

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:		February 2003		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /						R-1 ITEM NOMENCLATURE PE: 0204163N TITLE: FLEET COMMUNICATIONS					
BA-7											
COST (\$ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total PE Cost	106.568	22.544	12.216	16.484	20.996	21.277	18.411	15.765	16.049	Continuing	Continuing
X0725 Communications Automation	11.498	8.428	4.646	3.271	2.935	3.011	3.637	3.703	3.772	Continuing	Continuing
X1083 Shore to Ship Communications	91.328	8.551	6.539	12.386	17.334	17.185	13.428	10.691	10.880	Continuing	Continuing
X0795 Support of MEECN	3.742	2.232	1.031	0.827	0.727	1.081	1.346	1.371	1.397	Continuing	Continuing
X9100 Programmable Integrated Communications Terminals	0.000	3.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.333
Quantity of RDT&E Articles											
(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)), Digital Wideband Transition System (DWTS) Low-Data Rate (EPLRS), Joint Network Management System (JNMS), Automated Digital Network System (ADNS), and Naval Global Directory Services.											
In FY 04 the Program of record Name changes to Tactical Messaging in order to better depict the latest technology capabilities being developed. As in previous years Tactical Messaging (formerly NAVMACS/SMSII) develops joint/combined individual and organizational message handling to US Naval ships and submarines, 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 interface to Defense Messaging System (DMS) and legacy ashore messaging systems.											
DWTS Low-Data Rate (EPLRS) Navy requires a digital wideband capability, which can be used in amphibious operations where a fixed DWTS station cannot be used. System must be interoperable with Army and Marine Corps EPLRS system. DWTS Block Upgrade BRAVO improves the fixed DWTS station to operate at higher bandwidths with greater reliability than the current system.											
The Joint Network Management System (JNMS) is a CINC, Commander, Joint Forces (CJF) joint communications planning system with Department of the Army as the Executive Agent. It is intended to be an automated software system including capabilities for planning and engineering, monitoring, control and reconfigurations, spectrum management and security.											

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Exhibit R-2, RDTEN Budget Item Justification
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-7	R-1 ITEM NOMENCLATURE PE: 0204163N TITLE: FLEET COMMUNICATIONS	
<p>ADNS provides automated routing and switching of Tactical and Strategic C4I data via Transmission Control Protocol (TCP/IP) networks linking deployed Battle Group units with each other and with the DISN ashore via multiple Radio Frequency (RF) paths. Consists of Commercial Off-The-Shelf (COTS) non-developmental Joint Tactical Architecture (JTA) compliant hardware (routers, processors, switches) and commercial Y2K compliant software (VxWorks toolkit) in a standardized, scalable shock qualified rack design. Provides Internet Protocol (IP) connectivity afloat and ashore. Merges multiple redundant stove pipe communications circuits and efficiently manages RF assets resulting in better throughput using existing RF media. Line includes Network Operation Centers (NOCs) Ashore.</p> <p>Naval Global Directory Services is a key component of the infrastructure that will be leveraged to support a variety of network operations to include, but not limited to, Single Point of Administration (SPA) and Unified Account Management; Software Distribution; White/Yellow/Blue Pages; Menu, Profile, and Application Management; Public Key Infrastructure (PKI)-enablement of applications/devices; and Network Management. The Naval Global Directory Services will leverage the Afloat deployed White Pages to construct individual ship Afloat Full Service Directories which will create a foundation for further development, over time, to create a ship-to-shore and ship-to-ship Naval Global Directory Services.</p> <p>The Shore to Ship Communications System develops communications systems elements which provide positive command and control of deployed ballistic missile submarines (SSBNs). Provides the communication elements for continuous assessment of the command and control link between Secretary of Defense and the ballistic missile platforms. Provides the tools for strategic command and control planning to deployed SSBNs.</p> <p>Minimum Essential Emergency Communications Network (MEECN) is the Tri-Service transmission system, including land-based segment, which ensures delivery of Emergency Action Messages (EAM) to our strategic platforms.</p> <p>The Programmable Integrated Communications Terminal (PICT) is a user voice terminal designed to operate with Integrated Service Digital Network (ISDN) switches and legacy switches to support both interior and radio (external) shipboard communications. The Digital Modular Radio (DMR) system will be integrated into shipboard communications systems that require remote control capability to the radio for various end user applications. These integrated communications systems will include both internal phone and internal communications such as the Integrated Voice Network (IVN) as well as external radio communications. This is a Congressional Add in FY02 .</p> <p>U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>		

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Exhibit R-2, RD TEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA-7	0204163N FLEET COMMUNICATION					X0725 Communications Automation					
COST (\$ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	11.498	8.428	4.646	3.271	2.935	3.011	3.637	3.703	3.772	Continuing	Continuing
RDT&E Articles Qty											0

(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)) is the network centric Internet Protocol (IP) solution for the processing, storage, distribution and forwarding of General Service and Defense Messaging System (DMS) organizational messages to the user's desktop throughout the IT-21 Local Area Network (LAN)/Wide Area Network (WAN). DWTS Low-Data Rate (EPLRS), Navy requires a digital wideband capability which can be used in amphibious operations where a fixed DWTS station cannot be used. System must be interoperable with Army and Marine Corps EPLRS system. Existing DWTS configuration requires improvement in order to provide more reliable performance at the highest bandwidths. DWTS and EPLRS require further development in order to meet objective range requirements; these efforts are combined under the Seabridge initiative. The Joint Network Management System (JNMS) is a CINC, Commander, Joint Forces (CJF) joint communications planning system with the Department of the Army as the Executive Agent. It is intended to be an automated software system including capabilities for planning and engineering, monitoring, control and reconfigurations, spectrum management and security. Automated Digital Network System (ADNS) provides automated routing and switching of Tactical and Strategic C4I data via Transmission Control Protocol (TCP/IP) networks linking deployed Battle Group units with each other and with the Defense Information Systems Network (DISN) ashore via multiple Radio Frequency (RF) paths. Consists of Commercial Off-The-Shelf (COTS) non-developmental Joint Tactical Architecture (JTA) compliant hardware (routers, processors, switches) and commercial Y2K compliant software (VxWorks toolkit) in a standardized, scalable shock qualified rack design. Provides Internet Protocol (IP) connectivity afloat and ashore. Merges multiple redundant stove pipe communications circuits and efficiently manages RF assets resulting in better throughput using existing RF medial. Line includes Network Operation Centers (NOCs) Ashore. Global Directory Services is a key component of the infrastructure that will be leveraged to support a variety of network operations to include, but not limited to, 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. The Global Directory Services will leverage the Afloat deployed White Pages to construct individual ship Afloat Full Service Directories which will create a foundation for further development, over time, to create a ship-to-shore and ship-to-ship Global Directory Services.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N Shore to Ship Communications Systems	PROJECT NUMBER AND NAME X0725 Communications Automation																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>DWTS (EPLRS)</td><td style="text-align: center;">1.978</td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>						FY 02	FY 03	FY 04	FY 05	DWTS (EPLRS)	1.978				RDT&E Articles Quantity				
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ADNS	2.816	0.982	0.383	0.432															
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Exhibit R-2a, RDTEN Project Justification
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N Shore to Ship Communications Systems	PROJECT NUMBER AND NAME X0725 Communications Automation																	
(U) B. Accomplishments/Planned Program																			
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	FY 02	FY 03	FY 04	FY 05															
JNMS	0.430	0.000	0.358	0.000															
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N Shore to Ship Communications Systems	PROJECT NUMBER AND NAME X0725 Communications Automation		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2002	FY 2003	FY 2004	FY 2005
(U) Funding:				
President's Budget:	9.678	4.793		
Current BES/President's Budget	8.428	4.646	3.271	2.935
Total Adjustments	-1.250	-0.147	0.000	0.000
Summary of Adjustments				
Realignment for EKMS Tier 1	-0.500			
Sec 8123 Mgmt Reform Initiative	-0.081			
FFRDC	-0.002			
SBIR	-0.088			
Miscellaneous Department Adjustments	-0.535	-0.060		
SEC 313, Rev Econ Assumptions	-0.020			
SEC 8135 Econ Assumptions	-0.024			
SEC 8100 Business Process Reform		-0.019		
SEC 8135 Econ Assumptions		-0.027		
SEC 8109 IT Cost Growth		-0.009		
FFRDC reduction		-0.032		
Subtotal	-1.250	-0.147	0.000	0.000

(U) Schedule:
Not Applicable

(U) Technical:
Not Applicable

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0204163N Shore to Ship Communications Systems			PROJECT NUMBER AND NAME X0725 Communications Automation		

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
3050 – Comm Auto - NAVMACS	14.032	11.354	7.292	10.678	11.943	1.076	2.780	3.064	Continuing	Continuing
3050 – Comm Auto – JNMS	0.613	0.000	5.721	1.429	1.715	1.974	2.170	2.217	Continuing	Continuing
3050 – Comm Auto – ADNS	27.938	30.250	15.731	2.819	14.285	7.716	15.179	15.627	Continuing	Continuing
3010 – Ship TAC Comms- DWTS	3.226	3.620	6.632	1.938	0.000	0.000	0.000	0.000		15.4155

(U) E. ACQUISITION STRATEGY: *

ADNS: Evolutionary acquisition approach with overlapping development and implementation phases for differing incremental baselines. Use existing competitively awarded contracts during the initial production phase with plans to introduce innovative contract types that implement changes consistent with acquisition streamlining initiatives. Aggressively leverage COTS products while capitalizing on acquisition reform initiatives to achieve material savings in the logistics, installation, integration and training areas. Employ many types of advantageous contract vehicles which provide flexibility, decreased contract administrative costs, and encourage acquisition streamlining through the use of COTS products.

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. The technical solutions and areas of acquisition reform will continue to emphasize procurement of best-of-breed Commercial Off The Shelf (COTS) items that provide spin-off savings in installation, spare parts support, integration, test and evaluation, and training and maintenance.

Acquisition, management and contracting strategies are to support:

- JNMS, that provides an automated software system including capabilities for planning and engineering, monitoring, control and reconfigurations, spectrum management and security
- GDS, to support 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.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2003					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N / BA-7			0204163N Shore to Ship Communications Systems			X0725 Communications Automation							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	PO	SSC	2.814								Continuing		
Ancillary Hardware Development											0.000		
Aircraft Integration											0.000		
Ship Integration											0.000		
Ship Suitability											0.000		
Systems Engineering	PO	SSC	8.207	0.371	Dec 2002	0.260	Dec 2003	0.272	Dec 2004		Continuing		
Prime Mission Product	PO	SSC	1.583	1.350	Dec 2002	0.716	Dec 2003	0.613	Dec 2004		Continuing		
Licenses											0.000		
Tooling											0.000		
GFE											0.000		
Award Fees											0.000		
Systems Engineering	CPAF	MAXIM (PMTO)	0.348	0.060	Dec 2002	0.060	Dec 2003	0.060	Dec 2004		Continuing		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
Subtotal Product Development			12.952	1.781		1.036		0.945		0.000	Continuing		
Remarks:													

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Exhibit R-3, Project Cost Analysis
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APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0204163N Shore to Ship Communications Systems			X0725 Communications Automation						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	PO	SSC	2.982	0.410	Dec 2002	0.490	Dec 2003	0.165	Dec 2004		Continuing	
Operational Test & Evaluation	MIPR	OPTEVFOR	0.315								0.315	
Operational Test & Evaluation	Var	Various	0.350								0.350	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			3.647	0.410		0.490		0.165		0.000	Continuing	
Remarks:												
Contractor Engineering Support	MPIR	US Army, Monmouth, NJ		0.123	Dec 2002	0.123	Dec 2003	0.123	Dec 2004		0.369	
Government Engineering Support											0.000	
Program Management Support	PO	SSC	1.317	0.249	Dec 2002	0.141	Dec 2003	0.145	Dec 2004		Continuing	
Program Management Support	CPAF	BAH	0.599	0.387	Dec 2002	0.285	Dec 2003	0.285	Dec 2004		Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			1.916	0.759		0.549		0.553		0.000	Continuing	
Remarks:												
Total Cost			19.926	4.646		3.271		2.935		0.000	30.778	
Remarks:												

R-1 SHOPPING LIST - Item No. 172

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 11 of 47)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2003				
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0204163N Shore to Ship Communications Systems												X0725 Communications Automation/DWTS											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	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	1	2	3	4
Acquisition Milestones																																
Prototype Phase																																
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones																																
Development Test																																
Development Test																																
Production Milestones																																
LRIP I FY 05																																
LRIP II FY 06																																
FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 172

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

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 12 of 47)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&E, N / BA-7		0204163N Shore to Ship Communications Systems				X0725 Communications Automation/DWTS		
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC) EPLRS	4Q							
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL) DWTS Block B	4Q							
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 13 of 47)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2003				
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0204163N Shore to Ship Communications Systems												X0725 Communications Automation/ADNS											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	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	1	2	3	4
Acquisition Milestones							MR IOC	☆							PBR IOC	☆																
Prototype Phase	(MR)								(PBR)																							
System Development			▲ MR SDR				▲ MR CDR				▲ PBR SDR				▲ PBR CDR																	
	PDR (MR)				Sys Dev (MR)				PDR (PBR)				Sys Dev (PBR)																			
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones																																
Development Test					▲		MR DT								▲		PBR DT															
Operational Test					▲		MR OT								▲		PBR OT															
Production Milestones																																
LRIP I FY 05																																
LRIP II FY 06																																
FRP FY 07																																
Deliveries																																

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 14 of 47)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2003								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E, N / BA-7									0204163N Shore to Ship Communications Systems									X0725 Communications Automation/ADNS														
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	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	1	2	3	4
Acquisition Milestones																		TM/QOS IOC	☆								IA/QOS IOC	☆				
Prototype Phase													(TM/QOS)							(IA/QOS)												
System Development														▲				▲				▲				▲						
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones																																
Development Test																		▲								▲						
Operational Test																		▲								▲						
Production Milestones																																
LRIP I FY 05																																
LRIP II FY 06																																
FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 172

UNCLASSIFIED

Exhibit R-4, Schedule Profile
(Exhibit R-4, page 15 of 47)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-7										0204163N Shore to Ship Communications Systems										X0725 Communications Automation/ADNS												
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	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																																
Prototype Phase																																
System Development																																
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Development Test																																
Operational Test																																
Production Milestones																																
LRIP I FY 05																																
LRIP II FY 06																																
FRP FY 07																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 172

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 16 of 47)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDTE&E, N / BA-7	PE: 0204163N	Shore to Ship Communications Systems			X0725 Communications Automation/ADNS			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
MAGTF Router (MR) R-4 #1								
Prototype Phase	1-2Q							
System Design Review (SDR)	3Q							
Preliminary Design Review (PDR)	1-4Q							
System Development		1-4Q						
Critical Design Review (CDR)		3Q						
Operational Testing (OT)		1Q						
Developmental Testing (DT)		1Q						
IOC		4Q						
Policy Based Routing (PBR) R-4 #1								
Prototype Phase			1-2Q					
System Design Review (SDR)			3Q					
Preliminary Design Review (PDR)			1-4Q					
System Development				1-4Q				
Critical Design Review (CDR)				3Q				
Operational Testing (OT)				1Q				
Developmental Testing (DT)				1Q				
IOC				4Q				
Traffic Management/QOS (TM/QOS) R-4 #2								
Prototype Phase				1-2Q				
System Design Review (SDR)				3Q				
Preliminary Design Review (PDR)				1-4Q				
System Development					1-4Q			
Critical Design Review (CDR)					3Q			
Operational Testing (OT)					1Q			
Developmental Testing (DT)					1Q			
IOC					4Q			
Voice Over IP (VOIP) R-4 #3								
Prototype Phase					1-2Q			
System Design Review (SDR)					3Q			
Preliminary Design Review (PDR)					1-4Q			
System Development						1-4Q		
Critical Design Review (CDR)						3Q		
Operational Testing (OT)						1Q		
Developmental Testing (DT)						1Q		
IOC						4Q		
Interim Advanced QOS (IA/QOS) R-4 #2								
Prototype Phase						1-2Q		
System Design Review (SDR)						3Q		
Preliminary Design Review (PDR)						1-4Q		
System Development							1-4Q	
Critical Design Review (CDR)							3Q	
Operational Testing (OT)							1Q	
Developmental Testing (DT)							1Q	
IOC							4Q	
Advanced QOS (AQOS) R-4 #3								
Prototype Phase							1-2Q	
System Design Review (SDR)							3Q	
Preliminary Design Review (PDR)							1-4Q	
System Development								1-4Q
Critical Design Review (CDR)								3Q
Operational Testing (OT)								1Q
Developmental Testing (DT)								1Q
IOC								4Q

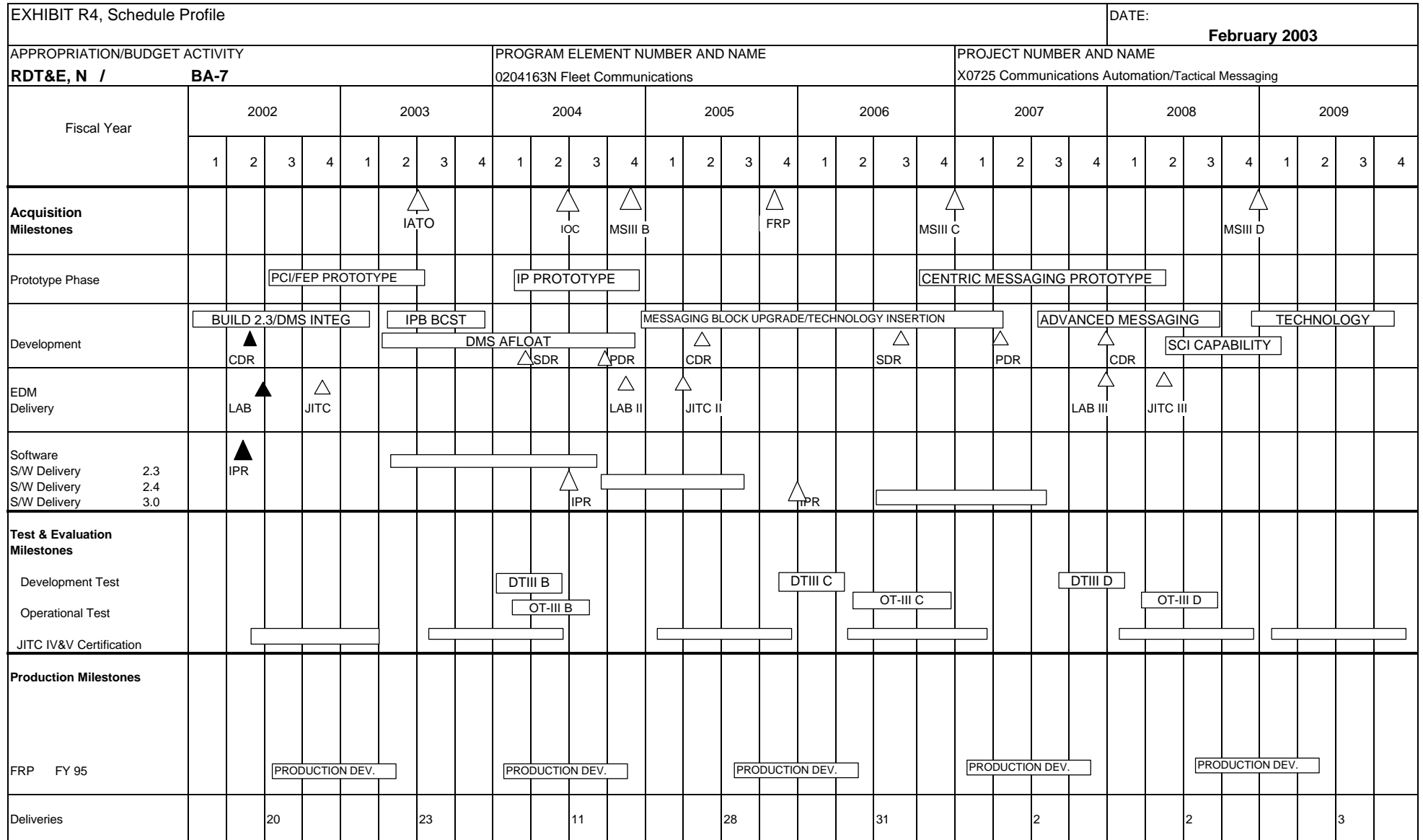
R-1 SHOPPING LIST - Item No. 172

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 17 of 47)

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CLASSIFICATION:



R-1 SHOPPING LIST - Item No. 172

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT 0204163N Fleet Communications				PROJECT NUMBER AND NAME X0725 Communications Automation/Tactical Messaging			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
IATO		2Q-3Q						
IOC			2Q-3-Q					
Milestone III B			4Q					
FRP				4Q				
Milestone III C					4Q			
Milestone III D							4Q	
PCI/FEP Prototype	3Q-4Q	1Q-3Q						
IP Prototype			1Q-4Q	1Q				
Centric Messaging Prototype					4Q	1Q-4Q	1Q-2Q	
Build 2.3/DMS Integration	1Q-4Q	1Q						
DMS Afloat		1Q-4Q	1Q-4Q					
IP Broadcast		2Q-4Q						
Messaging Block Upgrade/Tech Insertion			4Q	1Q-4Q	1Q-4Q	1Q-2Q		
Advanced Messaging						3Q-4Q	1Q-3Q	
SCI Capability							2Q-4Q	1Q
Technology							4Q	1Q-4Q
CDR	2Q			2Q		4Q		
SDR			1Q-2Q		3Q			
PDR			3Q-4Q			2Q		
EMD - Lab	2Q-3Q		4Q			4Q	1Q	
EMD - JITC	4Q			1Q-2Q			2Q	
S/W Delivery 2.3		2Q-4Q	1Q-3Q					
S/W Delivery 2.4			3Q-4Q	1Q-3Q				
S/W Delivery 3.0					3Q-4Q	1Q-3Q		
IPR	2Q		2Q-3Q	4Q				
Development Test			1Q-2Q	4Q	1Q-2Q	3Q-4Q	1Q	
Operational Test			2Q-3Q		2Q-4Q		1Q-3Q	
JITC IV&V Certification	1Q-4Q	1Q, 3Q-4Q	1Q-2Q	1Q-4Q	2Q-4Q	1Q	1Q-4Q	1Q-4Q
Deliveries	20	23	11	28	31	2	2	3

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 19 of 47)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA-7	0204163N FLEET COMMUNICATION					X1083 Shore to Ship Communications Systems					
COST (\$ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	91.328	8.551	6.539	12.386	17.334	17.185	13.428	10.691	10.880	Continuing	Continuing
RDT&E Articles Qty											0

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

This project develops communications systems elements that provide positive command and control of deployed ballistic missile submarines (SSBNs) and fleet submarine broadcast connectivity to SSNs and SSBNs. This project provides enhancements to the shore-to-ship transmitting systems and the Submarine Low Frequency (LF)/Very Low Frequency (VLF) Versa Module Eurocard (VME) Receiver (SLVR) System. This project also provides submarine unique capabilities to the Network Operation Center (NOC) and Broadcast Command Authority (BCA). The NOC and the BCA provide the oversight and control for all fixed submarine broadcasts. Evaluation of this communications system 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 BCA/OPCONs to ensure Continuity of Operations (COOP) in the event of a BCA outage. Submarine Communications Support System (SCSS) accomplishes the integration of component systems into single radio room configuration. Phase I integration and land-based test of SCSS was completed, at sea testing will be completed in FY03 (schedule change due to September 11) and the follow on phase II efforts have been renamed Common Submarine Radio Room (CSRR). In support of the CSRR, multifunctional crypto system (MCS) is being developed. This project contributes to the development and certification of the MCS. Technologies to improve high voltage insulators, bushings, composite bushings and antenna components used in the Fixed VLF (FVLF) transmit systems are evaluated and tested through the High Voltage Improvement Program (HVIP). EAM 2010 will provide a communications path in support of the Joint Operational Architecture (JOA) for time-critical EAMs to be disseminated across AOR's in support of Joint operations. This project implements the Joint Staff EAM Board of Directors (BoD) direction to "ensure an acquisition strategy exists for a viable long-term EAM dissemination solution (EAM 2010) prior to recommending AUTODIN/DTH closure in FY03." A VLF Shore Transmit Terminal will be developed for 6 Broadcast Transmit Sites (BTS). Development of the terminal will use technology and designs common to an airborne terminal developed for the E-6B Airborne Command Post (ABNCP).

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N Fleet Communications	PROJECT NUMBER AND NAME X1083 Shore to Ship Communications Systems																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 02</th> <th style="width: 15%;">FY 03</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> </tr> <tr> <td>High Voltage Improvement Program</td> <td style="text-align: center;">0.368</td> <td style="text-align: center;">0.547</td> <td style="text-align: center;">0.351</td> <td style="text-align: center;">0.431</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 02	FY 03	FY 04	FY 05	High Voltage Improvement Program	0.368	0.547	0.351	0.431	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
High Voltage Improvement Program	0.368	0.547	0.351	0.431															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>FY02 ACCOMPLISHMENTS: Completed high voltage on-site testing and evaluation of composite bushings with focus on development of system to detect onset of corona breakdown which will provide a heightened protection to present day carrier cutoff systems at FVLF sites.</p> <p>FY03: Complete development of system to detect onset of corona breakdown which will provide a heightened protection to present day carrier cutoff systems at FVLF sites. Initiate development of electrically small antennas for VLF/LF transmit applications.</p> <p>FY04: Complete testing of system to detect onset of corona breakdown which will provide a heightened protection to present day carrier cutoff systems at FVLF sites. Complete development of electrically small antennas for VLF/LF transmits applications.</p> <p>FY05: Complete development of remote corona monitoring/sensing system capability for FVLF sites.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 02</th> <th style="width: 15%;">FY 03</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> </tr> <tr> <td>Common Submarine Radio Room (CSRR)</td> <td style="text-align: center;">1.090</td> <td style="text-align: center;">0.925</td> <td style="text-align: center;">1.012</td> <td style="text-align: center;">1.117</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 02	FY 03	FY 04	FY 05	Common Submarine Radio Room (CSRR)	1.090	0.925	1.012	1.117	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Common Submarine Radio Room (CSRR)	1.090	0.925	1.012	1.117															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>FY02 ACCOMPLISHMENTS: Planned SCSS Phase I at –sea testing (platform schedule changes due to Sept 11 prevented completion of at-sea testing) and started engineering, integration and test for CSRR architecture and component upgrades and continue development of MCS.</p> <p>FY03: Continue engineering, integration and test for CSRR architecture and component upgrades and complete development and testing of MCS.</p> <p>FY04: Complete engineering, integration, test and land-based certification of SSBN variant of CSRR. Tailor engineering and integration for SSN688 variant of CSRR.</p> <p>FY05: Conduct at-sea OPEVAL of SSBN CSRR variant. Continue engineering, integration, and test of SSN688 CSRR variant.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 02</th> <th style="width: 15%;">FY 03</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> </tr> <tr> <td>SLVR</td> <td style="text-align: center;">2.495</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 02	FY 03	FY 04	FY 05	SLVR	2.495	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
SLVR	2.495	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>FY02 ACCOMPLISHMENTS: Completed development of ELF integration into SLVR and commenced system level testing to meet FY03 Virginia Class requirement.</p> </div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N Fleet Communications	PROJECT NUMBER AND NAME X1083 Shore to Ship Communications Systems		
(U) B. Accomplishments/Planned Program				
	FY 02	FY 03	FY 04	FY 05
SCAP/CEP	3.531	3.882	4.263	4.319
RDT&E Articles Quantity				
FY02 ACCOMPLISHMENTS: Continued SCAP, conducted CEP and strategic connectivity threats, and performed analysis. FY03-FY05: Continue SCAP, conduct CEP and strategic connectivity threats, and perform analysis.				
	FY 02	FY 03	FY 04	FY 05
Shore Internet Protocol	0.670	0.700	0.000	0.000
RDT&E Articles Quantity				
FY02 ACCOMPLISHMENTS: Conducted research and development necessary for integration of shore based submarine unique capabilities at the Network Operation Center (NOC) and Broadcast Control Authority (BCA). FY03: Complete research and development necessary for development of shore based submarine unique capabilities at the NOC and BCA.				
	FY 02	FY 03	FY 04	FY 05
Concept Development/Systems Planning	0.397	0.485	0.954	1.697
RDT&E Articles Quantity				
FY02 ACCOMPLISHMENTS: Investigated technology and initiated design concepts for integrated FVLf dynamic control system. FY03: Continue design concept and initial feasible studies for integrated FVLf dynamic control system. FY04: Begin development of methods to provide the operational flexibility of dynamic bandwidth control of the Fixed Submarine Broadcast System (FSBS). FY05: Continue development of dynamic bandwidth control capability.				

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 22 of 47)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N Fleet Communications	PROJECT NUMBER AND NAME X1083 Shore to Ship Communications Systems																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>SUBOPAETH</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">1.246</td><td style="text-align: center;">2.251</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	SUBOPAETH	0.000	0.000	1.246	2.251	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
SUBOPAETH	0.000	0.000	1.246	2.251															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div> <p>FY04: Develop architecture to ensure automated SUBOPAETH back-up strategy to support Continuity of Operations (COOP). FY05: Develop automated toolsets to facilitate ease in manning burden to support operational and broadcast control for submarines.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>EAM 2010</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">4.560</td><td style="text-align: center;">4.703</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	EAM 2010	0.000	0.000	4.560	4.703	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
EAM 2010	0.000	0.000	4.560	4.703															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div> <p>FY04: Conduct a System Requirements Analysis, develop an Operational Requirements Document ORD for EAM 2010 and begin the Analysis of Alternatives. FY05: Develop computer modeling and simulations, complete the EAM 2010 Analysis of Alternatives and initiate the acquisition program process.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>VLF Transmit Terminal</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">1.324</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	VLF Transmit Terminal	0.000	0.000	0.000	1.324	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
VLF Transmit Terminal	0.000	0.000	0.000	1.324															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div> <p>FY05: Shore site integration of a common VLF transmit terminal developed for the E-6B Airborne Command Post (ABNCP).</p>																			

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 23 of 47)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N Fleet Communications	PROJECT NUMBER AND NAME X1083 Shore to Ship Communications Systems																	
(U) B. Accomplishments/Planned Program																			
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	FY 02	FY 03	FY 04	FY 05															
VLF Receive Modes	0.000	0.000	0.000	1.492															
RDT&E Articles Quantity																			
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	0.000	0.000	0.000	0.000															
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	0.000	0.000	0.000	0.000															
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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2002</th> <th style="text-align: right;">FY 2003</th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>President's Budget:</td> <td style="text-align: right;">9.097</td> <td style="text-align: right;">6.716</td> <td></td> <td></td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">8.551</td> <td style="text-align: right;">6.539</td> <td style="text-align: right;">12.386</td> <td style="text-align: right;">17.334</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.546</td> <td style="text-align: right; border-top: 1px solid black;">-0.177</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>BTR for Joint Mission Planning System Combat One</td> <td style="text-align: right;">-0.179</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sec 8100, Business Process Reform</td> <td></td> <td style="text-align: right;">-0.027</td> <td></td> <td></td> </tr> <tr> <td>FFRDC Reduction</td> <td style="text-align: right;">-0.004</td> <td style="text-align: right;">-0.015</td> <td></td> <td></td> </tr> <tr> <td>Section 8123: Management Reform Initiative</td> <td style="text-align: right;">-0.080</td> <td></td> <td></td> <td></td> </tr> <tr> <td>SBIR</td> <td style="text-align: right;">-0.058</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sec 313, PL 107-206, Revised Economic Assumptions</td> <td style="text-align: right;">-0.019</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sec 8109, IT Cost Growth</td> <td></td> <td style="text-align: right;">-0.012</td> <td></td> <td></td> </tr> <tr> <td>Miscellaneous Department Adjustments</td> <td style="text-align: right;">-0.182</td> <td style="text-align: right;">-0.085</td> <td></td> <td></td> </tr> <tr> <td>Sec 8135, Economic Assumptions</td> <td style="text-align: right;">-0.024</td> <td style="text-align: right;">-0.038</td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.546</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.177</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable</p> <p style="margin-top: 40px;">(U) Technical: Not Applicable</p>						FY 2002	FY 2003	FY 2004	FY 2005	(U) Funding:					President's Budget:	9.097	6.716			Current BES/President's Budget	8.551	6.539	12.386	17.334	Total Adjustments	-0.546	-0.177	0.000	0.000	Summary of Adjustments					BTR for Joint Mission Planning System Combat One	-0.179				Sec 8100, Business Process Reform		-0.027			FFRDC Reduction	-0.004	-0.015			Section 8123: Management Reform Initiative	-0.080				SBIR	-0.058				Sec 313, PL 107-206, Revised Economic Assumptions	-0.019				Sec 8109, IT Cost Growth		-0.012			Miscellaneous Department Adjustments	-0.182	-0.085			Sec 8135, Economic Assumptions	-0.024	-0.038			Subtotal	-0.546	-0.177	0.000	0.000
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0204163N Shore to Ship Communications Systems			PROJECT NUMBER AND NAME X1083 Shore to Ship Communications Systems			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
3107 Submarine Broadcast Support	16.890	5.314	16.591	18.021	13.406	13.510	18.690	18.875	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

CSRR will integrate CNO N6 communication programs into the submarine radio rooms. The program has been designated an ACAT III due to the radio room system level Operational Test requirement and the amount of funding required to execute the program. Each class variant (SSBN, SSN) will require design integration and operational testing. The milestone decision authority is SPAWAR PD-17. The CSRR program is proceeding to a Milestone C decision in 3rd Quarter FY03. The procurement of equipment will be accomplished by the established program offices; the integration of the equipment into the submarine environment will be conducted by the NAVSEA Undersea Warfare Center; and the installation will be accomplished by SPAWAR System Center, Charleston. VLF Transmit Terminal shall adapt a single channel airborne system to a multiple channel shore environment. The adaptation will maximize the use of Commercial Off The Shelf (COTS) and Non-Developmental Items (NDI) hardware and software. Procurement contract award will be based on full and open competition. EAM 2010 will use COTS and NDI to replace aging EAM distribution components. The program plans MS-A in 1ST QTR FY05. Procurement contract award will be based on full and open competition. SUBOPAUTH is a phased acquisition using COTS and NDI. Procurement contract award will be based on full and open competition.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0204163N Fleet Communications			PROJECT NUMBER AND NAME X1083 Shore to Ship Communications Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	3.900	0.750	12/02	2.000	12/03	4.338	11/04	Continuing	Continuing	
Ancillary Hardware Development											0.000	
Systems Engineering	CPFF	APL/JHU, Baltimore, MD	20.752	0.346	12/02	0.498	12/03	1.060	12/04	Continuing	Continuing	
Systems Engineering	WR	SSC San Diego, CA	33.458	0.435	N/A	0.315	N/A	3.077	N/A	Continuing	Continuing	
Systems Engineering	WR	Misc. Labs, NUWC, RI	8.051	0.225	11/02	0.900	11/03	0.824	11/04	Continuing	Continuing	
Systems Engineering	WR	US Army, Monmouth, NJ	4.210	0.000	N/A	0.250	11/03	0.650	11/04	Continuing	Continuing	
Systems Engineering	Various	Various	0.290								0.290	
Systems Engineering	CPFF	Rockwell, Richardson, TX	15.864	0.000	N/A	0.000	N/A	0.000	N/A		15.864	
Systems Engineering											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			86.525	1.756		3.963		9.949		0.000	102.193	
Remarks:												
Development Support											0.000	
Software Development	WR	SSC San Diego, CA	3.000	1.767	11/02	1.603	11/03	2.300	11/04	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	Various	Various				2.600					2.600	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			3.000	1.767		4.203		2.300		0.000	11.270	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0204163N Fleet Communications			PROJECT NUMBER AND NAME X1083 Shore to Ship Communications Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Strategic OP Systems Perf Evaluation	CPFF	APL/JHU, Baltimore, MD	4.100	2.100	12/02	2.400	12/03	2.900	12/04	Continuing	Continuing	
Systems Testing	Various	Various	2.445	0.682	11/02	1.064	11/03	1.117	11/04	Continuing	Continuing	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			6.545	2.782		3.464		4.017		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	3.829	0.234	11/02	0.756	11/03	1.068	11/04		5.887	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			3.829	0.234		0.756		1.068		0.000	5.887	
Remarks:												
Total Cost			99.899	6.539		12.386		17.334		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 28 of 47)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-7								0204163N Fleet Communications												X1083 Shore to Ship Communications Systems - CSRR												
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	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							MS-C △																									
Test & Evaluation Milestones																																
Production Milestones																																
Deliveries																																

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

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[illegible]

R-1 SHOPPING LIST - Item No. 172

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 30 of 47)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE:												
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												0204163N Fleet Communications												X1083 Shore to Ship Communications Systems SUBOPAETH											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	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							
AAP																																			
Prototype Phase I																																			
Prototype Phase II																																			
Prototype Phase III																																			
Test & Evaluation Milestones																																			
Development Test																																			
Operational Test																																			
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Phase I																																			
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R-1 SHOPPING LIST - Item No. 172

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

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 31 of 47)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 172

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 32 of 47)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2003								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7												PROGRAM ELEMENT NUMBER AND NAME 0204163N Fleet Communications												PROJECT NUMBER AND NAME X1083 Shore to Ship Communications Systems - EAM 2010								
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	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													MS-A △				MS-B △				MS-C △											
Prototype Phase													Prototype Phase																			
Test & Evaluation Milestones																																
Development Test																	DT															
Operational Test																					OT&E											
Production Milestones																																
FRP FY08																					FRP (1) △				FRP (4) △							
Deliveries																																

R-1 SHOPPING LIST - Item No. 172

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 33 of 47)

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R-1 SHOPPING LIST - Item No. 172

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 34 of 47)

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EXHIBIT R4, Schedule Profile																										DATE:						
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0204163N Fleet Communications												X1083 Shore to Ship Communications Systems - VLF Transmit Terminal											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	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				
AAP																MS-B △				MSC ★					IOC ★							
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Deliveries																																

R-1 SHOPPING LIST - Item No. 172

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 35 of 47)

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[illegible]

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 36 of 47)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATION				PROJECT NUMBER AND NAME X0795 Support of MEECN					
COST (\$ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	3.742	2.232	1.031	0.827	0.727	1.081	1.346	1.371	1.397	Continuing	Continuing
RDT&E Articles Qty											0
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Support of Minimum Essential Emergency Communications Network (MEECN). MEECN is the Tri-Service communication system that ensures delivery of Emergency Action Messages (EAMs) to our strategic platforms including the land based delivery system components. Because of substantial downsizing in the number of MEECN assets, such as the CINC Airborne National Command Post (ABNCP) fleet, it is necessary to improve the range, timeliness and reliability of MEECN communications to maintain connectivity to the platforms. This project identifies, researches, and develops improvements to the MEECN primarily in the Very Low Frequency and Low Frequency (VLF/LF) ranges of MEECN. The new High Data Rate (HIDAR) mode, which greatly reduces message transmission time while providing the performance of low data rate modes, has been deployed. Improvements in mode design and signal processing are being investigated for MEECN application into a common Unified Mode design to support all VLF Strategic Platforms. A new generation of high performance universal mode will be defined to provide a single standard MEECN replacement to take advantage of new computer processing capability.</p>											

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 37 of 47)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATION	PROJECT NUMBER AND NAME X0795 Support of MEECN																	
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RDT&E Articles Quantity																			
<p>FY02: Completed MEECN Mode Standard updates and verification of Mode Standard performance in MEECN testbed. Completed evaluation of commercial programmable crypto and developed a non-AUTODIN based Emergency Action Messages (EAMs) delivery system.</p> <p>FY03: Update improved MEECN Mode design for ease in moderate processor implementations. Continue non-AUTODIN based Emergency Action Messages (EAMs) delivery system (NOVA Hybrid Solution) and complete NOVA Hybrid Solution certification testing to support the FY03 AUTODIN closure. Evaluate transverse electric/magnetic antenna pattern combining methods for improved MEECN mode.</p> <p>FY04: Conduct engineering tests of the unified MEECN mode to demonstrate interoperability between Navy and Air Force strategic assets. Implement unified MEECN mode into VLF receiver equipment.</p> <p>FY05: Complete engineering tests of the unified MEECN mode to demonstrate interoperability and begin JCS certification of unified MEECN mode for EAM handling.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 02</th> <th style="width: 15%;">FY 03</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
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RDT&E Articles Quantity																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 38 of 47)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																																																																																						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATION	PROJECT NUMBER AND NAME X0795 Support of MEECN																																																																																							
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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 39 of 47)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATION			PROJECT NUMBER AND NAME X0795 Support of MEECN					
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable										
 (U) E. ACQUISITION STRATEGY:										
Not Applicable										

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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204163N FLEET COMMUNICATION				PROJECT NUMBER AND NAME X9100 Programmable Integrated Communications Terminals					
COST (\$ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost		3.333									3.333
RDT&E Articles Qty											0
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Programmable Integrated Communications Terminal (PICT) is a user voice terminal which is designed to operate with Integrated Service Digital Network (ISDN) switches and legacy switches to support both interior and radio (external) shipboard communications. The Digital Modular Radio (DMR) system will be integrated into shipboard communications systems that require remote control capability to the radio for various end user applications. These integrated communications systems will include both internal phone and internal communications such as the Integrated Voice Network (IVN) as well as external radio communications.</p>											

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Exhibit R-2a, RDTEN Project Justification
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Exhibit R-2a, RDTEN Project Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2003
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204163N Shore to Ship Communications Systems	PROJECT NUMBER AND NAME X9100 Programmable Integrated Communications Terminals
(U) C. PROGRAM CHANGE SUMMARY:		
(U) Funding:	FY 2002	FY 2003 FY 2004 FY 2005
Previous President's Budget:	0.000	
Current BES/President's Budget	3.333	
Total Adjustments	3.333	
Summary of Adjustments		
Programmable Integrated Computer Terminals	3.400	
Section 8123: Mgmt Reform Initiative	-0.030	
FY2002 SBIR	-0.021	
Sec 313, Rev Econ Assumptions	-0.007	
Sec 8135 Econ Assumptions	-0.009	
Subtotal	3.333	
(U) Schedule:		
Not Applicable		
(U) Technical:		
Not Applicable		

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 43 of 47)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204163N Shore to Ship Communications Systems			PROJECT NUMBER AND NAME X9100 Programmable Integrated Communications Terminals																										
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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 45 of 47)

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Exhibit R-3, Project Cost Analysis
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204163N Shore to Ship Communications Systems			X9100 Programmable Integrated Communications Terminals						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	PO	SSC	0.600								0.600	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.600	0.000		0.000		0.000		0.000	0.600	
Remarks:												
Contractor Engineering Support											0.000	
Program Management Support	PO	SSC	0.150								0.150	
Program Management Support	CPAF	BAH (PMTO)	0.069								0.069	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.219	0.000		0.000		0.000		0.000	0.219	
Remarks:												
Total Cost			3.333	0.000		0.000		0.000		0.000	3.333	
Remarks:												

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