CLASSIFICATION:

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 0303109N Satellite Communications (Space)				
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**728.480**	**724.771**	**652.463**	**500.926**	**314.330**	**203.365**	**150.512**
0728 EHF Satellite Communications (SATCOM) Terminals	77.678	105.495	122.280	84.067	17.396	17.711	18.037
0731 Fleet Satellite Communications	2.075	9.033	8.117	3.133	1.150	2.674	2.808
2472 Mobile User Objective System	645.851	598.190	516.807	393.245	249.733	106.893	48.146
9122 Advanced Wideband System/Transformational Communications	0.000	7.880	5.259	20.481	46.051	76.087	81.521
9999 Congressional Adds	2.876	4.173	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	23	1	0	0	4	0	20

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

(U) 0728 EHF SATCOM Terminals:

The Navy Multiband Terminal (NMT) Program is the required Navy component to the Advanced Extremely High Frequency (AEHF) Program for enhancing protected and survivable satellite communications to Naval forces. The NMT system provides an increase in single service capability from 1.5 Megabits per second (Mbps) to 8 Mbps, increases the number of coverage areas and retains Anti-Jam/Low Probability of Intercept (A/J, LPI) protection characteristics. It is compatible with today's Navy Low Data Rate/Medium Data Rate (LDR/MDR) terminals and will sustain the Military Satellite Communications (MILSATCOM) architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on Navy terminal capabilities of the Military Strategic, Tactical & Relay (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Gapfiller System (WGS) and Global Broadcast System (GBS) systems. The new system will equip the warfighters with the assured, jam resistant, secure communications as described in the joint AEHF Satellite Communications System and WGS Operational Requirements Documents (ORD). Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the ORD. The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

The Commercial Broadband Satellite Program (CBSP) will support satellite communications terminals and shore connectivity to the Navy Points of Presence through the use of Commercial off-the-Shelf (COTS) terminals, commercial satellite land earth stations, and terrestrial fiber services.

(U) 0731 Fleet Satellite Communications:

The Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) Control System provides replacement of all non-Chairman Joint Chiefs Staff Instruction (CJCSI) 6251.01 UHF MILSATCOM legacy equipment at Naval Computer & Telecommunications Area Master Station (NCTAMS) Atlantic (LANT), NCTAMS Pacific (PAC), Naval Computer & Telecommunications Station (NCTS) Naples and NCTS Guam; also replaces non-supportable aging WSC-5 terminals. Provides centralized control of full UHF Follow-On (UFO) satellite constellation. Expands channel control capacity with Digital Modular Radio (DMR) at NCTAMS/NCTS; each site will control up to 152 non-processed UHF MILSATCOM channels in adjacent satellite coverage areas using both physical and virtual channel control techniques. Remains backward compatible with all versions of all Demand Assigned Multiple Access (DAMA) waveforms; supports future waveform modifications and additions. Implements decentralized management of UHF SATCOM communications assets. Automated planning and management of UHF MILSATCOM resources with the Network Management System (NMS). Maintains planning reference data: terminals, networks, configuration codes. Defines and ranks communication service requirements. CJCSI 6251.01 Rev B states MILSTD-188-181C/182B/183B (Integrated Waveform or IW) as optional waveforms for terminals. This requires mandatory implementation into JMINI Control System. The FY 2008 funding supports joint services development with Defense Information Systems Agency (DISA) for Integrated Waveform Technology and software development into JMINI control system architecture. Effort will entail system prototyping, Developmental Testing (DT), and waveform compliance testing. Beginning in FY 2009, funding supports development of next generation JMINI control system to replace non-supported equipment, reduce system components, support technology insertion and system re-architecture.

CLASSIFICATION:		
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 0303109N Satellite Communications (Space)

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

(U) 0731 Fleet Satellite Communications (continued):
The Sensitive Compartmented Information Networks (SCI Networks) is an evolutionary acquisition program designed to provide enabling technology necessary to provide Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of Special Intelligence (SI)/SCI data through a secure, controllable network interface with the Automated Digital Network System (ADNS) architecture. Specifically, SCI Networks shall ensure the availability of networks in defiance of hostile Information Warfare (IW). Technical, physical, and procedural security will be used to control access, protect Department of Navy (DoN) information technology resources, and ensure continuous operation of the system within an accredited security posture. This network connectivity will greatly expand the capability of cryptologic and intelligence personnel to fully interact with shore based nodes to provide expanding support to their commanders, including situational awareness, Indications and Warning (I&W), enemy force intentions, intelligence preparation for the Battlefield, and Battle Damage Assessment (BDA). The SCI Networks will provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of Sensitive Information (SI) operations not achievable with current systems.

The SCI Networks program will start migrating to the Integrated Shipboard Network System (ISNS) Increment 2/Consolidated Adaptive Network Edge Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, and secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video, and Data; Common Computing Environment (CCE); Services Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).

Manage and coordinate resourcing of experiments and pilot testing of Internet Protocol version 6 (IPv6) technologies to reduce acquisition and operational risk associated with the IPv6 transition. Experiments identified are in direct support of and identified in the Navy Technical Transition Strategy for IPv6. Prepare several test facilities and produce test events to determine applicability of IPv6 technologies to support the needs of operational Navy through Tactical Networks, Wireless Networks, and the forthcoming Consolidated Adaptive Network Edge Services (CANES) networking program.

Maritime integrated Broadcast Service (MIBS) (formerly Tactical Data Information Exchange Subsystem Broadcast (TADIXS-B)) Program Charter is to deliver Integrated Broadcast Service (IBS) data to operational and tactical decision makers aboard US Navy ships, submarines, aircraft, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other theater tactical, operational, and strategic users. MIBS will give the Navy a capability to delivery near real time data, enhancing the Common Operational Picture (COP), to support operations in all warfare areas, including; Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASUW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompass all Maritime (Navy, Coast Guard, and Air Force) IBS systems (Joint Tactical Terminal (JTT and Radiant Ether (RE)). These systems will provide the Navy, Coast Guard other joint platforms with a coherent approach to fielding maritime IBS systems to take advantage of all available pathways and services, minimize the waste of resources by doing away with duplication of development and fielding of different IBS systems.

Radiant Ether (RE): An IBS network solution that provides IBS data to users via SIPRNET, while minimizing utilized bandwidth. RE is a concept for net-centric software-based processing of Integrated Broadcast Service-Simplex (IBS-S) and Integrated Broadcast Service-Interactive (IBS-I) data. The software will transmit and receive all IBS data through the shipboard network. It is envisioned to reside on the ship's GENSER SECRET LAN, providing IBS data to required Tactical Data Processors (TDPs) via Transmission Control Protocol/Internet Protocol (TCP/IP) or specific cable interfaces with possible transmit capabilities.

(U) 2472 Mobile User Objective System:
The Mobile User Objective System (MUOS) program provides for the development of the next generation Department of Defense (DoD) advanced narrowband communications satellite constellation. The current Ultra-High Frequency (UHF) Follow-On (UFO) constellation is projected to degrade below acceptable availability parameters in 2009. The MUOS program is funded to the August 2004 Operational Requirements Document (ORD).

This MUOS Research Development Test & Evaluation, Navy (RDTEN) effort supports a Milestone Decision Authority (MDA) approved On-Orbit Capability (OOC) in 2010 and Full Operational Capability (FOC) in 2014. A MUOS Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 to Lockheed Martin after Key Decision Point (KDP) B. The approval at KDP-B in September 2004 officially designated the MUOS Program as a DoD Space Major Defense Acquisition Program. FY 2007 - FY 2009 MUOS efforts are focused on Critical Design Review (CDR), beginning work on the spacecraft engineering development models, and fabrication, assembly, integration and testing of the first two satellites. In addition, efforts will include the design, development, fielding and testing of the ground segment.

CLASSIFICATION:		
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 0303109N Satellite Communications (Space)	

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

(U) Funding in the amount of $4M in FY09 and $38M in FY10 is provided for UHF Hosted Payload. UHF Hosted Payload may serve as a gap filler solution during the transition from the UFO to MUOS constellations. In FY 2009, the Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload.

(U) The FY 2008 President's Budget effected an OSD-directed transfer in FY 2009 of $180M from WPN to RDTEN. This change was the result of direction from the Milestone Decision Authority (MDA) to fund the MUOS program to the OSD Cost and Analysis Improvement Group's (CAIG) FY 2009 estimate. In the FY 2009 President's Budget, WPN funds have been provided to properly fund the launch vehicle and production support. In addition, the MDA directed the Navy to continue to fund FY 2009 through FY 2012 to the CAIG estimate. By doing this, the RDTEN controls were adjusted in the following manner: FY 2009 -$90M, FY 2010 +$59.9M, FY 2011 +$132.8M, FY 2012 +$46.8M.

(U) 9122 Advanced Wideband System/Transformational Communications:
The Navy Transformational Communications (TC) Terminal Satellite Communications (SATCOM) program provides for the development and production of terminals to provide high capacity reliable, low probability of intercept (LPI), Anti-Jam (AJ), communications capability to the fleet. Terminals will support multiple data streams over Q-band, Ka-band, and X-band. The terminals will also support mesh networking without the need for gateway terminals. Development will focus on a Local Area Network (LAN) to Antenna capability, including quality of service required for Navy unique missions. Advanced Wideband System/Transformational Communications (AWS/TC) Program draft acquisition strategy consists of terminal suite development and environmental qualification, on-orbit testing, platform integration and test, software enhancements and regression testing throughout the life of the program.

(U) 9999 Congressional Adds:
The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Satellite Communication (SATCOM) (Military and Commercial) multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. The project was realigned to Program Executive Office for Command, Control, Communications, Computers, Intelligence and Space (PEO C4I & Space) from the United States Air Force starting in FY 2004 . This project includes conducting JIST-NET software development and engineering analysis. The project is currently in the system development and demonstration phase; and has been approved as a pre-acquisition project. The long-term goal is to provide dynamic real time or near real time apportionment, allocation, and adjudication of satellite resources for the warfighters based on priorities and requirements as assigned by the Operational Command.

FY08 includes a Congressional increase for a "Field Programmable Processor Array (FPPA) for Space Based "Reconfigurable" Wide Field of View Sensor". The objective is to increase the Technology Readiness Level (TRL) of reconfigurable technology for future satellite systems. Such technology should reduce the cost and development schedule and improve the flexibility of processors needed for future satellite systems. Onboard applications would be targeted toward applications such as future satellite reconnaissance, surveillance and strategic missile warning systems that may use Wide Field of View (WFOV) Staring Sensors and large format Focal Plane Arrays (FPAs).

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / **BA 7**	0303109N Satellite Communications (Space)	

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2007	FY 2008	FY 2009
FY 2008 President's Budget	748.416	736.572	736.485
FY 2009 President's Budget	728.480	724.771	652.463
Total Adjustments	-19.936	-11.801	-84.022
Summary of Adjustments			
Miscellaneous Adjustments	-1.481	0.000	-2.542
SBIR	-18.427	-10.902	0.000
Congressional Adjustments	-0.028	-0.899	0.000
Realignment of MUOS funding to WPN	0.000	0.000	-81.480
Subtotal	-19.936	-11.801	-84.022

(U) Schedule:

EHF SATCOM Terminals (project 0728)

System Design and Development (SDD) contract awarded Oct 2003. Required Acquisition Strategy Report (ASR) approved June 2002, and ASR Update approved July 2003. Schedule development effort to support the additional Software Communication Architecture (SCA) scope and cost are incorporated into the program baseline. Competitive down select occurred June 2007.

Fleet Satellite Comm. (project 0731)

SCI Networks: Minor software delivery and testing updates. Events added for migration to ISNS Inc 2/CANES beginning in FY09 to move to a Common Computing Environment (CCE) and Service Oriented Architecture (SOA).

Mobile User Objective System (project 02472)

No significant schedule changes.

Advanced Wideband System/Transformational Communications (project 9122)

Program Office began Acquisition Strategy development and refinement in FY 2004. Milestone B is currently projected in FY 2011.

(U) Technical:

Mobile User Objective System (project 02472)

Funding in the amount of $4M in FY09 and $38M in FY10 is provided for UHF Hosted Payload. UHF Hosted Payload may serve as a gap filler solution during the transition from the UFO to MUOS constellations. In FY 2009, the Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	77.678	105.495	122.280	84.067	17.396	17.711	18.037
RDT&E Articles Qty	20						

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

(U) The Navy Multiband Terminal (NMT) Program is the required Navy component to the Advanced Extremely High Frequency (AEHF) Program for enhancing protected and survivable satellite communications to naval forces. The NMT system provides an increase in single service capability from 1.5 Megabits per second (Mbps) to 8 Mbps, increases the number of coverage areas and retains Anti-Jam/Low Probability of Intercept (AJ/LPI) protection characteristics. It is compatible with today's Navy Low Data Rate / Medium Data Rate (LDR/MDR) terminals and will sustain the Military Satellite Communications (MILSATCOM) architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on Navy terminal capabilities of the Military Strategic, Tactical & Relay System (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Gapfiller Satellite (WGS), and Global Broadcast Systems (GBS). The new system will equip the warfighters with assured, jam resistant, secure communications as described in both the joint AEHF Satellite Communications System and the WGS Operational Requirement Documents (ORD). Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the ORD. The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

(U) The Commercial Broadband Satellite Program (CBSP) will support satellite communications terminals and shore connectivity to the Navy Points of Presence through the use of Commercial off-the-Shelf (COTS) terminals, commercial satellite land earth stations, and terrestrial fiber services.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0728 EHF SATCOM Terminals

(U) B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Commercial Broadband Satellite Program (CBSP) (Formerly New-Start Commercial Terminal)	0.000	3.929	4.948
RDT&E Articles Quantity			

(U) CBSP
(U) **FY 2008:** Commence development of acquisition documentation including Acquisition Program Baseline (APB), Life Cycle Cost Estimate (LCCE), Test & Evaluation Master Plan (TEMP), Acquisition Strategy/Acquisition Plan (AS/AP), Integrated Logistics Assessment (ILA), Clinger-Cohen Act (CCA) compliance documentation, Information Support Plan (ISP), market research, and engineering studies. Commence testing of COTS terminals.
(U) **FY 2009**: Complete development of acquisition documentation and testing of COTS terminals.

	FY 2007	FY 2008	FY 2009
NMT Development, First & Second Phases	77.678	101.566	117.332
RDT&E Articles Quantity	20		

(U) First and second phases of Navy Multiband Terminal (NMT) development for System Design and Development (SDD) for ship, shore, and submarine platforms.
(U) **FY 2007**: Completed terminal hardware and software development for 8 Software Communications Architecture (SCA) compliant NMT prototypes. Performed over-the-air testing of NMT prototypes and conducted vendor down-select. Commenced design and development of 20 Q/Ka capable Engineering Development Models (EDMs) and initiated development of the X-band add-on for submarine platforms. EDM test sets were required at the following sites: one set at contractor facility for testing, one set shared between East/West coast government facilities for program and joint interoperability testing, and one set for operational assessment on platforms. Each set is composed of two ship, one sub and one shore terminal configurations. In addition, eight EDMs were planned as first of class platform installations for unique environmental testing and production phase risk reduction.
(U) **FY 2008**: Continue design and development of 20 Q/Ka capable EDMs, X-band add-ons for submarines, and X/Ka kits for ships. Additional security measures will be incorporated into the terminal software and hardware to support Department of Defense (DoD) Information Technology Security Certification and Accreditation Process (DITSCAP) certification prior to EDM fielding for Developmental Test /Operational Test (DT/OT).
(U) **FY 2009**: Complete design and development of 20 Q/Ka capable EDMs, X-band add-ons for submarines, and continue development of X/Ka upgrade kits for ships. Additional security measures included in terminal software and hardware will be incorporated and tested via DITSCAP testing. EDMs will be delivered and installed on ship and submarine platforms and a shore site to support DT/OT and preparations for Milestone C.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0728 EHF SATCOM Terminals

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
3215 - OPN Ship and Shore	8.800	26.834	29.909	104.697	195.520	196.857	198.389
NMT				84.789	182.462	186.890	190.511
CBSP	8.800	26.834	29.909	19.908	13.058	9.967	7.878

(U) Related RDT&E:
(U) PE 0303603F, MILSTAR
(U) PE 0303601F, Air Force Satellite Communications

(U) D. ACQUISITION STRATEGY:

(U) NMT concept exploration contracts were awarded in FY 2001. Two SDD contracts were competitively awarded in FY 2004 for the development and demonstration of four prototype terminals per vendor (eight total). In FY 2007, a down select to Raytheon occurred for the development, demonstration and procurement of 20 EDMs which will incorporate integrated multi-band capabilities for Q/Ka band, Submarine X-Band, and Ship X/Ka frequency band communication requirements.

U) CBSP will support satellite communications terminals and shore connectivity to the Navy Points of Presence through the use of COTS terminals, commercial satellite land earth stations, and terrestrial fiber services. Acquisition documentation development and concept studies and analyses will be accomplished using existing contracts.

(U) E. MAJOR PERFORMERS:

Raytheon, Marlborough, MA - NMT SDD Vendor; EDM contract option exercised June 07
Naval Undersea Warfare Center (NUWC), Newport, RI - NMT Technical Director; annual WX document

(U) F. METRICS:

NMT Earned Value Management (EVM) is used for metrics reporting and risk management.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: 0303109N Satellite Communications (Space)

PROJECT NUMBER AND NAME: 0728 EHF SATCOM Terminals

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	CPAF	Various	138.313	38.442	11/06	0.199	10/07	0.150	10/08			
Hardware Development	C/FFP	Harris (Melbourne, FL)	6.551									
NMT EDM Development	CFAF	Raytheon (Marlborough, MA)		19.669	06/07	80.151	10/07	90.718	10/08	Continuing	Continuing	
Hardware Development	WR	SSC SD (San Diego, CA)	1.077									
Hardware Development	WR	SSC CH (Charleston, SC)										
Ancillary Hardware Development	CPAF	Raytheon (Marlborough, MA)	57.790									
Software Development	WR	NUWC (Newport, RI)	9.161									
Software Development	CPAF	Raytheon (Marlborough, MA)	3.692									
Software Development	WR	Various										
Systems Engineering	WR	SSC SD (San Diego, CA)	14.169	1.730	10/06	1.830	10/07	1.903	10/08	Continuing	Continuing	
Systems Engineering	WR	NUWC (Newport, RI)	7.345	4.065	10/06	4.129	10/07	4.294	10/08	Continuing	Continuing	
Systems Engineering	Various	Various	12.376	7.786	10/06	10.205	10/07	8.433	10/08	Continuing	Continuing	
Government Furnished Equipment (GFE)	Various	Various	10.114			0.100		0.050				
Subtotal Product Development			260.588	71.692		96.614		105.549		Continuing	Continuing	

Remarks:

Development Support	WR	Various	7.504			0.133		4.000	10/08	Continuing	Continuing	
Logistics Support	Various	Various		0.784	10/06	0.798	10/07	1.021	10/08	Continuing	Continuing	
Studies & Analysis	WR	Various	6.126			0.333		0.243	10/08	Continuing	Continuing	
Information Assurance	Various	Various	1.409			0.275		1.068	10/08	Continuing	Continuing	
Subtotal Support			15.039	0.784		1.539		6.332		Continuing	Continuing	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: 0303109N Satellite Communications (Space)

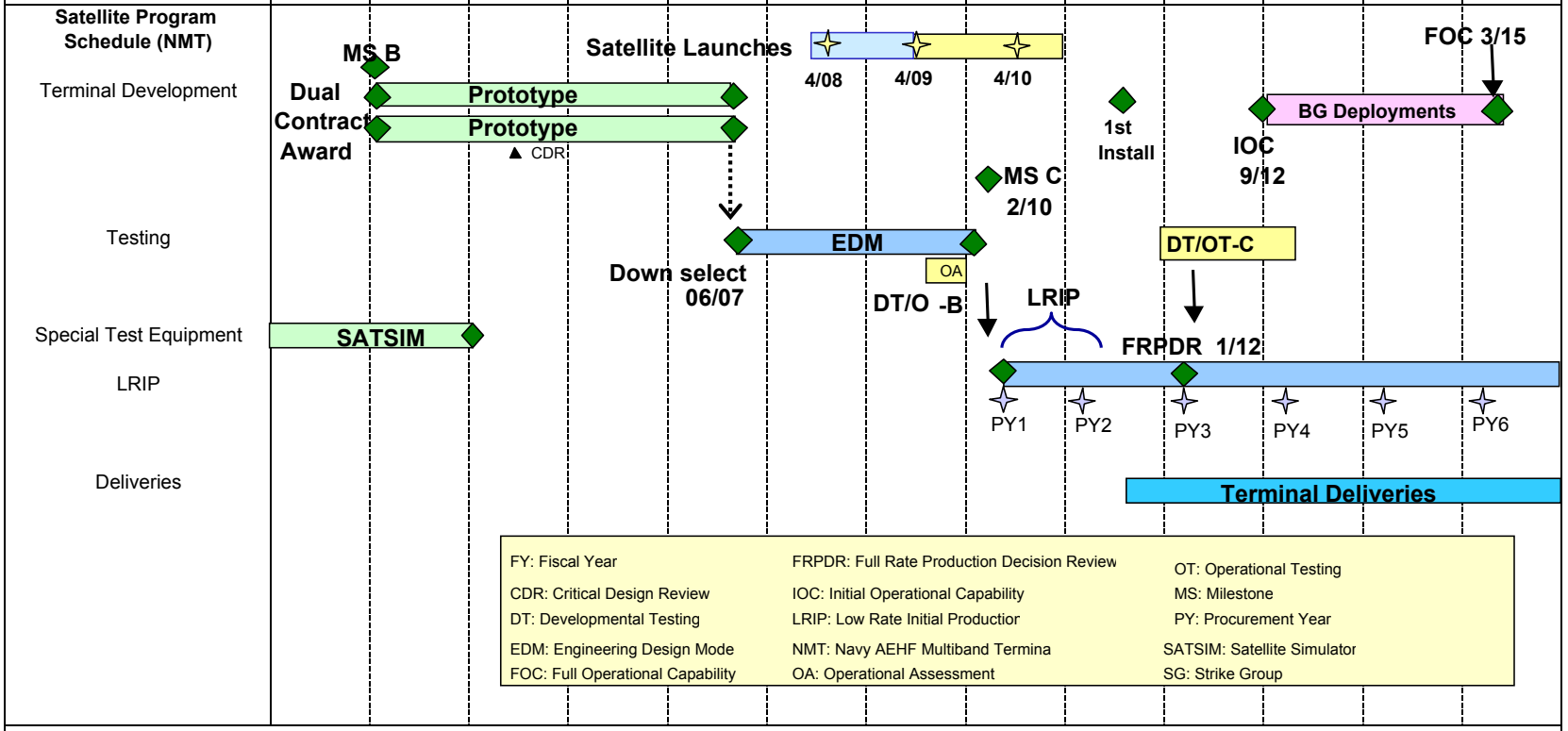
PROJECT NUMBER AND NAME: 0728 EHF SATCOM Terminals

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC SD	10.787	1.491	10/06	1.518	10/07	1.145	10/08	Continuing	Continuing	
Operational Test & Evaluation	WR	Various	0.556					1.000	10/08	Continuing	Continuing	
Subtotal T&E			11.343	1.491		1.518		2.145		Continuing	Continuing	
Remarks:												
Contract Management	Various	Various	4.109	0.824	10/06	1.089	10/07	1.633	10/08	Continuing	Continuing	
Program Management	Various	Various	5.899	1.248	10/06	1.900	10/07	3.276	10/08	Continuing	Continuing	
Acquisition Management	Various	Various		1.489	10/06	2.312	10/07	3.045	10/08	Continuing	Continuing	
Acquisition Management	WR	NCCA	0.353			0.300	10/07					
Travel		Gov't Travel	0.314	0.150	10/06	0.223	10/07	0.300	10/08	Continuing	Continuing	
Subtotal Management			10.675	3.711		5.824		8.254		Continuing	Continuing	
Remarks:												
Total Cost			297.645	77.678		105.495		122.280		Continuing	Continuing	
Remarks:												

Exhibit R-3, RDTEN Cost Analysis

CLASSIFICATION:

EXHIBIT R4, Schedule Profile	DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303109N - Satellite Communications (Space)	PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals



Note:
Reflects development of 20 Engineering Development Models (EDMs)

Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N - Satellite Communications (Space)				PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Prototype Complete		3Q						
EDM Begins (Quantity = 20)		3Q						
Developmental Testing				4Q				
Operational Assessment				4Q				
Milestone C					2Q			
Start Low-Rate Initial Production I (LRIP I)					2Q			
Start Low-Rate Initial Production II						1Q		
Low-Rate Initial Production I Delivery						2Q		
Developmental Testing							1Q	
Operational Testing							2Q	
Full Rate Production Decision Review (FRPDR)							2Q	
Initial Operational Capability (IOC)							4Q	
Full Operational Capability (FOC) (NOTE 1)								

NOTE 1: FOC is scheduled for 2Q FY 2015.

Exhibit R-4a, RDTEN Schedule Detail

CLASSIFICATION:

EXHIBIT R4, Schedule Profile	DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVIT	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)	0728 EHF SATCOM Terminals

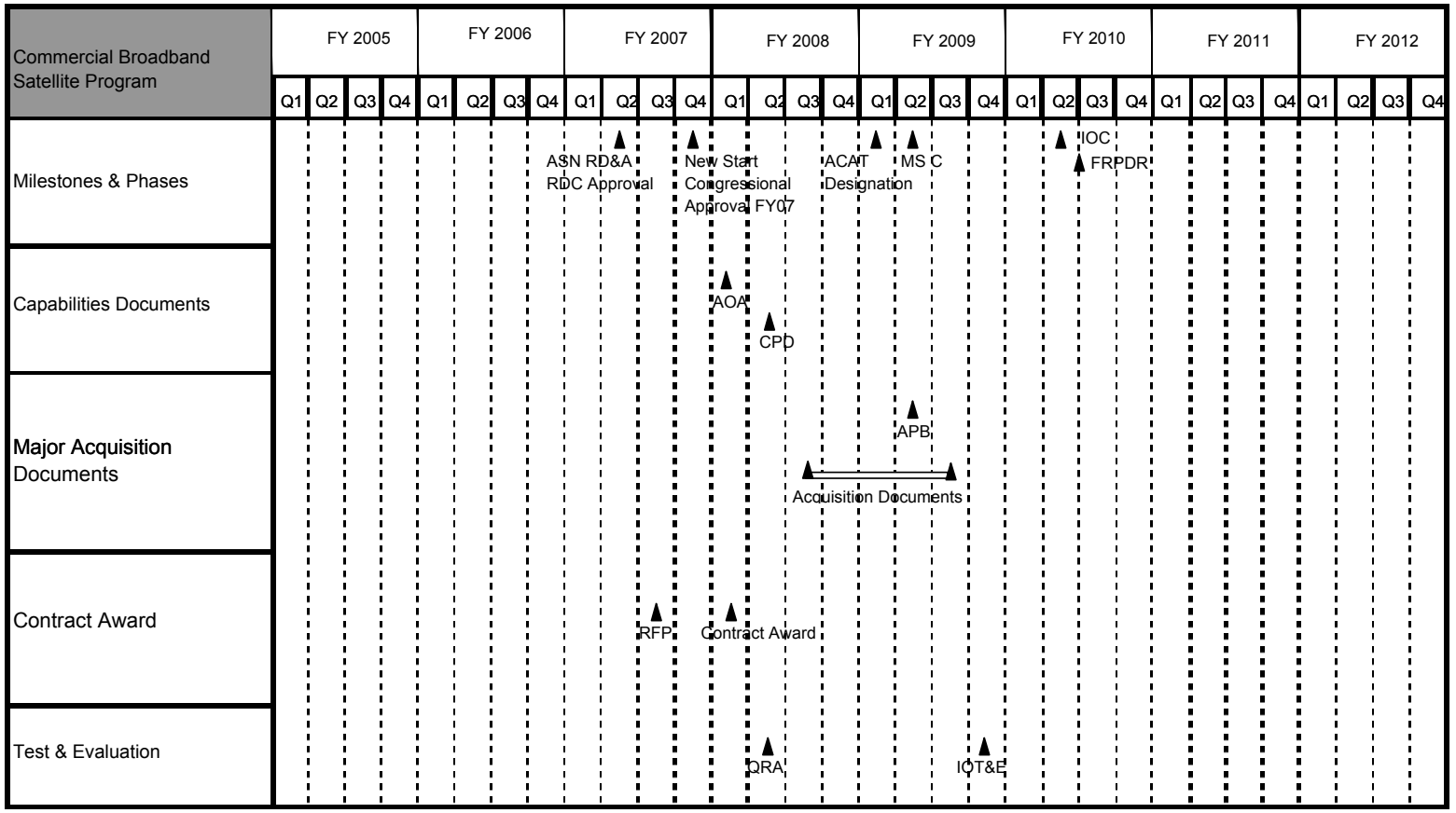


Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N - Satellite Communications (Space)				PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone C				2Q				
IOC					2Q			
Capabilities Documentation - Analysis of Alternatives (AoA)			1Q					
Capabilities Documentation - Capability Production Document (CPD)			2Q					
Acquisition Documentation Process Begins			3Q					
Acquisition Documentation Process Ends				3Q				
Contract Award - Request for Proposal (RFP) Begins		3Q						
Contract Award - RFP Ends			1Q					

Exhibit R-4a, RDTEN Schedule Detail

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.075	9.033	8.117	3.133	1.150	2.674	2.808
RDT&E Articles Qty							

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

(U) The Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) Control System provides replacement of all non-Chairman Joint Chiefs Staff Instruction (CJCSI) 6251.01 UHF MILSATCOM legacy equipment at Naval Computer & Telecommunications Area Master Station (NCTAMS) Atlantic (LANT), NCTAMS Pacific (PAC), Naval Computer & Telecommunications Station (NCTS) Naples and NCTS Guam; also replaces non-supportable aging WSC-5 terminals. Provides centralized control of full UHF Follow-On (UFO) satellite constellation. Expands channel control capacity with Digital Modular Radio (DMR) at NCTAMS/NCTS; each site will control up to 152 non-processed UHF MILSATCOM channels in adjacent satellite coverage areas using both physical and virtual channel control techniques. Remains backward compatible with all versions of all Demand Assigned Multiple Access (DAMA) waveforms; supports future waveform modifications and additions. Implements decentralized management of UHF SATCOM communications assets. Automated planning and management of UHF MILSATCOM resources with the Network Management System (NMS). Maintains planning reference data: terminals, networks, configuration codes. Defines and ranks communications service requirements. CJCSI 6251.01 Rev B states MILSTD-188-181C/182B/183B (Integrated Waveform or IW) as optional waveforms for terminals. This requires mandatory implementation into JMINI Control System. The FY 2008 funding supports joint services development with Defense Information Systems Agency (DISA) for Integrated Waveform Technology and software development into JMINI control system architecture. Effort will entail system prototyping, Developmental Testing (DT), and waveform compliance testing. Beginning in FY 2009, funding supports development of next generation JMINI control system to replace non-supported equipment, reduce system components, support technology insertion and system re-architecture.

(U) The Sensitive Compartmented Information Networks (SCI Networks), is an evolutionary acquisition program designed to provide enabling technology necessary to provide Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of Special Intelligence (SI)/SCI data through a secure, controllable network interface with the Automated Digital Network System (ADNS) architecture. Specifically, SCI Networks shall ensure the availability of networks in defiance of hostile Information Warfare (IW). Technical, physical, and procedural security will be used to control access, protect Department of Navy (DoN) information technology resources, and ensure continuous operation of the system within an accredited security posture. This network connectivity will greatly expand the capability of cryptologic and intelligence personnel to fully interact with shore based nodes to provide expanding support to their commanders, including situational awareness, indications and warning (I&W), enemy force intentions, intelligence preparation for the Battlefield, and Battle Damage Assessment (BDA). The SCI Networks will provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of Sensitive Information (SI) operations not achievable with current systems.

The SCI Networks program will start migrating to the Integrated Shipboard Network System (ISNS) Increment 2/Consolidated Adaptive Network Edge Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, and secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video, and Data; Common Computing Environment (CCE); Services Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).

(U) Maritime integrated Broadcast Service (MIBS) (formerly Tactical Data Information Exchange Subsystem Broadcast (TADIXS-B)): Program Charter is to deliver Integrated Broadcast Service (IBS) data to operational and tactical decision makers aboard US Navy ships, submarines, aircraft, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other theater tactical, operational, and strategic users. MIBS will give the Navy a capability to delivery near real time data, enhancing the Common Operational Picture (COP), to support operations in all warfare areas, including; Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASUW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompass all Maritime (Navy, Coast Guard, and Air Force) IBS systems (Joint Tactical Terminal (JTT and Radiant Ether (RE)). The systems will provides the Navy, Coast Guard other joint platforms with a coherent approach to fielding maritime IBS systems to take advantage of all available pathways and services, minimizes the waste of resources by doing away with duplication of development and fielding of different IBS systems.

(U) Radiant Ether (RE): An IBS network solution that provides IBS data to users via SIPRNET, while minimizing utilized bandwidth. RE is a concept for net-centric software-based processing of Integrated Broadcast Service-Simplex (IBS-S) and Integrated Broadcast Service-Interactive (IBS-I) data. The software will transmit and receive all IBS data through the shipboard network. It is envisioned to reside on the ship's GENSER SECRET LAN, providing IBS data to required Tactical Data Processors (TDPs) via Transmission Control Protocol/Internet Protocol (TCP/IP) or specific cable interfaces with possible transmit capabilities.

(U) Manage and resource / coordinate resourcing of experiments and pilot testing of Internet Protocol version 6 (IPv6) technologies to reduce acquisition and operational risk associated with the IPv6 Transition. Experiments identified are in direct support of and identified in the Navy Technical Transition Strategy for IPv6.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0731 Fleet Satellite Communications

(U) B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JMINI IW Development	0.000	8.162	6.600
RDT&E Articles Quantity			

(U) FY 2007: N/A

(U) FY 2008: The FY08 funding supports joint services development with Defense Information Systems Agency (DISA) for Integrated Waveform (IW) Technology and software development into Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) control system architecture.
Effort will entail system prototyping, Developmental Testing (DT) and waveform compliance testing.

(U) FY 2009: Completes IW Technology and software development into Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) control system architecture. Start development of next JMINI control system to replace non-supported equipment, reduce system components, support tech insertion and system re-architecture. Upgrade will work to replace Radio Terminal (RT)-1771's, Modem (MD) -1324's, and various Sun, Oracle and Window end-of-life components that will require software design and integration.

	FY 2007	FY 2008	FY 2009
SCI Networks	2.075	0.687	0.700
RDT&E Articles Quantity			

(U) FY 2007: Continued integration and implementation of SCI Networks and associated Special Intelligence Communications. Began development of AN/USQ-148A(V)5, AN/USQ-148B(V)3, and AN/USQ-148G(V)2 systems. Performed Lab Developmental Test (DT) of COMPOSE 3.0 software and COMPOSE 2.0.3 with AN/USQ-148D(V)2. Began the design and development of a new server rack.

(U) FY 2008: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. Complete development of AN/USQ-148A(V)5 and AN/USQ-148B(V)3 systems. Continue development of AN/USQ-148G(V)2. Conduct Lab DT on AN/USQ-148A(V)5 and AN/USQ-148B(V)3 systems for Submarines and associated Broadcast Control Authority (BCA) shore sites. Perform Developmental Testing (DT) and Observation of Operational Capability (OOC) of COMPOSE 2.0.3 with AN/USQ-148D(V)2. Conduct Ship/Shore DT and OOC for COMPOSE 3.0 with AN/USQ-148D(V)2. Complete design and development of new server rack.

(U) FY 2009: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. Complete development of AN/USQ-148G(V)2 system. Conduct Lab DT on AN/USQ-148G(V)2 and COMPOSE 3.5. Conduct DT and OOC on AN/USQ-148A(V)5 and AN/USQ-148B(V)3 systems for Submarines and associated Broadcast Control Authority (BCA) shore sites. Begin integration of SOA 1.0 into the SCI environment. Start migration to ISNS Inc 2/CANES.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0731 Fleet Satellite Communications

(U) B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
MIBS/Radiant Ether	0.000	0.000	0.624
RDT&E Articles Quantity			

(U) FY 2007: N/A

(U) FY 2008: N/A

(U) FY 2009: The FY09 funding supports development of Radiant Ether Internet Protocol (IP) based architecture to receive, process, display Integrated Broadcast Service (IBS) data for the Navy. Effort will entail design architecture testing, documentation, development and operational testing, Integrated Logistics Support certification and training.

	FY 2007	FY 2008	FY 2009
IPv6 Transition	0.000	0.184	0.193
RDT&E Articles Quantity			

(U) FY 2007: N/A

(U) FY 2008: Manage and resource / coordinate resourcing of experiments and pilot testing of IPv6 technologies. The projected work products for FY 2008 will include planning and Test & Evaluation (T&E) documentation required to support acquisition programs identified as critical IPv6 elements. Additionally, these funds will be utilized to coordinate cross PEO and Joint Service efforts in order to reduce acquisition costs within Navy.

(U) FY 2009: Manage and resource / coordinate resourcing of experiments and pilot testing of IPv6 technologies. The projected work products for FY 2009 will include continuation of FY 2008 efforts. Additionally, Navy programs of record supported will expand to begin to include software application migration support

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	**BA-7**	0303109N Satellite Communications (Space)	0731 Fleet Satellite Communications

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN - Comm Auto - 3050 - SCI NETWORKS	25.226	17.053	19.245	9.733	9.184	5.423	5.509	Continuing	Continuing
OPN - Sat Comm - 3215 - JMINI	0	0.160	2.852	0.222	6.569	0.622	0	0	10.425

(U) D. ACQUISITION STRATEGY:

JMINI: The Integrated Waveform upgrade will be performed as a software only enhancement to the JMINI Control System. It will be joint developed with DISA with a planned software upload date of June 2009. The technical refresh of the JMINI system starting in FY 2009 will be comprised of software and hardware development for channel controller for integration into the Radio Terminal (RT) -1771 terminal replacement. The effort will commence at Milestone (MS) B in FY 2009. Development Test and Evaluation (DT&E) testing will be conducted in existing laboratory environment to ensure software maturity prior to Operational Test and Evaluation (OT&E) planned in 1Q FY 2011.

SCI Networks: SCI Network variants are comprised of Commercial Off the Shelf (COTS) equipment and Government Off the Shelf (GOTS) software integrated into SCI Networks designs associated with each class of ship. Next Generation versions are being considered for acquisition via the Lockheed Martin Q-70 contract vehicle.

MIBS: The Radiant Ether (RE) will be comprised of software developed by the Air Force and commercial hardware. RE will provide Internet Protocol (IP) based Integrated Broadcast Service (IBS) capability to the fleet. The efforts include Development Test and Evaluation (DT&E) conducted in existing laboratory environment to ensure software maturity prior to Operational Test and Evaluation (OT&E).

IPv6: IPv6 testing and experimentation will be used to manage the risk of transition within existing Programs of Record (PORs). Ultimately, the results of the testing and experimentation will influence the acquisition of IPv6 capable products.

(U) E. Major Performers:

JMINI: SPAWAR Systems Center San Diego (SSC SD), Defense Information Systems Agency (DISA)

SCI Networks: SPAWAR Systems Center, San Diego (SSC SD) / SPAWAR Systems Center, Charleston (SSC CH) / Lockheed Martin, Eagan, MN.

MIBS: SPAWAR Systems Center, San Diego (SSC SD) / SPAWAR Systems Center, Charleston (SSC CH)

IPv6: SPAWAR Systems Center, San Diego (SSC SD) / SPAWAR Systems Center, Charleston (SSC CH)

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1) | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7** | PROGRAM ELEMENT: 0303109N Satellite Communications (Space) | PROJECT NUMBER AND NAME: 0731 Fleet Satellite Communications

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Lockheed Martin		1.400	Various						1.400	0.000
Primary Hardware Development	Various	Various	22.663					0.150			22.813	1.000
Ancillary Hardware Development												
Systems Engineering	WX	SSC SD				0.466	Various	1.631	Various	Continuing	Continuing	Continuing
Systems Engineering	Various	Various		0.419	Various	0.423	Various	0.430	Various	Continuing	Continuing	Continuing
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			22.663	1.819		0.889		2.211		Continuing	Continuing	Continuing

Remarks:

Development Support	WX	SSC SD				0.575	Various	0.316	Various	Continuing	Continuing	Continuing
Development Support	Various	Various		0.192	Various	0.196	Various	0.200	Various	Continuing	Continuing	Continuing
Software Development	Various	Various		0.025	Various	5.933	Various	1.247	Various	Continuing	Continuing	Continuing
Training Development	WX	SSC SD					Various	0.050	Various	Continuing	Continuing	Continuing
IPv6 Support	WX	SSC SD				0.184	Various	0.195	Various	Continuing	Continuing	Continuing
Integrated Logistics Support	WX	SSC SD/CH				0.190	Various	1.304	Various	Continuing	Continuing	Continuing
Configuration Management	WX	SSC SD/CH						0.008	Various	Continuing	Continuing	Continuing
Technical Data	WX	SSC SD/CH						0.131	Various	Continuing	Continuing	Continuing
GFE												
Subtotal Support			0.000	0.217		7.078		3.451		Continuing	Continuing	Continuing

Remarks:

Exhibit R-3, RDTEN Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7** | PROGRAM ELEMENT: 0303109N Satellite Communications (Space) | PROJECT NUMBER AND NAME: 0731 Fleet Satellite Communications

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC SD/CH				0.755	Various	1.428	Various	Continuing	Continuing	Continuing
Developmental Test & Evaluation	Various	Various		0.039	12/06	0.050	12/07	0.049	12/08	Continuing	Continuing	Continuing
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets	WX	SSC SD/CH						0.013	Various	Continuing	Continuing	Continuing
Tooling												
GFE												
Subtotal T&E			0.000	0.039		0.805		1.490		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support										Continuing	Continuing	Continuing
Government Engineering Support												
Program Management Support	WX	SSC SD/CH				0.215		0.805		Continuing	Continuing	Continuing
Travel	WX	SSC SD				0.046		0.161			Continuing	
Subtotal Management			0.000	0.000		0.261		0.966		Continuing	Continuing	Continuing
Remarks:												
Total Cost			22.663	2.075		9.033		8.117		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3, RDTEN Cost Analysis

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																															
																			DATE: **February 2008**												
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**					PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)								PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications (JMINI)																			
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 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			
Acquisition Milestones					IW Prog Rev							MS B						MS C/FRP	DR	IOC			FOC								
Software Development					Software Development											JMINI software delivery															
Test & Evaluation Milestones Development Test					IW Contract Award				Software Qualification Testing	JITC Cert			Contract Award				DT/OT														
Operational Test																		JITC Cert													
Production Milestones																			Contract Award	LANT/PAC Install		Naples/Guam Install								
Deliveries to Control Sites											▲																				
Note: **This schedule profile is for JMINI only**																															

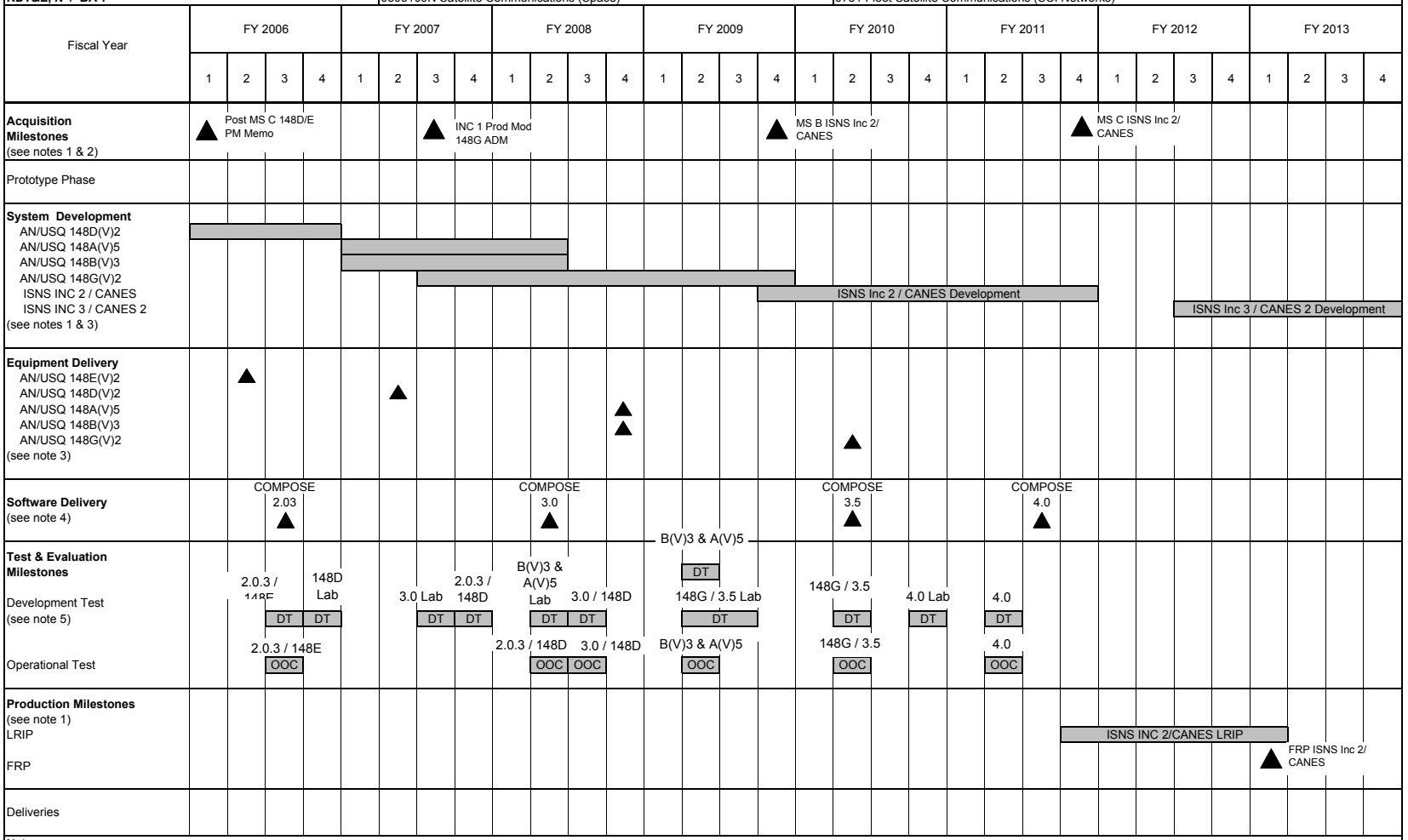
Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications - JMINI			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IW Program Review			1Q					
Milestone B (MS B)				4Q				
Contract Award			2Q		1Q			
Developmental Testing (MS B)						1Q		
Software Development (FY08) Software Delivery (FY11)			1Q-4Q			1Q		
Operational Testing (Platform Operational Assessment) (MS B)						1Q		
Milestone C (MS C)						2Q		
Full Rate Production Decision Review (FRPDR)						2Q		
JITC Cert				2Q		2Q		
Contract Award (Production Milestone)						3Q		
Install - LANT/PAC/Naples/Guam						4Q	2Q	
Initial Operational Capability (IOC)						4Q		
Full Operational Capability (FOC)							3Q	
Software Qualification Testing				1Q				
Software Delivery to Control Sites				3Q				

Exhibit R-4a, RDTEN Schedule Detail

EXHIBIT R4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0731 Fleet Satellite Communications (SCI Networks)	



Notes:
1. SCI Networks will begin to migrate to ISNS Inc 2/CANES in FY09.
2. Inc 1 Production Mod ADM approved on 23 Apr 07.
3. System Development and Equipment Delivery variants enumerated for schedule completeness.
4. Software Delivery schedule reflects when COMPOSE is fielded by the program.
5. DT and OOC is performed on either a ship, shore, and/or submarine unless otherwise notated.
6. OOC = Observation of Operational Capability.

Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications (SCI Networks)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestone - Post MS C 148D/E PM Memo	1Q							
Acquisition Milestone - Inc 1 Production Mod ADM		3Q						
Acquisition Milestone - MS B ISNS Inc 2/CANES				4Q				
Acquisition Milestone - MS C ISNS Inc 2/CANES						4Q		
System Development - AN/USQ-148D(V)2	1Q-4Q							
System Development - AN/USQ-148A(V)5		1Q-4Q	1Q-2Q					
System Development - AN/USQ-148B(V)3		1Q-4Q	1Q-2Q					
System Development - AN/USQ-148G(V)2		3Q-4Q	1Q-4Q	1Q-4Q				
System Development - ISNS Inc 2 / CANES				4Q	1Q-4Q	1Q-4Q		
System Development - ISNS Inc 3 / CANES 2							3Q-4Q	1Q-4Q
Equipment Delivery - AN/USQ-148E(V)2	2Q							
Equipment Delivery - AN/USQ-148D(V)2		2Q						
Equipment Delivery - AN/USQ-148A(V)5			Q4					
Equipment Delivery - AN/USQ-148B(V)3			Q4					
Equipment Delivery - AN/USQ-148G(V)2					2Q			
Software Delivery - COMPOSE 2.0.3	3Q							
Software Delivery - COMPOSE 3.0			2Q					
Software Delivery - COMPOSE 3.5					2Q			
Software Delivery - COMPOSE 4.0						3Q		
Development Test - DT 148E & 2.0.3	3Q							
Development Test - Lab DT 148D	4Q							
Development Test - Lab DT 3.0		3Q						
Development Test - DT 148D & 2.0.3		4Q						
Development Test - Lab DT B(V)3 & A(V)5			2Q					
Development Test - DT 148D & 3.0			3Q					
Development Test - DT B(V)3 & A(V)5				2Q				
Development Test - Lab DT 148G/3.5				2Q-3Q				
Development Test - DT 148G/3.5					2Q			
Development Test - Lab DT 4.0					4Q			
Development Test - DT 4.0						2Q		
Operational Test - OOC 148E & 2.0.3	3Q							
Operational Test - OOC 148D & 2.0.3			2Q					
Operational Test - OOC 148D & 3.0			3Q					
Operational Test - OOC B(V)3 & A(V)5				2Q				
Operational Test - OOC 148G & 3.5					2Q			
Operational Test - OOC 4.0						2Q		
Production Milestone - LRIP ISNS INC 2/CANES						4Q	1Q-4Q	1Q
Production Milestone - FRP ISNS INC 2/CANES								1Q

Exhibit R-4a, RDTEN Schedule Detail

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	0731 Fleet Satellite Communications (MIBS/Radiant Ether)	

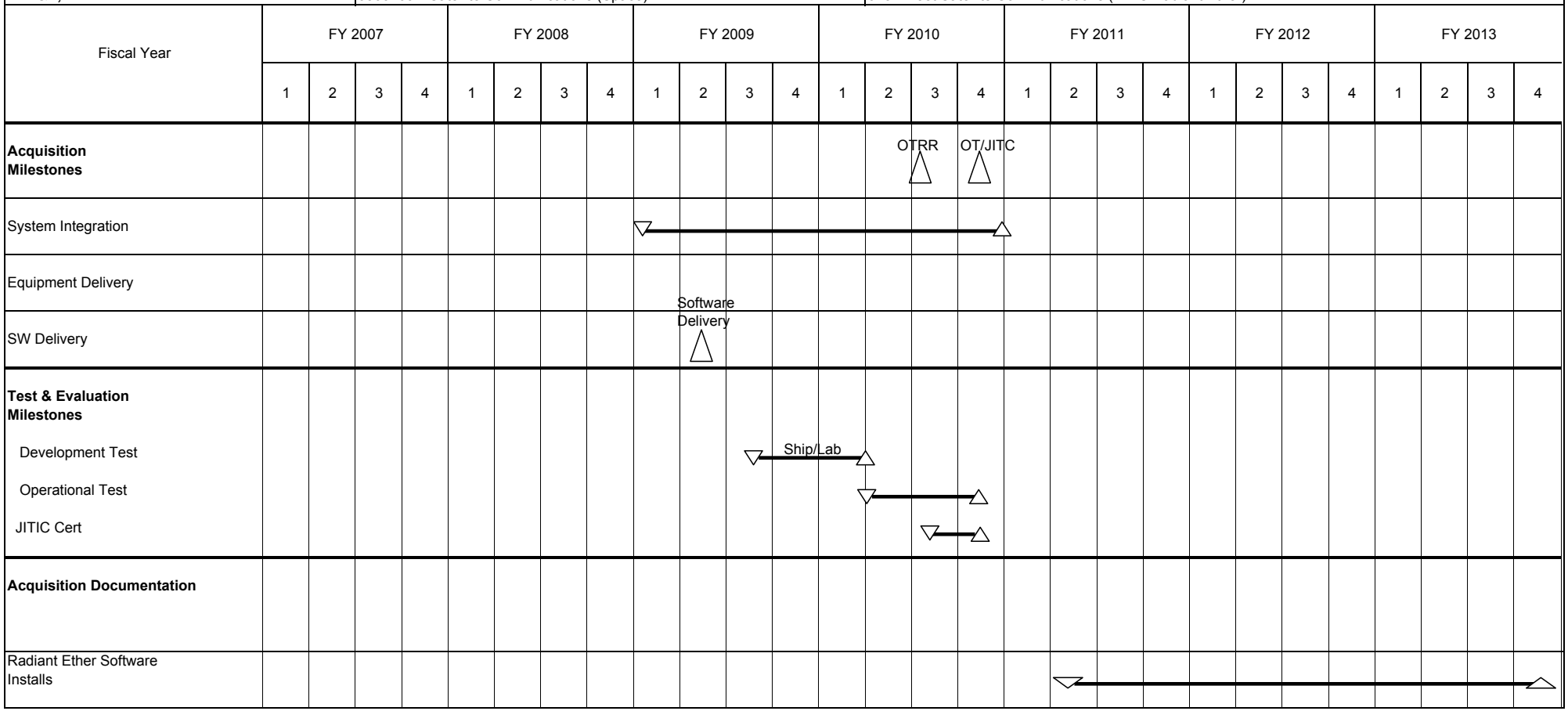


Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA - 7**	PROGRAM ELEMENT 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 0731 Fleet Satellite Communications (MIBS/Radiant Ether)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Developmental Testing (MS B)			3Q				
Software Delivery			2Q				
Operational Testing (MS B)				4Q			
JITC Cert				4Q			
Operational Test Readiness Review (OTRR)				3Q			
Install					2Q		

Exhibit R-4a, RDTEN Schedule Detail

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 2472 Mobile User Objective System	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	645.851	598.190	516.807	393.245	249.733	106.893	48.146
Articles Qty (MUOS Satellites)	1	1					
RDT&E Articles Qty (UFO TT&C Terminals)	2						

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

(U) The Mobile User Objective System (MUOS) program provides for the development of the next generation Department of Defense (DoD) advanced narrowband communications satellite constellation. The current Ultra-High Frequency (UHF) Follow-On (UFO) constellation is projected to degrade below acceptable availability parameters in 2009. The MUOS program is funded to the August 2004 Operational Requirements Document (ORD).

(U) This MUOS Research Development Test & Evaluation, Navy (RDTEN) effort supports a Milestone Decision Authority (MDA) approved On-Orbit Capability (OOC) in 2010 and Full Operational Capability (FOC) in 2014. A MUOS Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 to Lockheed Martin after Key Decision Point (KDP) B. The approval at KDP-B in September 2004 officially designated the MUOS Program as a DoD Space Major Defense Acquisition Program. FY 2007 - FY 2009 MUOS efforts are focused on: Critical Design Review (CDR), beginning work on the spacecraft engineering development models, and fabrication, assembly, integration and testing of the first two satellites. In addition, efforts will include the design, development, fielding and testing of the ground segment.

(U) Funding in the amount of $4M in FY09 and $38M in FY10 is provided for UHF Hosted Payload. UHF Hosted Payload may serve as a gap filler solution during the transition from the UFO to MUOS constellations.
In FY 2009, the Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload.

(U) The FY 2008 President's Budget effected an OSD-directed transfer in FY 2009 of $180M from WPN to RDTEN. This change was the result of direction from the Milestone Decision Authority (MDA) to fund the MUOS program to the OSD Cost and Analysis Improvement Group's (CAIG) FY 2009 estimate. In the FY 2009 President's Budget, WPN funds have been provided to properly fund the launch vehicle and production support. In addition, the MDA directed the Navy to continue to fund FY 2009 and through FY 2012 to the CAIG estimate. By doing this, the RDTEN controls were adjusted in the following manner: FY 2009 -$90M, FY 2010 +$59.9M, FY 2011 +$132.8M, FY 2012 +$46.8M.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	2472 Mobile User Objective System

(U) B. Accomplishments/Planned Program

MUOS	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishments/Effort/Subtotal Cost	637.112	595.690	512.807
RDT&E Articles Quantity	1	1	

(U) FY 2007: Continued funding for MUOS RRDD contract to complete CDR. Began work on spacecraft engineering development models and fabrication, assembly, integration and testing of the first two satellites. Continued design and began development of entire ground segment.
(U) FY 2008: Continue work on fabrication, assembly, integration and testing of the first two satellites. In addition, continue development of entire ground segment and begin fielding and testing.
(U) FY 2009: Continue work on fabrication, assembly, integration and testing of the first two satellites. In addition, finish fielding and testing entire ground segment.

UFO TT&C Terminal Upgrades	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishments/Effort/Subtotal Cost	8.739	2.500	0.000
RDT&E Articles Quantity	2		

(U) FY 2007: Began software development for UFO TT&C Terminal upgrades due to parts obsolescence, advanced planning, and engineering for the terminal installation, as well as procurement and installation of two prototype terminals.
(U) FY 2008: Continue efforts associated with TT&C prototype terminals procurement and installation.

UHF Hosted Payload	**FY 2007**	**FY 2008**	**FY 2009**
Accomplishments/Effort/Subtotal Cost	0.000	0.000	4.000
RDT&E Articles Quantity			

U) FY 2009: Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 2472 Mobile User Objective System

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
BLI 2433: Mobile User Objective System (WPN Funding)	0	214.375	507.456	526.562	519.096	221.974	67.532	846.449	2,903.444
PE 0301376N: MUOS Ground Station Construction, (MILCON Funding)	26.071	8.450							34.521

(U) D. ACQUISITION STRATEGY:

Concept Exploration contracts were awarded in early FY 2000 and completed in late FY 2001. Two Component Advancement Development (CAD) contracts were awarded in Q4 FY 2002. A Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 for the first two satellites, system engineering and associated ground infrastructure. Research Development Test & Evaluation, Navy (RDTEN) funds will be used to procure the first two satellites. Weapons Procurement, Navy (WPN) funds will be used to procure the remaining four satellites and launch services for all six satellites. Military Construction (MILCON) funds are required to prepare MUOS ground sites located in Sicily (Niscemi location), Virginia (Northwest location) and Hawaii (Wahiawa location).

Updates to the ground Ultra-High Frequency (UHF) Follow-On (UFO) Telemetry, Tracking and Command (TT&C) terminals that support UFO on-orbit operations are included. RDTEN funds in the amount of $8.7M in FY 2007 and $2.5M in FY 2008 will be used for UFO TT&C software and firmware development and procurement and installation of two prototype terminals. WPN funds in the amount of $10.6M in FY 2008 and $2.0M in FY 2009 will be used to procure and install UFO TT&C terminal updates.

Program Office will initiate acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload in FY 2009.

(U) E. MAJOR PERFORMERS:

Lockheed Martin

(U) F. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

CLASSIFICATION: UNCLASSIFIED

Exhibit R-3 Cost Analysis

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: 0303109N Satellite Communications (Space)

PROJECT NUMBER AND NAME: 2472 Mobile User Objective System

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	CPAF/FPI	Lockheed Martin (LM)	$ 797.840	$ 583.306	1Q	$ 567.844	1Q	$ 484.192	1Q	$ 832.337	$ 3,265.519	$ 3,265.519
CE Contracts & Demos	FFP	LM / Raytheon / Spec Astro / Boeing	$ 21.320								$ 21.320	$ 21.320
CAD Contracts	FFP	LM / Raytheon	$ 105.154								$ 105.154	$ 105.154
AoA for MUOS	MIPR	Aerospace	$ 2.782								$ 2.782	$ 2.782
Government Studies	VAR	VAR	$ 0.711								$ 0.711	$ 0.711
Crypto Procurement	MIPR	NSA	$ 2.056	$ 0.560		$ 0.200		$ 0.100		$ 0.300	$ 3.216	$ 3.216
UHF Hosted Payload	TBD	TBD	$ -			$ -		$ 4.000		$ 38.000	$ 42.000	
Subtotal Product Development			$ 929.863	$ 583.866		$ 568.044		$ 488.292		$ 870.637	$ 3,440.703	$ 3,440.703
Remarks:												
UFO TT&C Terminal Upgrades	VAR	VAR	$ -	$ 8.739		$ 2.500		$ -		$ -	$ 11.239	
Facilities Modifications	VAR	VAR	$ 1.326	$ 0.368		$ 1.326		$ -		$ -	$ 3.020	
Australian Site Prep	MD	VAR	$ 0.015	$ 1.759	Note 1	$ 7.300		$ -		$ -	$ 9.074	
Leased Lines	TBD	TBD	$ -	$ -		$ 0.500		$ 3.000		$ 2.000	$ 5.500	
Studies & Analyses (EELV)	MIPR	SMC/FMAIC	$ 0.494	$ 0.467		$ -		$ -		$ -	$ 0.961	
ISCS Integration	WX	NAVSOC	$ 1.103	$ 4.060		$ 1.058		$ -		$ -	$ 6.221	
JTRS JTEL Testing	TBD	TBD	$ -	$ -		$ -		$ 1.500		$ -	$ 1.500	
Subtotal Support			$ 2.938	$ 15.393		$ 12.684		$ 4.500		$ 2.000	$ 37.515	$ -
Remarks Note 1: Australia site prep funded with RDTEN. Site prep for the Niscemi, Wahiawa, and Northwest locations are all funded with MILCON.												
Developmental Test & Evaluation	VAR	VAR	$ 1.910	$ 0.824		$ 0.673		$ 0.412		$ 1.523	$ 5.342	
Operational Test & Evaluation	VAR	VAR	$ 0.706	$ 0.715		$ 0.800		$ 1.115		$ 12.127	$ 15.463	
Live Fire Test & Evaluation			$ -			$ -				$ -	$ -	
Subtotal T&E			$ 2.616	$ 1.539		$ 1.473		$ 1.527		$ 13.650	$ 20.805	$ -
Remarks												
Contractor Engineering Support	VAR	VAR	$ 73.325	$ 30.680		$ 9.389		$ 14.191		$ 53.958	$ 181.542	
Government Engineering Support	VAR	VAR	$ 14.724	$ 5.136		$ 3.156		$ 4.021		$ 16.302	$ 43.339	
Program Management Support	VAR	VAR	$ 18.744	$ 8.389		$ 3.043		$ 3.877		$ 15.717	$ 49.769	
Travel	VAR	VAR	$ 1.072	$ 0.576		$ 0.400		$ 0.400		$ 1.600	$ 4.048	
Frequency Filing	MD	ITU	$ 0.855	$ -		$ -		$ -		$ 2.000	$ 2.855	
IPA/ICAT	VAR	VAR	$ 0.124	$ 0.271		$ -		$ -		$ -	$ 0.395	
Subtotal Management			$ 108.844	$ 45.053		$ 15.988		$ 22.488		$ 89.577	$ 281.949	$ -
Remarks												
Total Cost			$ 1,044.262	$ 645.851		$ 598.190		$ 516.807		$ 975.864	$ 3,780.973	$ 3,440.703
Remarks												

Exhibit R-3, RDTEN Cost Analysis

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: **February 2008**

APPROPRIATION/BUDGET /	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	2472 Mobile User Objective System

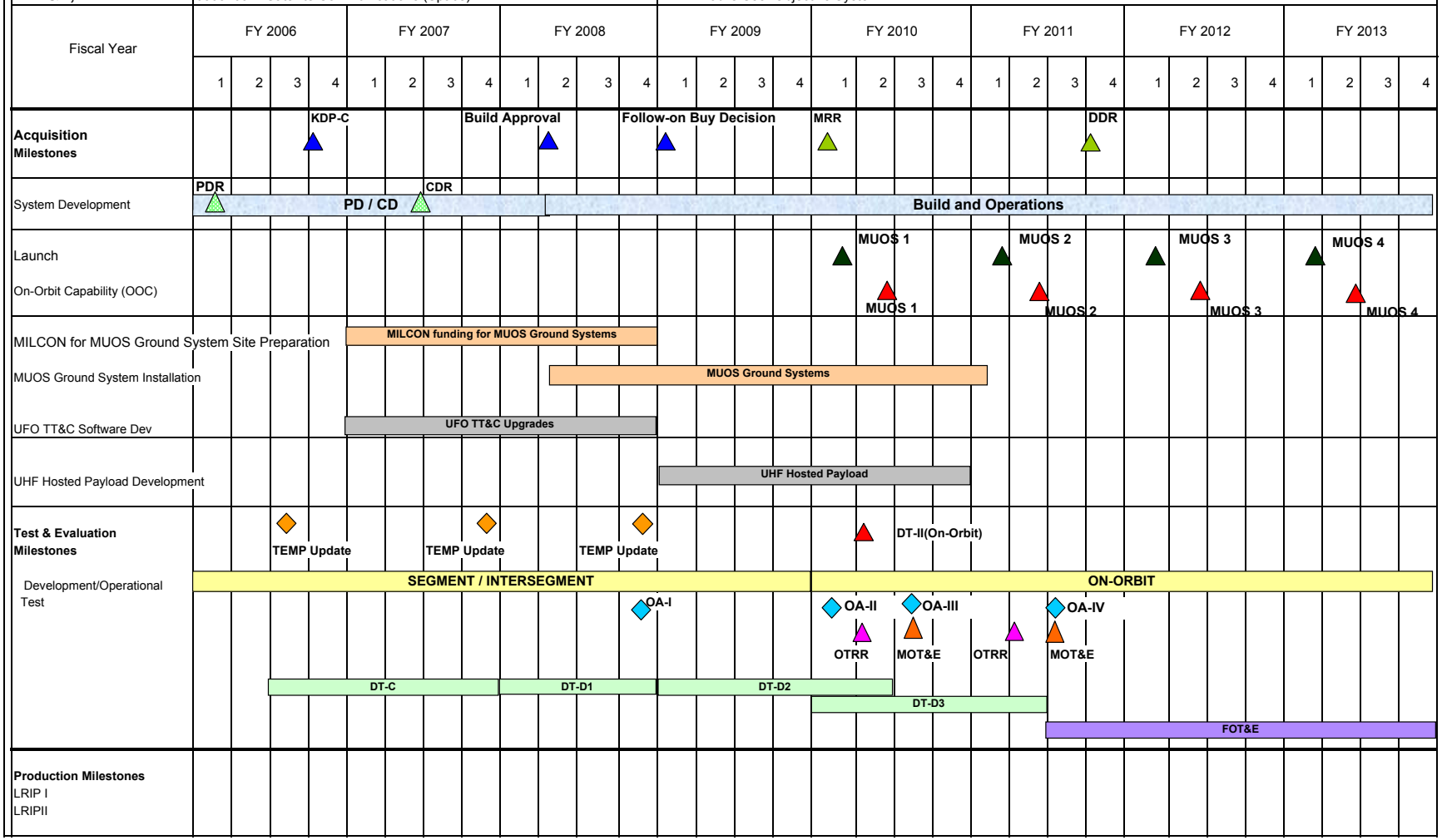


Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 2472 Mobile User Objective System			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Preliminary Design (PD) Phase	1Q-4Q							
Test and Evaluation Master Plan (TEMP)	3Q	4Q	4Q					
Segment/Intersegment Testing	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Preliminary Design Review (PDR)	1Q							
Key Decision Point (KDP) C	4Q							
Development Test (DT)-C	3Q-4Q	1Q-4Q						
Critical Design Review (CDR)		2Q						
Complete Design (CD) Phase	4Q	1Q-4Q	1Q					
UFO TT&C Terminal Upgrades		1Q-4Q	1Q-4Q					
DT-D1			1Q-4Q					
Build Approval			2Q					
Build and Operations Phase			2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
MUOS Ground Systems Site Prep and Installation		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q		
Operational Assessment (OA-I)			4Q					
Operational Test Readiness Review (OTRR)					2Q	2Q		
DT-D2				1Q-4Q	1Q-2Q			
Follow-On Buy Decision				1Q				
UHF Hosted Payload				1Q-4Q	1Q-4Q			
DT-D3					1Q-4Q	1Q-2Q		
Developmental Testing (DT-II) (On-Orbit)					2Q			
Mission Readiness Review (MRR)					1Q			
Operational Assessment (OA-II)					1Q			
Launch of Satellite #1 (MUOS 1)					1Q			
On-Orbit Capability for Satellite #1 (MUOS 1)					2Q			
On-Orbit Testing					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Multi-Service Operational Testing & Evaluation (MOT&E)					3Q	3Q		
Launch of Satellite #2 (MUOS 2)						1Q		
On-Orbit Capability for Satellite #2 (MUOS 2)						2Q		
Operational Assessment (OA-III)					3Q			
Follow-On Test Evaluation (FOT&E)						3Q-4Q	1Q-4Q	1Q-4Q
Deployment Decision Review (DDR)						4Q		
Operational Assessment (OA-IV)						3Q		
Launch of Satellite #3 (MUOS 3)							1Q	
On-Orbit Capability for Satellite #3 (MUOS 3)							2Q	
Launch of Satellite #4 (MUOS 4)								1Q
On-Orbit Capability for Satellite #4 (MUOS 4)								2Q

Exhibit R-4a, RDTEN Schedule Detail

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 2472 Mobile User Objective System			
Program Title	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
2472 Mobile User Objective System	$ 82.884	$ 46.493	$ 20.118	$ 14.065	$ -	$ -	$ -

Notes:

1) Values are in millions of dollars.

2) The MUOS execution plan is dependent on termination liability funds being available for execution at the beginning of the following fiscal year. For example, termination liability funds for FY 2007 are obligated at the beginning of FY 2007, but are required for expenditure at the beginning of FY 2008 (in October and November of CY 2007), assuming no termination occurs.

3) Termination values were obtained from the Contract Funds Status Report (CFSR), a contractually required deliverable on the Risk Reduction & Design Development (RRDD) contract.

Exhibit R-5, Terminal Liability Funding for Major Defense Acquisition Programs

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	0.000	7.880	5.259	20.481	46.051	76.087	81.521
RDT&E Articles Qty					4		20

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

(U) (U) The Navy Transformational Communications (TC) Terminal Satellite Communications program provides for the development and production of terminals to provide high capacity, reliable, Anti-Jam/Low Probability of Intercept (AJ/LPI) communications capability to the fleet. Terminals will support multiple data streams over Q-band, Ka-band, and X-band. The terminals will also support mesh networking without the need for gateway terminals. Development will focus on a Local Area Network (LAN) to Antenna capability, including quality of service required for unique Navy missions. The Advanced Wideband System/Transformational Communications (AWS/TC) Program draft acquisition strategy consists of terminal suite development and environmental qualification, on-orbit testing, platform integration and test, software enhancements and regression testing throughout the life of the program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	9122 Advanced Wideband System / Transformational Communications

(U) B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
AWS/TC Concept Development	0.000	7.880	5.259
RDT&E Articles Quantity			

(U) **FY 2007:**

(U) **FY 2008:** Reinitiate the system level engineering process previously started in FY06 to determine optimal tradeoffs between cost and performance. Mitigate COTS router and INFOSEC Module risks through MIT/Lincoln Labs and NMT contract risk reductions. Develop products to support the acquisition including a draft of the terminal suite acquisition specification flowdown, Acquisition Strategy Report (ASR) and other required Milestone (MS) B documentation, draft Capability Development Document (CDD), and the supporting products for release of a Transformational Satellite (TSAT) Terminal Request for Proposal (RFP) in 3Q FY 2010. Hardware products include the development of a prototype advanced Transmissions Security/Communications Security (TRANSEC/COMSEC) computer chip that will be required for the operation of every Navy TC terminal.

(U) **FY 2009:** Participate in Joint TSAT system and terminal development activities. Continue system level engineering process related to Navy TSAT Terminal development with space, TSAT Mission Operations System (TMOS), and joint service activities. Continue drafting the Navy TSAT Terminal CDD, terminal specification, and remaining required MS B documentation. Prepare for 1Q FY 2011 MS B. Expect development of a prototype advanced TRANSEC/COMSEC computer chip required for the operation of every Navy TC terminal to progress to an EDM level.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	9122 Advanced Wideband System / Transformational Communications

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013

(U) D. ACQUISITION STRATEGY:

System architecture is defined by the ongoing Transformational Communication Study. Acquisition documentation includes the development of a complete set of documentation required to support a MS B decision, including, but not limited to, a terminal specification, Statement of Work (SOW), ASR, and Source Selection Plan.

(U) E. MAJOR PERFORMERS:

Naval Undersea Warfare Center (NUWC), Newport, RI
SPAWAR Systems Center (SSC) San Diego (SD), San Diego, CA
Lincoln Laboratory Massachusetts Institute of Technology (LL/MIT) Lexington, MA
US Army CERDEC Fort Monmouth, NJ

(U) F. METRICS:

Earned Value Management (EVM) will be used for metrics reporting and risk management.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT: 0303109N Satellite Communications (Space)

PROJECT NUMBER AND NAME: 9122 Advanced Wideband System / Transformational Communications

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	Various	Various	37.554			2.354	10/07	1.994	10/08	Continuing	Continuing	
Systems Engineering	Various	Various	4.481			1.283	10/07	1.100	10/08	Continuing	Continuing	
Systems Engineering	WR	Various	3.418			1.000	10/07			Continuing	Continuing	
Subtotal Product Development			45.453	0.000		4.637		3.094		Continuing	Continuing	

Remarks:

Development Support	WR	Various	3.448			1.005	10/07	0.500	10/08	Continuing	Continuing	
Studies & Analyses	WR	Various	3.475			0.260	10/07			Continuing	Continuing	
Information Assurance	WR	Various	0.515			0.525	10/07	0.400	10/08	Continuing	Continuing	
Subtotal Support			7.438	0.000		1.790		0.900		Continuing	Continuing	

Remarks:

Exhibit R-3, RDTEN Cost Analysis

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7** | PROGRAM ELEMENT: 0303109N Satellite Commu | PROJECT NUMBER AND NAME: 9122 Advanced Wideband System / Transformational Communications

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		
Remarks:												
Contractor Engineering Support		Various	0.349							Continuing	Continuing	
Program Management Support	Various	Various	1.422			0.500	10/07	0.500	10/08	Continuing	Continuing	
Acquisition Management Support						0.853	10/07	0.665	10/08	Continuing	Continuing	
Travel			0.218			0.100	10/07	0.100	10/08	Continuing	Continuing	
Subtotal Management			1.989	0.000		1.453		1.265		Continuing	Continuing	
Remarks:												
Total Cost			54.880	0.000		7.880		5.259		Continuing	Continuing	
Remarks:												

Exhibit R-3, RDTEN Cost Analysis

EXHIBIT R4, Schedule Profile		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)	9122 Advanced Wideband System / Transformational Communications

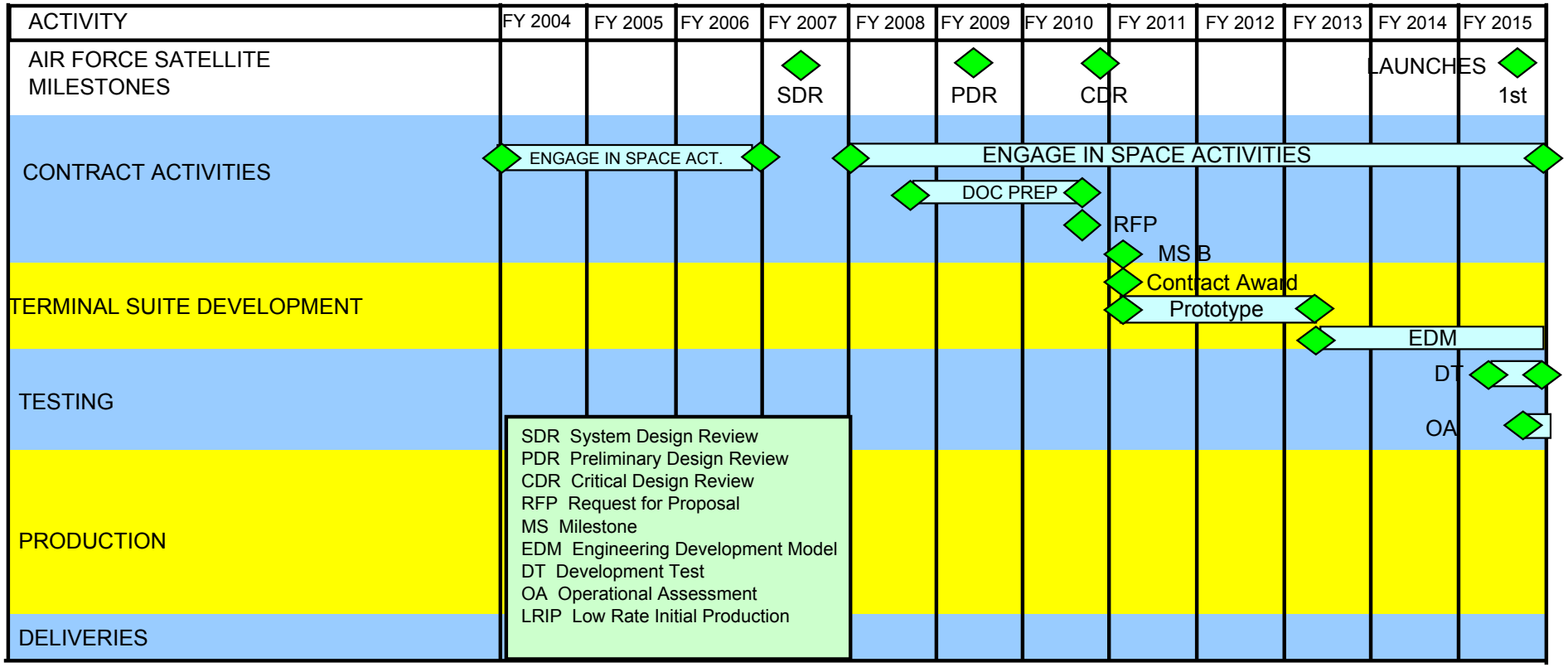


Exhibit R-4, RDTEN Schedule Profile

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT& BA-7**	PROGRAM ELEMENT 0303109N - Satellite Communications (Space)				PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B						1Q		
Dual Contract Award						1Q		
RFP					3Q			
Contract Award (Terminal Suite Development)						1Q		
Developmental Testing (NOTE 1)								
Operational Assessment (NOTE2)								

NOTE 1: Developmental testing is scheduled for 1Q 2015
NOTE 2: Operational Assessment is scheduled for 3Q FY2015

Exhibit R-4a, RDTEN Schedule Detail

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY		PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)	9999 - Congressional Increases

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.876	4.173	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty							

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

(U) Congressional adds for Satellite Communications

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	9999 - Congressional Increases	

(U) B. Accomplishments/Planned Program

Transformational Communications (TC) (9999)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.590	0.000
RDT&E Articles Quantity			

(U) **FY 2008:** Accelerate insertion of superconductor digital-RF technology in naval MILSATCOM systems.

Internet Protocol Version 6 (IPV6) (9A98N)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.977	0.000	0.000
RDT&E Articles Quantity			

(U) **FY 2007**: Prepared several test facilities and produced test events to determine applicability of IPv6 technologies to support the needs of operational Navy through Tactical Networks, Wireless Networks, and the forthcoming Consolidated Adaptive Network Edge Services (CANES) networking program. All test conditions and test results will be provided to our Joint Service partners and acquisition agencies associated with networking technologies.

"Based ""Reconfigurable"" Wide Field of View Sensors (9999)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.590	0.000
RDT&E Articles Quantity			

(U) FY 2008: Congressional Add for "Field Programmable Processor Array (FPPA) for Space Based "Reconfigurable" Wide Field of View Sensor". Demonstrated alternate reconfigurable technologies for ground segment processing of data provided from large format Focal Plane Arrays (FPAs). Established the applicability of reconfigurable technology to algorithms used for remote sensing missions (e.g., satellite altimetry, large format FPA data for space astrometry).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0303109N Satellite Communications (Space)	9999 - Congressional Increases	

(U) B. Accomplishments/Planned Program

JIST-NET Systems (9421C)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.899	0.000	0.000
RDT&E Articles Quantity			

(U) **FY2007:** Updated JIST-NET Version 2 Spiral 3; provided updated Satellite Access Request (SAR) Module and updated SA Module. Completed development of Acquisition Strategy, and Development Testing, along with applicable acquisition documentation.

JIST-NET Systems (9999)	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	0.993	0.000
RDT&E Articles Quantity			

(U) FY2008: Update JIST-NET Version 3 Spiral 1. Provide updated Satellite Access Request (SAR) Module to incorporate Commercial SAR and Satellite Access Approval (SAA) capabilities into the module. Complete Abbreviated Acquisition Program (AAP) designation documentation.