMS Components from all ships. Requirements for DMS Proxy implementation transition to other Assured Internet Protocol (AIP) enabling programs in FY09-FY11.

Naval Global Directory Service (NGDS): The NGDS developed a directory services architecture providing enhancements and efficiencies for security, application accessibility, and Naval Identity Management (IdM) that span Naval enterprise-wide operations across the Navy Marine Corps Intranet (NMCI), OCONUS Navy Enterprise Network (ONE-NET), Marine Corps Enterprise Network (MCEN) and Naval Afloat Networks/(Information Technology (IT)-21 network domains. The projected NGDS capabilities included: Authentication to enterprise applications; Support for an enterprise Single Sign On (SSO) solution; Backbone for federating (sharing) identity data amongst the Naval Domains, afloat environments, and external sources; Storage for Public Key Infrastructure (PKI) material and other credentials; Basic “Locator” services. NGDS built upon the initial research, development and deployment of the Navy Marine Corps White Pages, in addition to other requirements such as the Navy Marine Corps Intranet’s (NMCI) directory service, Navy Marine Corps Portal (NMCP) directory service and Single Sign On (SSO) initiatives, and the IT-21 Windows 2000 shipboard integrated directory service . The projected NGDS capabilities included: Authentication to enterprise applications; Support for an enterprise SSO solution; Domain Naming Service (DNS) for a Naval Enterprise network De-Militarized Zone (DMZ); Backbone for federating (sharing) identity data amongst the Naval Domains, afloat environments, and external sources; Storage for Public Key Infrastructure (PKI) material and other credentials; Basic “Locator” services; Additional advanced directory or identity based functions. NGDS delivered an integrated directory service infrastructure across the Naval enterprise both ashore and afloat by building trusted relationships between people, applications, services, and other resources throughout the network. Once established, NGDS manage and maintain these relationships regardless of the user’s or services location.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204163N FLEET COMMUNICATIONS

Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting Naval, Coalition and Joint enclaves worldwide. ADNS utilizes Commercial Off the Shelf/ Government Off the Shelf (COTS/GOTS) equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) I provides initial limited, Ship to Shore Internet Protocol (IP) connectivity, separation of enclaves, reuse of unused enclave bandwidth, and Ship to Shore Tactical IP connectivity. ADNS INC II provides additional capabilities of load balancing, Radio Frequency (RF) restoral, Initial Quality of Service (QoS) to include application prioritization, Initial Traffic Management, and enhancements designed to maximize use of "effective" available bandwidth for surface, shore, and airborne platforms. ADNS INC III will converge all Navy Tactical Voice, Video, and Data requirements into a converged IP Data stream. In addition, the INC III architecture will incorporate an IPv4/IPv6 dual stack and a ciphertext security architecture to align to the GIG in order to mesh Navy tactical surface, subsurface, and airborne platforms into a single IP environment with Gateway functions to Joint and Coalition Networks. ADNS INC III will serve as the Navy tactical interface (Gateway) for IP Networking with Transformational Satellite (TSAT), Joint Tactical Radio System (JTRS), High Assurance Internet Protocol Encryptor (HAIPE), Advanced Extremely High Frequency (AEHF). ADNS INC IV will utilize the emerging transformational technologies to integrate additional Future Department of Defense (DoD) Transformational Command, Control, Communications, Computers, & Intelligence (C4I) Programs.

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 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 (SA)/network visualization, network Management and Control (M/C) 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 to fight the War on Terrorism.

The Shore to Ship Communications System develops communication system elements which provide positive command and control of deployed Ship Submersible Ballistic Nuclear Submarines (SSBNs), Ship Submersible Guided Nuclear Submarines (SSGNs), and Ship Submersible Nuclear Submarines (SSNs). Continuous assessment of the command and control links between the National Command Authority (NCA) and missile platforms is conducted to ensure compliance with Nuclear Technical Performance Criteria (NTPC). 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 SSBNs .

The Low Band Universal Communications System (LBUCS) will ensure continued operational capability through the Very Low Frequency (VLF) architecture by implementing system life extension and flexibility of Submarine Broadcast traffic to the submarine in stealth posture. The flexibility includes simplified shore architecture to maintain capability while utilizing fewer shore nodes (Broadcast Keying Sites). LBUCS also provides a life extension to the VLF receive system to ensure continued compliance with NTCP through the life of the system.

Submarine communications allied interoperability issues are being investigated. Coalition architectures are developed and tested to address continued interoperability, as new technology is applied. Interoperability between coalition SUBOPAUTHs and submarines under US operational control is evaluated to determine the most effective approaches for interoperability in an environment dealing with changing North Atlantic Treaty Organization (NATO) standards for submarine communication, as these standards migrate from serial to Internet Protocol (IP) based systems.

The Nuclear Command and Control Long Term Solution (NC3 LTS) replaces the existing stove-piped legacy and aging joint shore based EAM delivery system. The NC3 LTS investigates current technologies and inherent vulnerabilities to determine the most modern and effective system to implement, while meeting Joint Staff (JS) defined NTPC (e.g. system availability and EAM delivery timeliness requirements for NC3.)

The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress.

The High Frequency Internet Protocol/Sub Network Relay (HFIP/SNR) program provides legacy Battleforce Email (BFEM) 66 to enable delivery of Internet Protocol (IP) based collaboration services over legacy HF assets. The intent is to provide an interoperable, low data rate, multi-node, Beyond-Line-of-Sight (BLOS) 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 Allied Coalition forces.

Congressional add to develop a Radio over Internet Protocol (RoIP) interface for the Tactical Variant Switch (TVS) AN-USQ-155 radio to be compatible with Internet Protocol (IP) based communications, switching, and distribution of voice and media via common networks as well as Integrated Services Digital Network (ISDN) and analog connections.

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204163N FLEET COMMUNICATIONS	

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY07	FY08	FY09
FY08/09 President's Budget:	26.997	23.108	18.903
FY 09 President's Submit	27.508	23.582	26.696
Total Adjustments	0.511	0.474	7.793
Summary of Adjustments			
Miscellaneous Adjustments:	1.000	-0.335	7.793
Small Business Innovation Tax:	-0.489	0.000	0.000
Congressional Adjustments:	0.000	0.809	0.000
Subtotal	0.511	0.474	7.793

(U) Schedule:

ADNS: INC III Sys Dev has moved to the right to incorporate INC III development modifications to the rack design, which pushed DT, OT, FRPDR, IOC and FOC to the right for INC III. INC III Submarine efforts were added to reflect current requirements.

LBUCS: The Milestone B date has moved to the right (June 08.) This was due to the CDD determination being Joint Integration vice Joint Interest. This determination added a Joint review cycle to the CDD approval process, which delayed the approval of the CDD.

(U) Technical:

EXHIBIT R-2a, RDT&E Project Justification					**DATE:** FEBRUARY 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	**R-1 ITEM NOMENCLATURE** 0204163N FLEET COMMUNICATIONS			**PROJECT NUMBER AND NAME** 0725 COMMUNICATIONS AUTOMATION			
COST ($ in Millions)	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Project Cost	17.170	9.520	11.570	10.711	3.450	4.640	3.335
RDT&E Articles Qty	4						

(U) 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, formerly The Naval Modular Automated Communications System II (NAVMACS II/Single Messaging Solution (SMS)) provides processing, storage, distribution and forwarding of General Service organizational messages on ships and submarines. Legacy NAVMACS/SMS units on surface ships will be replaced by the network-centric DMS Proxy solution as part of the multi-program Assured IP (AIP) initiative.

Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting Naval, Coalition and Joint enclaves worldwide. ADNS utilizes Commercial Off the Shelf/ Government Off the Shelf (COTS/GOTS) equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) I provides initial limited, Ship to Shore Internet Protocol (IP) connectivity, separation of enclaves, reuse of unused enclave bandwidth, and Ship to tactical Shore IP connectivity. ADNS INC II provides additional capabilities of Load Balancing, Radio Frequency (RF) restoral, Initial Quality of Service (QoS) to include application prioritization, Initial Traffic Management, and enhancements designed to maximize use of "effective" available bandwidth for surface, shore, and airborne platforms. ADNS INC III will converge all Navy Tactical Voice, Video, and Data requirements into a converged IP Data stream. In addition, the INC III architecture will incorporate an IPv4/IPv6 dual stack and a ciphertext security architecture to align to the Global Information Grid (GIG) in order to mesh Navy tactical surface, subsurface, and airborne platforms into a single IP environment with Gateway functions to Joint and Coalition Networks. ADNS INC III will serve as the Navy Tactical Interface (Gateway) for IP Networking with Transformational Satellite (TSAT), Joint Tactical Radio System (JTRS), High Assurance Internet Protocol Encryptor (HAIPE), Advanced Extremely High Frequency (AEHF). INC IV will utilize emerging transformational technologies to integrate with additional Future DoD C4I Programs.

Naval Global Directory Service (NGDS): Naval Global Directory Services is a key component of the infrastructure that will be leveraged to support a variety of network operations. The NGDS developed a directory services architecture providing enhancements and efficiencies for security, application accessibility, and naval Identity Management (IdM) that span Naval enterprise-wide operations across the Navy Marine Corps Intranet (NMCI), OCONUS Navy Enterprise Network (ONE-NET), Marine Corps Enterprise Network (MCEN) and Naval Afloat Networks/IT-21 network domains. The NGDS built upon the initial research, development and deployment of the Navy Marine Corps White Pages, in addition to other requirements such as the Navy Marine Corps Intranet's (NMCI) directory service, Navy Marine Corps Enterprise Services (NMES) directory service and Single Sign On (SSO) initiatives, and the IT-21 Windows 2000 shipboard integrated directory service. NGDS delivered an integrated directory service infrastructure across the Naval enterprise both ashore and afloat by building trusted relationships between people, applications, services, and other resources throughout the network. Once established, NGDS manage and maintain these relationships regardless of the user's or services' location. Tactical Switching Ashore will support the migration of the shore sites and their terrestrial interconnections into a coherent, scalable, network capability.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Automated Digital Network System (ADNS)			
Accomplishments/Effort/Subtotal Cost	5.972	3.964	5.740
RDT&E Articles Quantity	4		

FY07 Accomplishments: Conducted Increment IIa formal Developmental and Operational Testing (DT/OT). Continued funding INC III System Development and Demonstration phase. INC III contractor conducted system requirements review and will deliver an ADNS INC III system and subsystem specification. Evaluated industry produced INC III Engineering Demonstration Models (EDMs). Conducted system Preliminary and Critical Design Review ((PDR) and (CDR)).
FY08: Continue the system development and demonstration phase of ADNS INC III with required interfaces. Develop acquisition documents, specifications, and capability requirements for INC III and future increments, as necessary to deliver technology, networks, and throughput capabilities defined in the ADNS Capability Development Document (CDD) for all Navy Tactical Units (Surface, Airborne, and Shore.)
FY09: Conduct INC III formal Developmental Testing (DT). Conduct formal Operational Testing (OT) of INC III. Develop system modification of INC III for HAIPE integration. Develop acquisition documents, specifications, and capability requirements for INC III Subs. Develop and update system and subsystem interface designs for integration with new SATCOM and Radio Frequency (RF) paths, as they emerge. Begin research and evaluation of emergent technology maturity for inclusion into the next generation of ADNS, INC IV.

	FY 07	FY 08	FY 09
Tactical Messaging (NAVMACS)			
Accomplishments/Effort/Subtotal Cost	0.000	1.378	1.242
RDT&E Articles Quantity			

FY08: Begin planning and developmental testing for Interoperability Demonstration of the DMS Proxy solution to be implemented as part of the multiprogam Assured Internet Protocol (AIP) initiative.
FY09: Continue development and test efforts for emerging technology to transition Tactical Messaging into a Service Oriented Architecture to align with DoD Organizational Messaging (OM) of the future, and enable mobile tactical users to better support reporting for Maritime Domain Awareness.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS	0725 COMMUNICATIONS AUTOMATION

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
Naval Global Directory Services			
Accomplishments/Effort/Subtotal Cost	0.332		
RDT&E Articles Quantity			

FY07 Accomplishments: Completed the development of the Naval Global Directory Service (NGDS) - enterprise wide, integrated directory service architecture. Assisted in the continuing convergence of NMCI, ONE-NET, MCEN and IT-21 environments. Provided developmental engineering support for shore-based identity data sharing/synchronization. Supported Navy directed testing efforts.

	FY 07	FY 08	FY 09
Tactical Switching (Ashore)			
Accomplishments/Effort/Subtotal Cost	9.366	4.178	4.013
RDT&E Articles Quantity			

FY07 Accomplishments: Completed the development of Increment II Spiral A Enterprise Network Management and Control System (ENMS) (Management Capability) that began in FY06. Completed the system integrators task to develop a shore communications architecture that will provide Situational Awareness (SA), Management and Control (M/C) for ENMS of Navy Shore Networks. Continued consolidation communications technical control facilities supporting migration of all services to an all IP infrastructure. Initiated development of Increment II Spiral B ENMS expanding the Management and Control (M/C) of equipment to include automation and remote capabilities.

FY08: Continue the Increment II Spiral B development that began in FY07. The program will expand the monitoring (Situational Awareness) , Management and Control capability developed in FY06/FY07 to further define the automation and remote capabilities of the ENMS. In addition, TSw will develop and design a plan to eliminate bandwidth limitations within the architecture by designing failover communication paths either physical or virtual, providing real time integrated security, enabling dynamic bandwidth management, and reducing costly dependencies on legacy systems. This new capability requires less manual intervention and will serve as the backbone technology to reduce the Navy communication facilities infrastructure from 4 Fleet Network Operation Centers (NOCs) to 2 Regional Network Operations and Security Centers (RNOSC). Efforts outlined in Increment II Spiral A and B provide the foundation for reducing the manpower and facilities which will enable substantial FYDP savings.

FY09: Complete Increment II Spiral B development that began in FY07 and continued in FY08. Initiate Increment III ENMS (GIG/Joint/All IP Integration Capability). Complete the design, development, testing and implementation of the upgrades to the Tactical Switching and NOC systems to allow for full integration with the Joint Community on the All IP GIG. Develop the design and implementation plan to eliminate the remaining legacy and Navy unique networking elements that remain in the Tactical Switching architecture. This will allow for full All IP interoperability and integration between Navy forces and the forces of other branches of the service in the Joint battlespace to allow for full Network Centric Warfare. Provide for full direct access for Navy warfighters through the Navy RNOSCs to the All IP GIG for full warfighting application data exchange. Provide the mechanism for dynamically and automatically managed real time integrated Information Assurance and security . Provide for Quality of Service (QoS) enabled traffic flow prioritization and fully automated dynamic bandwidth management. This new capability will require only a minimal amount of manual intervention and will provide for full integration between the Navy and Joint operational enclaves over UNCLAS, Secret, SCI and multiple CENTRIXS network enclaves. The integration of Navy and Joint operational enclaves over multiple security domains provides key foundational connectivity require to support the Navy's Maritime Domain Awareness efforts.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION

(U) B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09
HFIP/SNR			
Accomplishments/Effort/Subtotal Cost	1.500	0.000	0.575
RDT&E Articles Quantity			

FY07 Accomplishments: Began development of acquisition documentation including Acquisition Program Baseline (APB), Test & Evaluation Master Plan (TEMP), Acquisition Strategy/Acquisiton Plan (AS/AP), and Clinger-Cohen Act (CCA) compliance documentation.

FY09: Complete testing of HFIP/SNR equipment.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS	0725 COMMUNICATIONS AUTOMATION

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Complete	Cost To Total
3050 – Ship Comm Auto - Tactical Messaging	4.732	7.050	2.680	5.444	3.169	1.306	1.335	Continuing	Continuing
3050 – Ship Comm Auto – ADNS	18.956	46.478	58.118	33.949	46.098	50.653	53.321	Continuing	Continuing
3050 – Ship Comm Auto – Tactical Switching (Ashore)	30.577	35.326	41.993	19.634	19.412	24.070	24.344	Continuing	Continuing
3057 – Comm Items Under $5M – HFIP/SNR	-	6.319	14.137	13.644	12.525	10.296	6.261	Continuing	Continuing

(U) E. ACQUISITION STRATEGY: *

ADNS: Evolutionary acquisition approach with overlapping development and implementation phases for defined Increment I, II, and III incremental baselines. Increment I and II will use existing competitively awarded contracts; however, Increment III will be based on a new Contracting Strategy to include the use of innovative contract types that implement changes consistent with acquisition streamlining initiatives. Aggressively leverage 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 (formally NAVMACS): The Tactical Messaging acquisition approach has evolved according to key technology advances, resulting incremental developmental phases, and the principals of acquisition reform. While initial production units were acquired through competitively awarded vehicles, future contracting will also embrace acquisition streamlining initiatives in addition to maintaining the benefits of competitive, best value contracting.

NGDS supports a variety of network operations that include Single Point of Administration (SPA) and Unified Account Management; Software Distribution; White/Yellow/Blue Pages; Menu, Profile and Application Management; PKI-enablement of applications/devices, and Network Management. All management oversight by SPAWAR.

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 (NCTAMS PAC, NCTAMS LANT, NCTAMS EURCENT, NCTS Bahrain, and NCTS San Diego) and to include 40+ shore communication facilities (COMSTATIONs, NOCs, Mini-NOCs, and 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 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/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 technology as it becomes available.

*** Not required for Budget Activities 1,2,3, and 6**

EXHIBIT R-3 Cost Analysis								DATE: FEBRUARY 2008				
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		PROGRAM ELEMENT 0204163N FLEET COMMUNICATIONS						PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	PO	SSC	1.025	0.000		0.000		0.000			1.025	5.500
Primary Hardware Development	TBD	TBD	1.000	0.000		0.000		0.000			1.000	
Primary Hardware/Software	CPFF	Air Force	2.078								2.078	
Primary Hardware/Software	CPFF	Northrop Grumman	0.000	2.845	Dec-07	2.351	Apr-08	2.050	Jun-09	Continuing	Continuing	
Primary Hardware/Software	CPFF	General Dynamics	0.000	4.131	Dec-06	2.670	Dec-07	2.128	Dec-08	Continuing	Continuing	
Integration and Test	TBD	TBD	0.000	0.000		0.000		1.884	TBD	Continuing	Continuing	
Systems Engineering	WX	SSC	12.927	3.711	Dec-06	1.107	Dec-07	1.079	Dec-08	Continuing	Continuing	
Systems Engineering	VAR	VAR	5.022	0.000		1.410	Jan-08	1.194	TBD	Continuing	Continuing	
Systems Engineering	WX	NUWC	0.0000	0.400	Dec-07	0.233	Dec-07	0.380	Dec-08	Continuing	Continuing	
Prime Mission Product	PO	SSC	4.353	0.000		0.000		0.000			4.353	
Subtotal Product Development			26.405	11.087		7.771		8.715		Continuing	Continuing	
Remarks:												
Development Support	WX	SSC	0.160								0.160	
Software Development	VAR	VAR	5.501	0.000		0.000		0.000			5.501	
Integrated Logistics Support	TBD	TBD	1.000	0.150	Dec-06	0.000		0.000			1.150	
Documentation	VAR	VAR	0.280	0.333	Dec-06	0.093	Dec-08	0.125	TBD	Continuing	Continuing	
Technical Data	TBD	TBD	0.500	0.000		0.000		0.000			0.500	
Studies and Analysis	WX	SSC	0.960	0.000		0.000		0.000			0.960	
Subtotal Support			8.401	0.483		0.093		0.125		Continuing	Continuing	
Remarks:												

EXHIBIT R-3 Cost Analysis

Exhibit R-3 Cost Analysis									**DATE:** FEBRUARY 2008			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7			**PROGRAM ELEMENT** 0204163N FLEET COMMUNICATIONS						**PROJECT NUMBER AND NAME** 0725 COMMUNICATIONS AUTOMATION			
Cost Categories	**Contract Method & Type**	**Performing Activity & Location**	**Total PY s Cost**	**FY 07 Cost**	**FY 07 Award Date**	**FY 08 Cost**	**FY 08 Award Date**	**FY 09 Cost**	**FY 09 Award Date**	**Cost to Complete**	**Total Cost**	Target Value of Contract
Developmental Test & Evaluation	WX	SSC	0.844	1.481	Dec-06	0.447	Dec-07	0.640	Dec-08	Cont	Cont	
Developmental Test & Evaluation	MP	JITC	0.000	0.051	Dec-06	0.033	Dec-07	0.040	TBD	Cont	Cont	
Operational Test & Evaluation	VAR	VAR	4.280	0.325	Dec-06						4.605	
Operational Test & Evaluation	WX	OPTEVFOR	0.371	0.106	Mar-07	0.073	Dec-07	0.100	TBD	Cont	Cont	
Operational Test & Evaluation	VAR	VAR	0.350	0.000		0.000		0.000			0.350	
Subtotal T&E			5.845	1.963		0.553		0.780		Cont	Cont	
Remarks:												
Contractor Engineering Support	VAR	VAR	0.481	0.000		0.000		0.000			0.481	
Government Engineering Support	WX	SSC	0.380	0.000		0.000		0.575	TBD	Cont	Cont	
Program Management Support	WX	SSC	1.973	0.317	Dec-06	0.195	Dec-07	0.300	TBD	Cont	Cont	
Program Management Support	CPAF	VAR	3.040	3.320	Nov-06	0.908	Dec-07	1.075	Dec-08	Cont	Cont	
Subtotal Management			5.874	3.637		1.103		1.950		Cont	Cont	
Remarks:												
Total Cost			46.525	17.170		9.520		11.570		Cont	Cont	

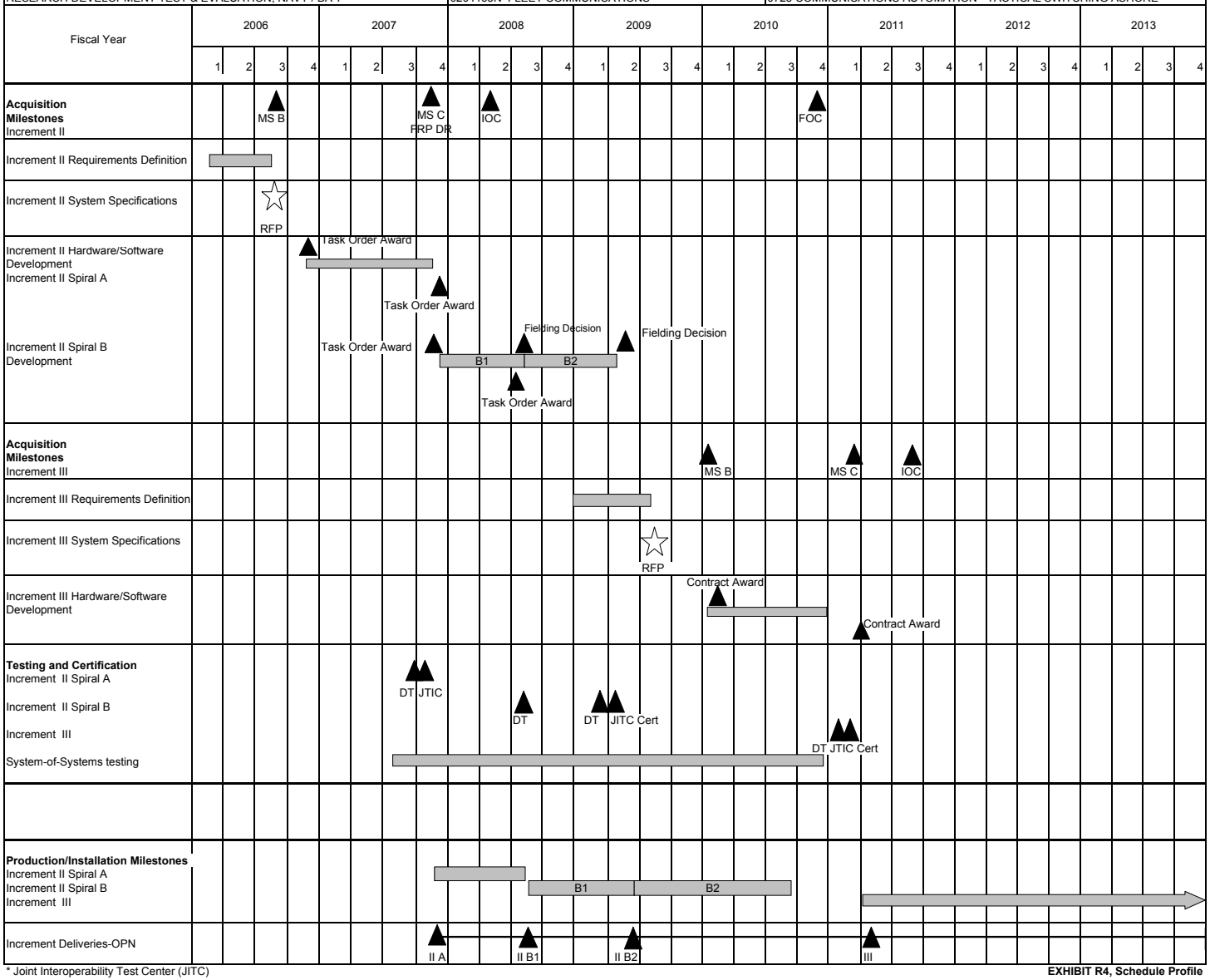
Exhibit R-3 Cost Analysis

EXHIBIT R4, Schedule Profile | **DATE:** FEBRUARY 2008

APPROPRIATION/BUDGET ACTIVITY
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7

PROGRAM ELEMENT NUMBER AND NAME
0204163N FLEET COMMUNICATIONS

PROJECT NUMBER AND NAME
0725 COMMUNICATIONS AUTOMATION - TACTICAL SWITCHING ASHORE



* Joint Interoperability Test Center (JITC)

EXHIBIT R4, Schedule Profile

Exhibit R-4a, ¦Exhibit R-4a, Schedule Detail							**DATE:** FEBRUARY 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	**PROGRAM ELEMENT NUMBER AND NAME** 0204163N FLEET COMMUNICATIONS			**PROJECT NUMBER AND NAME** 0725 COMMUNICATIONS AUTOMATION - TACTICAL SWITCHING ASHORE			
Schedule Profile - Tactical Switching Ashore	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Increment II Milestone B							
Increment II Milestone C	4Q						
Increment II IOC		2Q					
Increment II FOC				4Q			
Increment II Spiral A Hardware/Software Development	1Q-4Q						
Increment II Requirements Definition							
Increment II Systems Specifications							
Increment II Spiral B1 Hardware/Software Development	4Q	1Q-3Q					
Increment II Spiral B2 Hardware/Software Development		3Q-4Q	1Q-2Q				
Increment III Requirements Definition			1Q-3Q				
Increment III Systems Specifications			3Q				
Increment III Milestone B				1Q			
Increment III Milestone C					1Q		
Increment III IOC					3Q		
Increment III Hardware/Software Development				2Q-4Q			
Development Testing (DT) Increment II Spiral A	3Q						
Development Testing (DT) Increment II Spiral B1		3Q					
Development Testing (DT) Increment II Spiral B2			1Q				
Development Testing (DT) Increment III					1Q		
JTIC Increment II Spiral A	4Q						
JTIC Increment II Spiral B2			2Q				
JTIC Increment III					1Q		
Systems of Systems Testing	3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
Increment II Spiral A Production/Installation	4Q	1Q-3Q					
Increment II Spiral B1 Production/Installation		3Q-4Q	1Q-2Q				
Increment II Spiral B2 Production/Installation			2Q-Q4	1Q-3Q			
Increment III Production/Installation					2Q-4Q	1Q-4Q	1Q-4Q
Deliveries - OPN	4Q	3Q	2Q		2Q		

* Joint Interoperability Test Center (JITC)

Exhibit R-4a, Schedule Detail

EXHIBIT R4, Schedule Profile | **DATE:** FEBRUARY 2008

APPROPRIATION/BUDGET ACTIVITY
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7

PROGRAM ELEMENT NUMBER AND NAME
0204163N FLEET COMMUNICATIONS

PROJECT NUMBER AND NAME
0725 COMMUNICATIONS AUTOMATION/ADNS

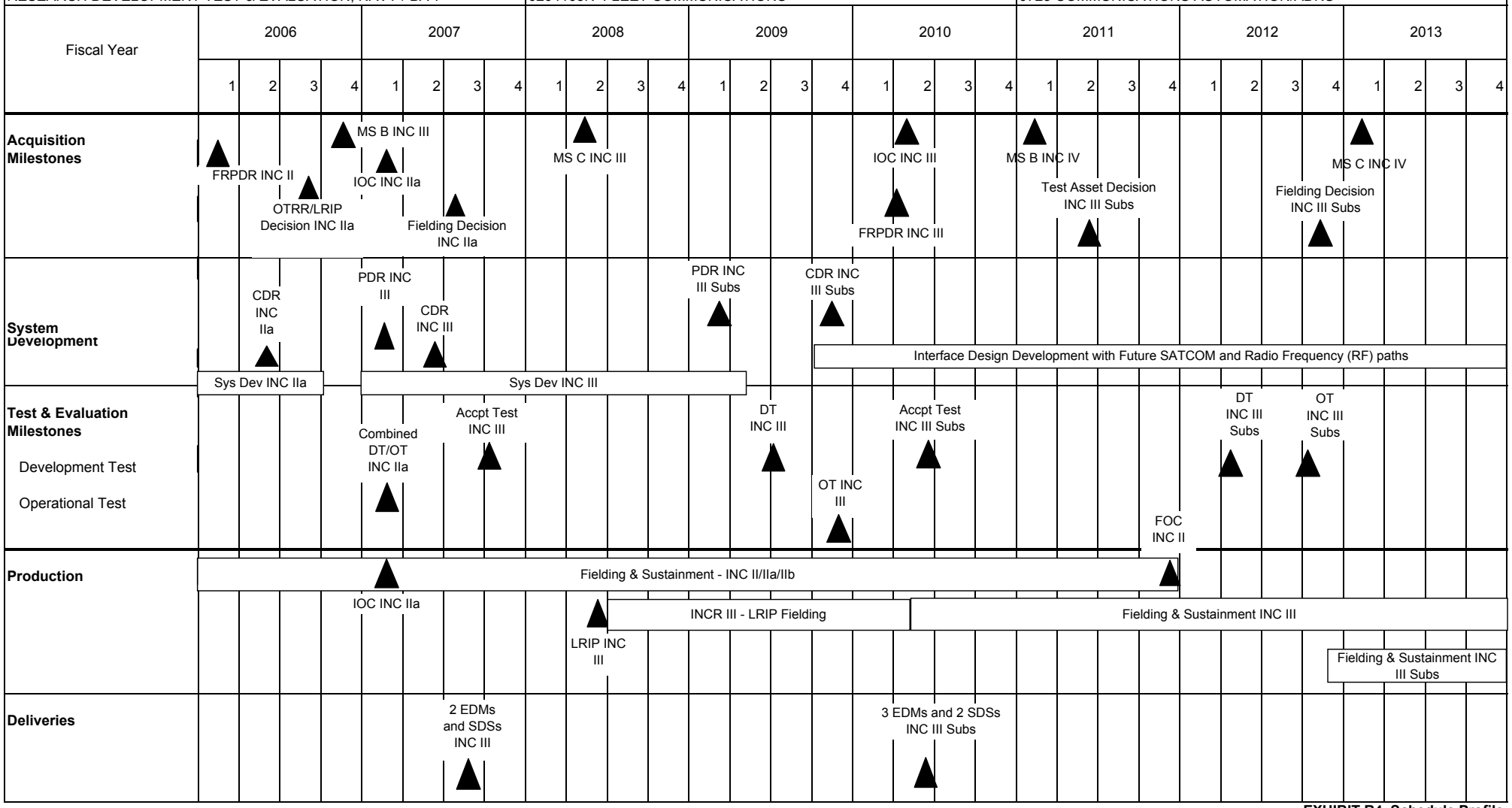


EXHIBIT R4, Schedule Profile

Exhibit R-4a, Schedule Detail						DATE: FEBRUARY 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATIONS				PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION/ADNS		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
INCREMENT I *							
INCREMENT II							
*Initial Traffic Management, Shore **(TMS)***							
Fielding Decision							
Operational Testing (OT)							
JITC Certification							
Full Rate Production Decision Review (FRPDR)							
Full Operational Capability (FOC)					4Q		
INCREMENT IIa							
*Voice Over IP **(VOIP)***							
System Development							
Critical Design Review (CDR)							
OTRR/LRIP Decision							
Combined Developmental Testing (DT) and Operational Testing (OT)	1Q						
Fielding Decision	3Q						
Initial Operational Capability (IOC)	1Q						
INCREMENT III							
Core Capability - Converged IP, Meshed, IPv6, Black Core, 25/50 Mbps							
Prototype Phase							
Milestone B (MS B)							
System Design Review (SDR)							
Preliminary Design Review (PDR)	1Q-2Q						
System Development	1Q-4Q	1Q-4Q	1Q-2Q				
Deliver 2 EDMs and SDSs	3Q						
Milestone C (MS C)		2Q					
Critical Design Review (CDR)	2Q-3Q						
Acceptance Test	3Q-4Q						
Low Rate Initial Production (LRIP)		2Q					
Developmental Testing (DT)			3Q				
Operational Testing (OT)			4Q				
Full Rate Production Decision Review (FRPDR)				2Q			
Initial Operational Capability (IOC)				2Q			
Interface Design Development with SATCOM and Radio Frequency (RF) paths			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Subs							
Preliminary Design Review (PDR)			1Q				
Critical Design Review (CDR)			4Q				
Acceptance Test				2Q			
Deliver 3 EDMs and 2 SDSs				2Q			
Test Asset Decision					2Q		
Developmental Testing (DT)						2Q	
Operational Testing (OT)						4Q	
Fielding Decision						4Q	
Initial Operational Capability (IOC)						4Q	
Fielding and Sustainment						4Q	1Q-4Q
INCREMENT IV							
Milestone B (MS B)					1Q		
Milestone C (MS C)							1Q

Exhibit R-4a, Schedule Detail

EXHIBIT R4, Schedule Profile | **DATE:** FEBRUARY 2008

APPROPRIATION/BUDGET ACTIVITY
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7

PROGRAM ELEMENT NUMBER AND NAME
0204163N FLEET COMMUNICATIONS

PROJECT NUMBER AND NAME
0725 COMMUNICATIONS AUTOMATION - TACTICAL MESSAGING

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	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
Program Milestones																												
Pilot Phase					DMS Proxy																							
Development																												
In-Progress Review (Multiple Baselines)					△ IPR		△ IPR		△ IPR		△ IPR																	
S/W Delivery (EMD)					△ LAB		△ JITC		△ LAB		△ JITC																	
Software																												
S/W Delivery DMS Proxy					△				△																			
DISA DMS MR Delivery																												
Test & Evaluation Milestones																												
Development Test						DT					DT																	
Operational Test																												
JITC IV&V Certification																												
Deliveries			33				49				3				8				5				2				2	

EXHIBIT R4, Schedule Profile

* Joint Interoperability Test Center (JITC)

Development Test efforts remaining are the Interoperability Demonstration for Defense Message System (DMS) Proxy functionality in FY08-FY09.

* Schedule changes reflect revised program direction for Tactical Messaging as part of the multi-program Assured Internet Protocol (AIP) strategy. Tactical Messaging is transitioning from stand-alone components into a DMS Proxy application on the consolid

Exhibit R-4a, Schedule Detail						**DATE:** FEBRUARY 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		**PROGRAM ELEMENT NUMBER AND NAME** 0204163N FLEET COMMUNICATIONS			**PROJECT NUMBER AND NAME** 0725 COMMUNICATIONS AUTOMATION - TACTICAL MESSAGING		
Schedule Profile	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Win2K/Development							
DMS Proxy Development Planning							
IPR		1Q,3Q	1Q,3Q				
EMD - Lab		1Q	1Q				
EMD - JITC		3Q	3Q				
S/W Delivery 2.3							
S/W Delivery 2.4							
S/W Delivery 2.5							
Pilot Phase DMS Proxy		1Q-3Q					
Development Test		1Q-4Q	2Q-4Q				
JITC IV&V Certification		1Q-4Q	1Q-4Q				
Deliveries	33	49	3	8	5	2	2

Exhibit R-4a, Schedule Detail

EXHIBIT R-2a, RDT&E Project Justification					**DATE:** February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		**PROGRAM ELEMENT NUMBER** 0204163N FLEET COMMUNICATIONS			**PROJECT NUMBER AND NAME** 1083 SHORE TO SHIP COMMUNICATION		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**10.338**	**13.069**	**15.126**	**14.121**	**9.046**	**14.264**	**7.775**
RDT&E Articles Qty							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project develops communication system elements which provide positive command and control of deployed SSBNs and fleet submarine broadcast connectivity to Submersible Ship Nuclear (SSN)s, Submersible Ship Guided Nuclear (SSGN)s and Ship, Submersible, Ballistic, Nuclear (SSBN)s. 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. Effective utilization of this communications system's performance is provided via the Strategic Communications Assessment Program (SCAP). The Continued Evaluation Program (CEP) provides constant assessment of the effectiveness of the end-to-end network. The submarine operating authority (SUBOPAUTH) includes both submarine communications and Operational Control (OPCON) at shore sites. A SUBOPAUTH architecture provides for back-up capability among the four Broadcast Control Authority/Operational Control (BCA/OPCONs) to ensure Continuity of Operations Procedure (COOP) in the event of a BCA outage. The Common Submarine Radio Room (CSRR) integrates Commercial Off The Shelf (COTS) and Government Off The Shelf (GOTS) components into a single radio room configuration for all classes of submarines. The CSRR design is based on the Virginia class radio room and is adapted for each platform's hull shape and mission needs. Technologies to improve high voltage insulators, helix house bushings and antenna components used in the Fixed Very Low Frequency VLF (FVLF) transmit systems are evaluated and tested through the High Voltage Improvement Program (HVIP). The NC3 LTS will provide a communications approach in support of the Joint Operational Architecture (JOA) for time-critical EAMs to be disseminated across Areas of Responsibility (AOR's) in support of joint operations. This project implements the Joint Staff EAM Board of Directors (BoD) direction for a viable long-term EAM dissemination solution, NC3 LTS, and near term enhancements enabling the interim hybrid solution infrastructure to be sustained until a replacement system comes on-line. Low Band Universal Communications System (LBUCS) provides 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, ensuring more operational products are delivered to a submarine without risking mast exposure. The Submarine Enhanced Emergency Alert System (SEEAS) upgrades the Army-Navy/BST-1 (AN/BST-1) transmitter buoy used to communicate "in extremis" messages to the fleet commander from an SSBN on patrol that had been rendered incapable of performing its mission either by hostile action or by a casualty.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	PROJECT NUMBER AND NAME
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS	1083 SHORE TO SHIP COMMUNICATION

(U) B. Accomplishments/Planned Program

Low Band Universal Communication System (LBUCS)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.639	4.841	5.622
RDT&E Articles Quantity			

FY07 Accomplishments: Completed documentation in support of Milestone B. Completed the Capability Development Document (CDD). Commenced preparation of Development and LRIP RFP for transmit terminal.
FY08: Complete Milestone B. Award Prime Contract to begin development of prototype transmit terminal for testing. Commence Engineering Development Model (EDM). Commence CPD development for transmit terminal in support of Milestone C.
FY09: Complete Preliminary Design Review (PDR) for transmit terminal. Commence preparations of acquisition documentation for receive terminal. Continue CPD development for transmit terminal. Continue EDM. Commenced preparation of Development and LRIP RFP for receive terminal. Continue updating acquisition documentation for Milestone C.

Nuclear Command, Control Communications Long Term Solution (NC3 LTS)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.377	2.168	4.246
RDT&E Articles Quantity			

FY07 Accomplishments: Completed Initial Capabilities Document (ICD). Commenced Analysis of Alternatives (AoA).
FY08: Commence Capabilities Development Document (CDD) and System Performance Specification (SPS). Commence development of Test and Evaluation Master Plan (TEMP). Commence preparation of Milestone B acquisition documentation.
FY09: Complete CDD. Complete development of TEMP. Commence preparation of Development and LRIP RFP. Commence preparation of Development and LRIP RFP. Complete preparation of Milestone B acquisition documentation.

Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.061	3.800	2.600
RDT&E Articles Quantity			

FY07 Accomplishments: Continued efforts for assessment of strategic communications capabilities and deficiencies and for evaluation of Nuclear Strategic Communications and EAM delivery.
FY08: Continuation of strategic communications capabilities and deficiencies assessment for evaluation of Nuclear Strategic Communications and EAM delivery.
FY09: Continuation of strategic communications capabilities and deficiencies assessment for evaluation of Nuclear Strategic Communications and EAM delivery.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION

(U) B. Accomplishments/Planned Program

Concept Development/Systems Planning	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.891	1.353	1.603
RDT&E Articles Quantity			

FY07 Accomplishments: Conducted testing, data collection and analysis necessary to optimize bandwidth use. Utilized the data to develop employment Continuity Of Operations (CONOPS) to maximize operational benefit. Demonstrated Joint/Allied Network Enabled Operations (NEO) in an operational environment.
FY08: Demonstrate an optimized bandwidth algorithm in a laboratory environment. Commence integrate Joint/Allied NEO with other US Navy enterprise network (FORCEnet) applications.
FY09: Demonstrate an optimized bandwidth algorithm in an operational environment. Continue the integration of Joint/Allied NEO with other FORCEnet applications.

High Voltage Improvement Program	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.427	0.410	0.521
RDT&E Articles Quantity			

FY07 Accomplishments: Completed examination of sealed Helix variometers for antenna tuning. Examined lightning protection techniques for light weight insulators from rare extremely high voltage positive lightning strikes.
FY08: Commence examination of ultra quick cut off devices to prevent overload conditions.
FY09: Complete examination of ultra quick cut off devices to prevent overload conditions. Begin examination of Nanocrystalline Ferrites to reduce the loss and size of Helix Enclosures.

Common Submarine Radio Room (CSRR)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.943	0.497	
RDT&E Articles Quantity			

FY07 Accomplishments: Completed OPEVAL of SSBN and SSGN variants. Commenced modernization development of DMR 6.4 and SHF capability.
FY08: Complete modernization development and testing of DMR and SHF capabilities.

BCA Architecture	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			0.534
RDT&E Articles Quantity			

FY09: Develop SUBOPAUTH communications tools to automate functionality at the SUBOPAUTH to reduce operational workload.

EXHIBIT R-2a, RDT&E Project Justification		**DATE:** February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER**	**PROJECT NUMBER AND NAME**
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS	1083 SHORE TO SHIP COMMUNICATION

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3107 Submarine Broadcast Support	0.663	4.141	3.139	6.972	11.494	15.139	22.213

(U) D. ACQUISITION STRATEGY:

Low Band Universal Communications System (LBUCS): Provides operational capability through the VLF architecture to ensure system life extension and flexibility of submarine broadcast traffic to the submarine in stealth posture. The flexibility includes enhanced throughput, ensuring more operational products are delivered to a submarine without risking mast exposure. Will maximize the use of Commercial Off The Shelf (COTS) and Non-Developmental Items (NDI) hardware and software. Contract award will be based on full and open competition.

The Nuclear Command, Control and Communications Long Term Solution (NC3-LTS): Will develop an approach to use Commercial Off-The-Shelf (COTS) and Non-Developmental Item (NDI) components to extend operational life of the existing system and to establish a long term solution compatible with future Global Information Grid structures. The program plans Milestone (MS)-B in 1st QTR FY10.

EXHIBIT R-3, RDT&E Project Cost Analysis			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT 0204163N FLEET COMMUNICATIONS		PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	10.258	1.089	Nov-06	3.235	Nov-07	4.555	Nov-08	Continuing	Continuing	0.000
Ancillary Hardware Development	Various	Various	0.603	0.288	Nov-06	0.275	Nov-07	0.575	Nov-08	Continuing	Continuing	0.000
Systems Engineering	CPFF	APL/JHU, Baltimore, MD	23.568	0.997	Dec-06	2.760	Nov-07	2.600	Nov-08	Continuing	Continuing	0.000
Systems Engineering	WR	SSC San Diego, CA	39.730	1.857	Nov-06	1.667	Nov-07	0.655	Nov-08	Continuing	Continuing	0.000
Systems Engineering	WR	Misc. Labs, NUWC, RI	10.973	0.800	Nov-06	0.702	Nov-07	0.498	Nov-08	Continuing	Continuing	0.000
Systems Engineering	WR	US Army, Monmouth, NJ	5.582	0.525	Nov-06	0.465	Nov-07	0.525	Nov-08	Continuing	Continuing	0.000
Systems Engineering	Various	Various	16.154									0.000
Subtotal Product Development			**106.868**	**5.556**		**9.104**		**9.408**		**Continuing**	**Continuing**	**0.000**

Remarks:

Development Support			2.671	1.695	Nov-06	0.964	Nov-07	1.157	Nov-08			0.000
Software Development	WR	SSC San Diego, CA	9.064							Continuing	Continuing	0.000
Software Development	TBD	TBD	0.000					1.220	TBD	Continuing	Continuing	0.000
Training Development			0.000									0.000
Integrated Logistics Support			0.545	0.215	Nov-06	0.200	Nov-07	0.215	Nov-08			0.000
Acquisition/Program Development			0.462	0.261	Nov-06	0.261	Nov-07	0.261	Nov-08	Continuing	Continuing	0.000
Technical Data			2.822							Continuing	Continuing	0.000
GFE			0.000									0.000
Subtotal Support			**15.564**	**2.171**		**1.425**		**2.853**		**Continuing**	**Continuing**	**0.000**

Remarks:

EXHIBIT R-3, RDT&E Project Cost Analysis

EXHIBIT R-3, RDT&E Project Cost Analysis												DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					PROGRAM ELEMENT 0204163N FLEET COMMUNICATIONS				PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COMMUNICATION			
Cost Categories	**Contract Method & Type**	**Performing Activity & Location**	**Total PY s Cost**	**FY 07 Cost**	**FY 07 Award Date**	**FY 08 Cost**	**FY 08 Award Date**	**FY 09 Cost**	**FY 09 Award Date**	**Cost to Complete**	**Total Cost**	**Target Value of Contract**
Developmental Test & Evaluation												
Operational Test & Evaluation												
Strategic OP Systems Perf Evaluation	CPFF	APL/JHU, Baltimore, MD	15.522	1.071	Dec-06	1.040	Dec-07	1.482	Dec-08	Continuing	Continuing	
System Testing	Various	Various	6.066	0.993	Dec-06	0.900	Dec-07	0.448	Dec-08	Continuing	Continuing	
Tooling												
GFE												
Subtotal T&E			**21.588**	**2.064**		**1.940**		**1.930**		**Continuing**	**Continuing**	
Remarks:												
Contractor Engineering Support	WR	US Army, Monmouth, NJ	1.194	0.081	Dec-06	0.100	Dec-07	0.201	Dec-08	Continuing	Continuing	
Government Engineering Support	WR	Various	0.845	0.244	Dec-06	0.275	Dec-07	0.457	Dec-08	Continuing	Continuing	
Program Management Support	Various	Various	4.592	0.171	Dec-06	0.175	Dec-07	0.228	Dec-08	Continuing	Continuing	
Travel			0.050	0.050		0.050		0.050				
Subtotal Management			**6.681**	**0.547**		**0.600**		**0.935**		**Continuing**	**Continuing**	
Remarks:												
Total:			**150.701**	**10.338**		**13.069**		**15.126**				

EXHIBIT R-3, RDT&E Project Cost Analysis

EXHIBIT R4, Schedule Profile			**DATE:** February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204163N FLEET COMMUNICATIONS	1083 SHORE TO SHIP COMMUNICATION - LBUCS	

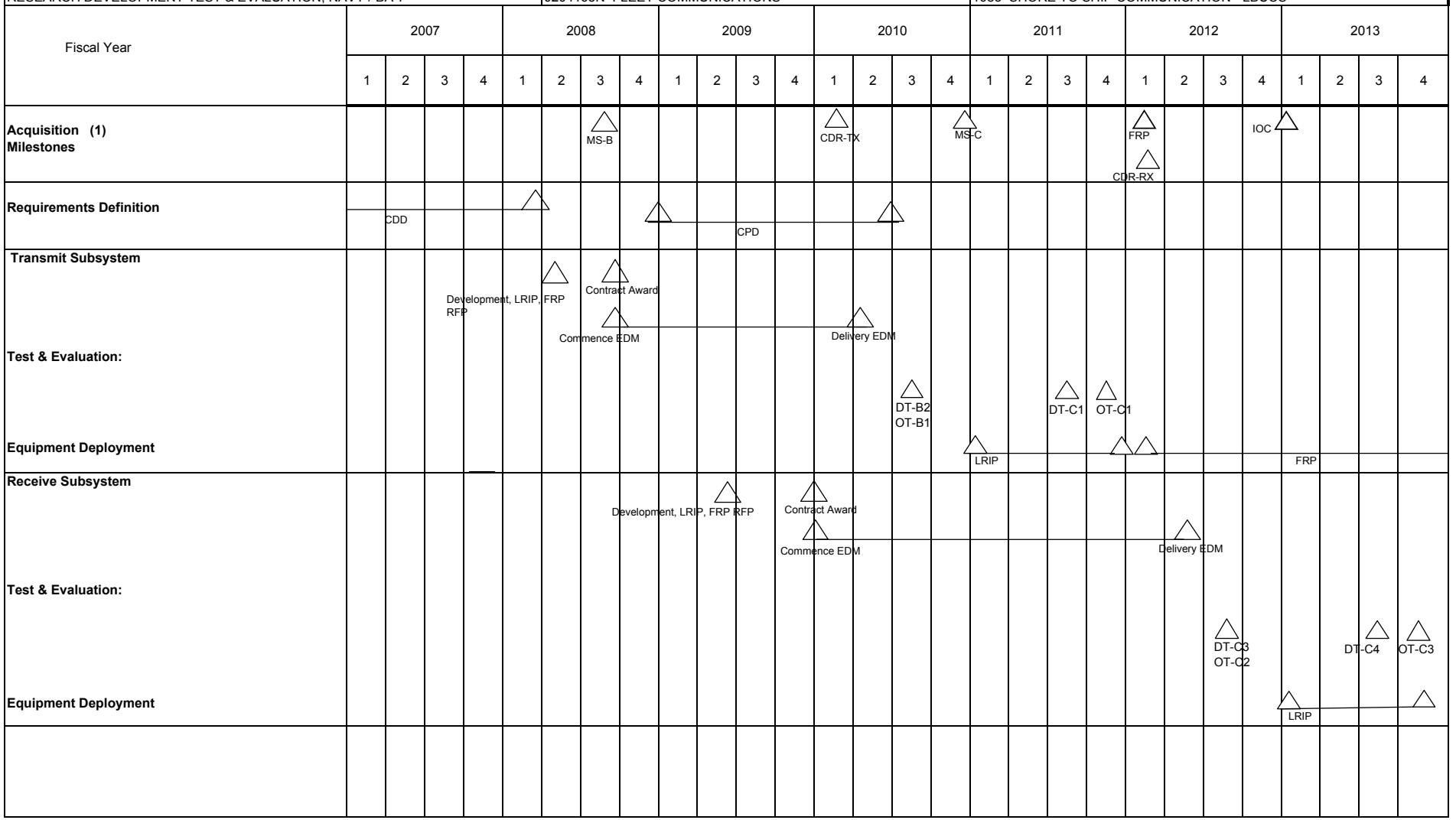


EXHIBIT R4, Schedule Profile

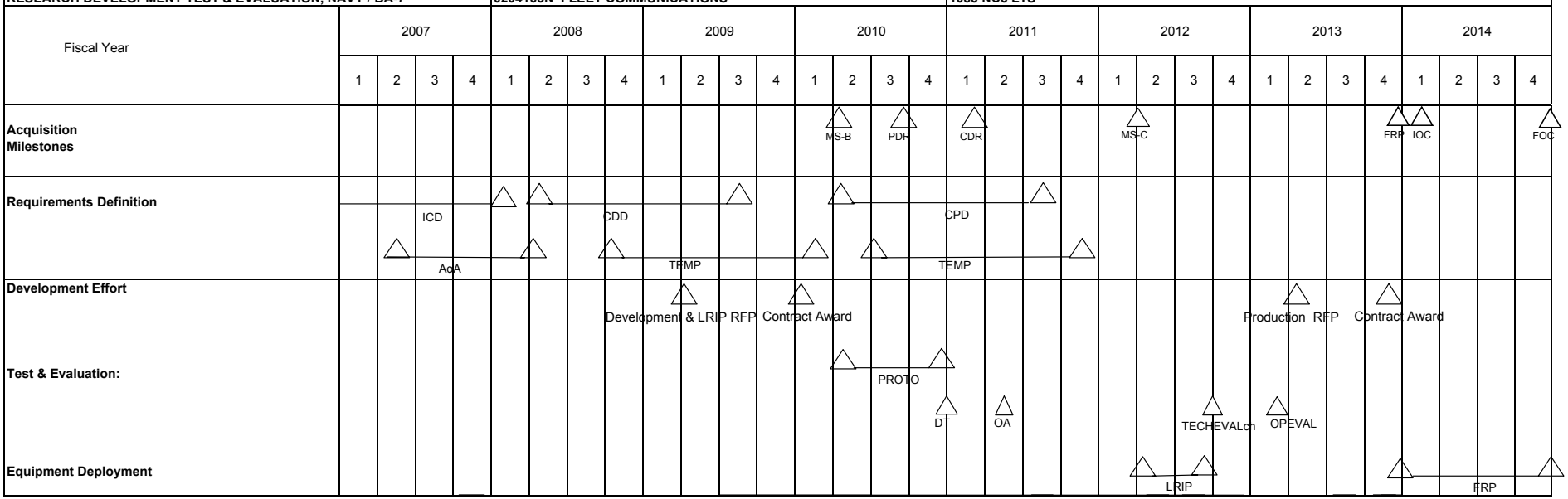
Notes:
(1) All reference to Receive have been combined with Transmit due to PEO / AMO direction. LBUCS is being acquired in a single step phased acquisition due to budget constraints.

EXHIBIT R4, Schedule Profile					**DATE:** February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	**PROGRAM ELEMENT NUMBER AND NAME** 0204163N FLEET COMMUNICATIONS			**PROJECT NUMBER AND NAME** 1083 SHORE TO SHIP COMMUNICATION - LBUCS			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Requirements Definition							
CDD	1Q-4Q	1Q					
CPD			1Q-4Q	1Q-2Q			
Milestones							
Milestone B		3Q					
CDR - Transmit				1Q			
CDR - Receive						1Q	
Milestone C				4Q			
LRIP PR					1Q		
FRP						1Q	
IOC							1Q
Transmit Subsystem Development:							
Development, LRIP and FRP RFP		2Q					
Contract Award		3Q					
EDM Development		3Q-4Q	1Q-4Q	1Q-2Q			
Test & Evaluation (DT-B2/OT-B1)				3Q			
LRIP Deployment					1Q		
Test & Evaluation (DT-C1)					3Q		
Test & Evaluation (OT-C1)					4Q		
Receive Subsystem Development:							
Development, LRIP and FRP RFP			2Q				
Contract Award				1Q			
EDM Development				1Q-4Q	1Q-4Q	1Q-2Q	
Test & Evaluation (DT-C3/OT-C2)						3Q	
LRIP Deployment							1Q
Test & Evaluation (DT-C4)							3Q
Test & Evaluation (OT-C3)							4Q

EXHIBIT R4, Schedule Profile

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile			DATE:
Nuclear Command, Control, Communications Systems - Long Term Solution			**February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	**0204163N FLEET COMMUNICATIONS**	**1083 NC3 LTS**	



CLASSIFICATION:

Exhibit R-4a, Schedule Detail **Nuclear Command, Control, Communications Systems - Long Term Solution (NC3 LTS)**					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**	PROGRAM ELEMENT **0204163N FLEET COMMUNICATIONS**			PROJECT NUMBER AND NAME **1083 NC3 LTS**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones:							
MS B				2Q			
PDR				3Q			
CDR					1Q		
MS C						2Q	
FRP							
IOC							
Requirements Definition							
ICD	1Q-4Q	1Q					
AoA	2Q-4Q	1Q-2Q					
CDD		2Q-4Q	1Q-3Q				
TEMP - MS B		4Q	1Q-4Q	1Q			
CPD				2Q-4Q	1Q-3Q		
TEMP - MS C				3Q-4Q	1Q-4Q		
Development Effort:							
Development & Production RFP			1Q-2Q				
Contract Award				1Q			
Prototype				2Q-4Q			
LRIP						2Q-3Q	
Test & Evaluation:							
Test & Evaluation (DT)				4Q			
Test & Evaluation (OA)					2Q		
Test & Evaluation- TECHEVAL (DT)						3Q	
Test & Evaluation- OPEVAL (OT)							1Q
Equipment Deployment							
Production RFP							2Q
Contract Award							4Q
FRP							

EXHIBIT R-2a, RDT&E Project Justification					**DATE:** February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		**PROGRAM ELEMENT NUMBER** 0204163N FLEET COMMUNICATIONS			**PROJECT NUMBER AND NAME** 9999 AN-USQ-155 Card Upgrade		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**0.993**					
RDT&E Articles Qty							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Develop a Radio over Internet Protocol (RoIP) interface for the Tactical Variant Switch (TVS) AN-USQ-155 radio to be compatible with Internet Protocol (IP) based communications, switching, and distribution of voice and media via common networks as well as Integrated Services Digital Network (ISDN) and analog connections.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER 0204163N FLEET COMMUNICATIONS	PROJECT NUMBER AND NAME 9999 AN-USQ-155 Card Upgrade

(U) B. Accomplishments/Planned Program

AN-USQ-155 Card Upgrade	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.993	
RDT&E Articles Quantity			

FY08: Develop a Radio over Internet Protocol (RoIP) interface for the Tactical Variant Switch (TVS) AN-USQ-155 radio to be compatible with the DoD /DoN directive for Internet Protocol (IP) based communications, switching, and distribution of voice and media via common networks as well as Integrated Services Digital Network (ISDN) and analog connections.