

UNCLASSIFIED

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				BA 7		R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	\$155.3	\$463.5	\$542.0	\$795.9	\$804.3	\$660.7	\$351.5	\$129.4
0728 EHF SATCOM Terminals	\$56.7	\$49.7	\$50.8	\$84.4	\$91.2	\$105.4	\$55.4	\$17.3
0731 Fleet Satellite Comm	\$0.5	\$0.6	\$0.6	\$0.7	\$1.8	\$1.8	\$1.8	\$1.9
2472 Mobile User Objective System	\$84.4	\$389.4	\$470.0	\$688.3	\$632.0	\$486.1	\$220.0	\$53.6
9122 Advanced Wideband	\$12.0	\$18.0	\$20.5	\$22.4	\$79.4	\$67.4	\$74.2	\$56.6
9421 Joint Integrated Sys Tech for Adv Network Systems	\$0.0	\$4.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
9429 SPAWAR Covert Communications and Information Transfer	\$1.7	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Quantity of RDT&E Articles	10	2	2	21	5	16		
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) The Navy Extremely High Frequency (EHF) Satellite Communications (SATCOM) Program (NESP) provides for the development and production of terminals to provide anti-jam, low probability of intercept/detection communications capability for Command and Control of the Fleet. NESP operates with Fleet Satellite (FLTSAT) EHF Packages (FEP), Ultra High Frequency (UHF) Follow On (UFO), and Milstar I/II Satellite Packages. The Milstar program is comprised of satellites, control stations, and aircraft, ship, and ground terminals to provide assured worldwide, secure, anti-jam, survivable communications for the National Command Authority, CINCs, and operational commanders.</p> <p>(U) The Advanced EHF (AEHF) Operational Requirements Document (ORD) was validated by the Joint Requirements Oversight Council (JROC) on 22 Mar 1999. AEHF is the follow-on satellite communications system that will provide worldwide, secure, survivable satellite communications to U.S. and International Partners strategic and tactical forces during all levels of conflict. The Navy AEHF Multiband Terminal (NMT) Program is the required Navy component to the Advanced EHF Program for enhancing protected and survivable satellite communications to Naval forces. The system provides an increase in single service capability from 1.5 Mbps to 8 Mbps, increases the number of coverage areas and retains A/J, LPI protection characteristics. It is compatible with today's Navy LDR/MDR terminals and will sustain the 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 AEHF system will replenish and improve on the capabilities of the Milstar system and will equip the warfighters with the assured, jam resistant, secure communications as described in the ORD for the joint AEHF Satellite Communications System. The AEHF system will provide crosslinks within the constellation as well as between AEHF satellites and Milstar satellites in the backwards compatible mode. Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the AEHF ORD.</p>								

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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA 7	R-1 ITEM NOMENCLATURE 0303109N Satellite Communications (Space)
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) The Sensitive Compartmented Information Networks (SCI Networks), is an evolutionary acquisition program designed to provide enabling technology necessary for Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of SI/SCI data through a secure, controllable network interface with the 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 SI operations not achievable with current systems.</p> <p>(U) The Mobile User Objective System (MUOS) program provides for the development of the next generation DoD advanced narrowband communications satellite constellation. The current UHF Follow-On (UFO) constellation is expected to degrade below acceptable availability parameters in 2010. The MUOS program builds on state-of-the-art technologies and best commercial practices to develop a totally responsive joint warfighter system. In addition, new user requirements have been identified and advanced concepts developed to incorporate new programs and technologies which address the significant growth in requirements for military narrowband communications, as required per the approved joint interest MUOS Operational Requirements Document (ORD).</p> <p>(U) This RDT&E effort supports a USecAF approved IOC in 2010 and FOC in 2014. Two Component Advanced Development (CAD) contracts were awarded in Q4 FY 2002. The CAD contracts continued into FY 2004. A single Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 after Key Decision Point (KDP) B, also in September 2004. With KDP-B, MUOS was officially designated a Department of Defense Space Major Defense Acquisition Program. Also included is software development for UFO TT&C Terminal and advanced planning and engineering for the terminals in FY2007.</p> <p>(U) The Navy Advanced Wideband Integrated 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/Ka-band, Ka-band, and X-band. The terminals will also support mesh networking without the need for gateway terminals.</p> <p>(U) Covert Communications required for operational utilization.</p> <p>(U) The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress. The project was realigned to PEO C4I & Space from the United States Air Force starting in FY04 to meet the requirements and funding priorities established for the project.</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-2a, RDT&E Project Justification							DATE: February 2005	
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		\$56.672	\$49.659	\$50.834	\$84.425	\$91.159	\$105.383	\$55.392
RDT&E Articles Qty		8			20			
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) Navy Extremely High Frequency (EHF) Satellite Communications (SATCOM) Program provides for the development and production of terminals to provide anti-jam (A/J), low probability of intercept (LPI)/detection communications capability for Command and Control of the fleet. The terminals will provide physical and electromagnetically survivable, worldwide communications in the current and projected electromagnetic and nuclear threat environments. Navy EHF terminals are interoperable with Army and Air Force terminals and will operate with Milstar as well as EHF packages on-board Ultra High Frequency (UHF) Follow-On (UFO) Satellites 4 through 11 and FLTSATCOM Satellites 7 and 8. The increased capability provided by EHF terminals is accomplished by use of the wider bandwidths available at extremely high frequencies, narrow antenna bandwidths, spread spectrum techniques, on-board satellite processing, and advanced signal processing technology. The EHF Medium Data Rate (MDR) upgrade program is complete and provides increased bandwidth by providing higher data rates [4.8 kilobits per second (Kbps) – 1.544 megabits per second (Mbps)] when communicating with Milstar II satellites.</p> <p>(U) The Navy EHF Communications Controller (NECC) provides automated, netted tactical data information exchange over jam resistant EHF Low Data Rate (LDR) satellite links. The NECC will provide for load and channel sharing, resource management, communications management and planning, network control and monitoring, and packet switching.</p> <p>(U) The EHF Time Division Multiple Access (TDMA) Interface Processor (TIP) will support wide area network (WAN) implementation through reliable, efficient, netted data exchange using MDR services. The MDR TIP combines support for general-purpose internet protocol (IP) data delivery and high speed, rapid delivery of tactical data within a single system architecture. TIP supports single-beam, multi-beam, and multi-satellite networks.</p> <p>(U) The Navy Super High Frequency (SHF) Satellite Communications (SATCOM) program provides for the development and production of terminals to provide high capacity, reliable, low probability of intercept (LPI), secure, and jam resistant communications to Joint and Allied Forces. SHF SATCOM operates with the Defense Satellite Communication System (DSCS), DSCS Service Life Extension Program (SLEP), and Wideband Gapfiller Satellite (WGS) System satellites. The SHF SATCOM system is comprised of satellites, ground stations, and aircraft, ship and ground terminals to provide assured worldwide access to services such as Defense Information Systems Network (DISN), Global Command and Control System (GCCS), Plain Old Telephone Service (POTS), Secure Telephone Unit III (STU III) Secure Communications Service, Internet Protocol Routed Networks, and other digital services. The satellite systems SHF SATCOM operate over are transitioning from old technology DSCS III satellites to the more advanced DSCS SLEP and WGS satellites beginning in FY 1999 and continuing through FY 2005. The population of Navy SHF SATCOM terminals is also growing at a rapid pace. In order to meet the communication requirements of Navy users, advanced communication technologies for SHF SATCOM terminals must be developed to take full advantage of the capabilities of the new satellites in an efficient manner.</p>								

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<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION (continued):</p> <p>(U) The Advanced EHF (AEHF) Operational Requirements Document (ORD) was validated by the Joint Requirements Oversight Council (JROC) on 22 Mar 1999. AEHF is the follow-on satellite communications system that will provide worldwide, secure, survivable satellite communications to U.S. and International Partners strategic and tactical forces during all levels of conflict. The Navy AEHF Multiband Terminal (NMT) Program is the required Navy component to the Advanced EHF Program for enhancing protected and survivable satellite communications to Naval forces. The system provides an increase in single service capability from 1.5 Mbps to 8 Mbps, increases the number of coverage areas and retains A/J, LPI protection characteristics. It is compatible with today's Navy LDR/MDR terminals and will sustain the 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 AEHF system will replenish and improve on the capabilities of the Milstar system and will equip the warfighters with the assured, jam resistant, secure communications as described in the ORD for the joint AEHF Satellite Communications System. The AEHF system will provide crosslinks within the constellation as well as between AEHF satellites and Milstar satellites in the backwards compatible mode. Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the AEHF ORD. NMT Program consists of competitive prototype development, EDM development and environmental qualification, on-orbit testing, platform integration and test, software enhancements and regression testing throughout the life of the program. In addition to the Q-Band protected communications capability, NMT multi-band communication capabilities will include shipboard terminal upgrade kits to communicate two way Ka-Band on Wideband Gapfiller Satellites (WGS) and shipboard and submarine terminals to communicate with X-Band using the Defense Satellite Communications System (DSCS) and WGS. NMT will be a transport layer enabler for FORCEnet.</p> <p>(U) The Challenge Athena Program required the following enhancements: (a) Satellite Doppler Buffer Fill Meter, which is a "gauge" on the GUI that indicates the current level of fill of the satellite Doppler buffer. The terminal operator was able to determine if the buffer is close to an overflow/underflow condition. With this indicator, he can then better plan when to re-center it without losing critical communications; (b) Channel Interleave Option for MIL-STD-188-165 Modes, that allowed the channel interleaver to be enabled without the additional bandspreading required for framing and Reed-Solomon FEC that provides handover and EMI protection; (c) Higher Data Rates increased the maximum provided data rate of the MD-1030B(V) 9 Modem to 4.096 Mbps with QPSK (Quadrature Phase Shift Keying) modulation. Higher available data rates in the MD-1030B(V)9 modem allowed the customer to achieve its near term throughput needs without putting up additional carriers; and (d) Shore Handover Error Burst. The MD-1030B(V)9 modem maintained its Bit Count Integrity (BCI) both at ship and shore based installations through shipboard antenna handover events. In addition, the MD-1030B(V)9 achieved virtual error free performance for ship's received data.</p> <p>(U) The INMARSAT program has a requirement for a follow-on terminal to increase throughput and compliment assured IP. FY06 RDT&E funds are required for representative production units design, development, fielding and testing.</p>		

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(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
AN/WSC-6 WGS Terminal Upgrades	0.104	0.650	0.000	0.000
RDT&E Articles Quantity				

(U) **FY04:** Completed Developmental testing of advanced modem system and terminal upgrades.

(U) **FY05:** Operational testing of advanced modem system and terminal upgrades.

	FY 04	FY 05	FY 06	FY 07
NMT Development, First & Second Phases	55.389	48.259	46.634	84.425
RDT&E Articles Quantity	8			20

(U) First and second phases of NMT development for System Design and Development (SDD) for ship, shore and submarine platforms.

(U) **FY04:** Completed development of satellite simulators. Awarded contract for development of NMT prototype terminal hardware and software. Hardware includes operator interface, Terminal Control Processor, Modem Control Processor, Antenna Pointing Unit and associated firmware. Software includes access control protocols, terminal Built In Testing (BIT)/BITE Adaptation Data Recorder, and Low Probability of Interception (LPI) power control software. Continued development of high-level test plan. Began design and development of 8 NMT prototypes (four ship, two sub, two shore). Incorporate Software Communications Architecture (SCA).

(U) **FY05:** Continue NMT prototype terminal hardware and software development and development of high-level test plan. Continue hardware and software design and development of 8 SCA compliant NMT prototypes started in FY04.

(U) **FY06:** Continue NMT SDD prototype terminal hardware and software development and development of high-level test plan. Continue hardware and software design and development of 8 SCA compliant NMT prototypes started in FY04.

(U) **FY07:** Complete terminal hardware and software development for 8 SCA compliant NMT prototypes began in FY04. Test over the air NMT prototypes and conduct NMT vendor down-select. Commence design and development of 20 Q/Ka capable EDMs and added X-band for submarine platforms. EDM test sets are required at the following sites: one set at contractor facilities 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 are planned as 1st of class platform installations for unique platform environmental testing and production phase risk reduction.

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
EHF Polar	1.179	0.750	0.500	0.000
RDT&E Articles Quantity				
<p>(U) EHF POLAR / UFO-11 software development and systems engineering.</p> <p>(U) FY04 - FY06: Continue development of Tracking, Telemetry and Control subsystems and end-to-end system testing for Polar 2/3 system.</p>				
	FY 04	FY 05	FY 06	FY 07
INMARSAT Follow On Terminals	0.000	0.000	3.700	0.000
RDT&E Articles Quantity				
<p>(U) FY06: Develop an Follow-on INMARSAT terminal to increase throughput and compliment assured IP. Funds are required for representative production units design, development, fielding and testing.</p>				

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(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY05 President's Budget	57.774	50.345	79.663	67.244
FY06 PB Submit	56.672	49.659	50.834	84.425
Total Adjustments	-1.102	-0.686	-28.829	17.181
Summary of Adjustments				
Congressional Adjustments				
Congressional Recissions		-0.676		
Reprogrammings	-0.268	-0.010		
Programmatic Adjustments			-29.416	16.183
Economic Assumptions			0.745	1.104
Pricing Adjustments			-0.158	-0.106
SBIR/STTR Transfers	-0.834			
Subtotal	-1.102	-0.686	-28.829	17.181

(U) Schedule:

SDD contract awarded 10/03. Required Acquisition Strategy Report (ASR) was approved June 2002, and the ASR Update was approved July 2003.

Schedule Current Estimate reflects the incorporation of Software Communications Architecture (SCA) into the program baseline per NMT Acquisition Decision Memorandum. Additional SCA scope and cost incorporated into the program baseline within FY04-FY07 funding profile necessitated a 7-month program slip.

Programmatic changes in the AEHF satellite program resulted in a 6-month extension of the NMT prototype phase.

(U) Technical:

Not applicable.

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(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</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>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
321500 - OPN Ship and Shore*	74.798	38.745	21.106	-	-	19.158	91.159	158.922	Continuing	Continuing

*Includes NESP terminal installation costs.
 (U) Related RDT&E:
 (U) PE 0303603F, Milstar
 (U) PE 0303601F, Air Force Satellite Communications

(U) E. ACQUISITION STRATEGY:

(U) Navy Multiband Terminal (NMT) Concept Exploration contracts were awarded in FY01. Two System Development and Demonstration (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 downselect to one vendor will occur for the development, demonstration and procurement of twenty Engineering Developmental Models (EDMs) which will incorporate integrated multi-band capabilities for Q/Ka band, Submarine X-Band, and Ship X/Ka band communication requirements.

(U) F. MAJOR PERFORMERS:

Harris Corp., Melbourne, FL - NMT SDD Vendor; contract awarded Oct. 03
 Raytheon, Marlborough, MA - NMT SDD Vendor; contract awarded Oct. 03
 Naval Undersea Warfare Center (NUWC), Newport, RI - NMT Technical Director; annual WX document

(U) G. METRICS:

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

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDTE&E, N / BA-7			0303109N Satellite Communications (Space)				0728 EHF SATCOM Terminals					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	CPAF	Various	58.436	41.577	10/04	40.101	11/05	77.225	10/06	Continuing	Continuing	
Hardware Development	C/FFP	Harris (Melbourne, FL)	5.901	0.650	10/04					Continuing	Continuing	
Hardware Development	WR	SSC SD (San Diego, CA)	1.077	0.278	10/04	0.202	10/05	0.210	10/06	Continuing	Continuing	
Hardware Development	TBD	TBD				3.224	11/05					
Ancillary Hardware Development	CPAF	Raytheon (Marlborough, MA)	57.790									
Software Development	WR	NUWC (Newport, RI)	8.017	0.750	10/04	0.500	10/05			Continuing	Continuing	
Systems Engineering	WR	SSC SD (San Diego, CA)	14.169	0.237	10/04	0.244	10/05	0.251	10/06	Continuing	Continuing	
Systems Engineering	WR	NUWC (Newport, RI)	4.974	1.791	10/04	1.686	10/05	1.794	10/06	Continuing	Continuing	
Systems Engineering	Various	Various	9.852	0.499	10/04	0.723	11/05	0.743	10/06	Continuing	Continuing	
GFE	Various	Various	8.158	1.500	10/04					Continuing	Continuing	
Subtotal Product Development			168.374	47.282		46.680		80.223		Continuing	Continuing	
Remarks:												
Development Support	WR	SSC SD (San Diego, CA)	7.504	0.247	10/04	0.254	10/05	0.261	10/06	Continuing	Continuing	
Integrated Logistics Support	T&M	Various	0.586	0.252	10/04	0.363	10/05	0.373	10/06	Continuing	Continuing	
Studies & Analysis	WR	Various	5.536									
Subtotal Support			13.626	0.499		0.617		0.634		Continuing	Continuing	
Remarks:												

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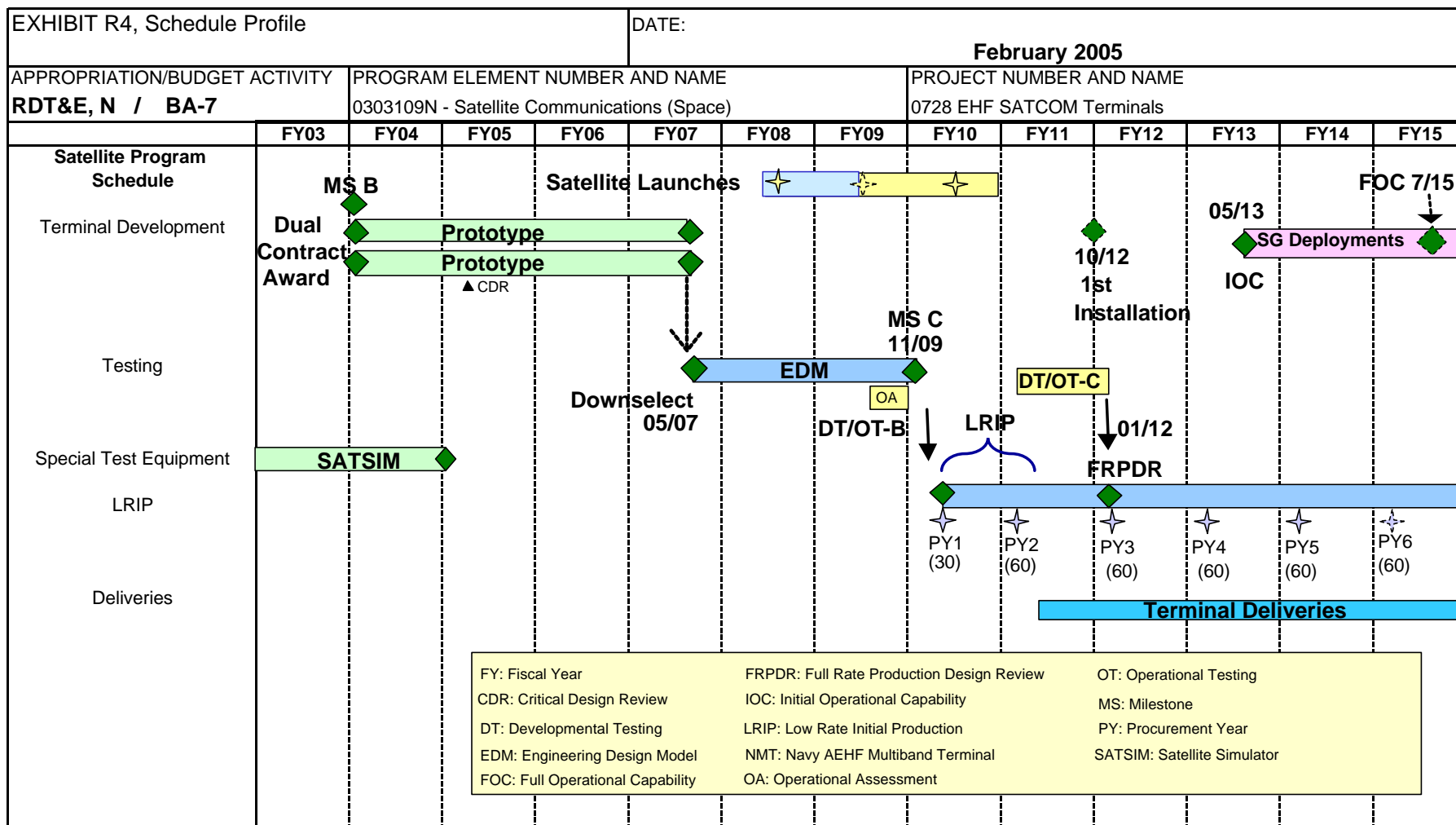
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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RD T&E, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0728 EHF SATCOM Terminals					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various	10.130	0.008	10/04	1.319	10/05	1.294	10/06	Continuing	Continuing	
Operational Test & Evaluation	WR	Various	0.556							Continuing	Continuing	
Subtotal T&E			10.686	0.008		1.319		1.294		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	CPAF	Various	2.480	0.741	10/04	0.779	10/05	0.796	10/06	Continuing	Continuing	
Program Management Support	Various	Various	2.047	1.029	10/04	1.318	10/05	1.355	10/06	Continuing	Continuing	
Travel		Gov't Travel	0.105	0.100	10/04	0.120	10/05	0.123	10/06			
Subtotal Management			4.632	1.870		2.218		2.274		Continuing	Continuing	
Remarks:												
Total Cost			197.518	49.659		50.834		84.425		Continuing	Continuing	
Remarks:												

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Note:

Reflects development of 20 EDMs

Production Quantity includes SCN platforms

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[illegible]

NOTE 1: Operations Testing (MS C) is scheduled for 2Q FY12.
NOTE 2: Initial Operational Capability (IOC) is schedule for 3Q FY13.
NOTE 3: Full Operational Capability is scheduled for 3Q FY15.

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		0.524	0.605	0.631	0.699	1.773	1.794	1.819
RDT&E Articles Qty		2	2	2				
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Sensitive Compartmented Information Networks (SCI Networks), is an evolutionary acquisition program designed to provide enabling technology necessary for Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of SI/SCI data through a secure, controllable network interface with the 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 SI operations not achievable with current systems.</p>								

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
SCI Networks	0.524	0.605	0.631	0.699
RDT&E Articles Quantity	2	2	2	
<p>FY04: Continued integration and implementation of SCI Networks and associated Special Intelligence Communication capabilities. Development and integration of COMPOSE 3.0, SCI Networks Surface Suite (AN/USQ-148D(V)2), and IPv6 capabilities. Complete lab testing of submarine and BCA variants</p> <p>FY05: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. Conduct developmental and operational testing of software and hardware for sub, surface, and shore. Development, integration, and testing of AN/USQ-148E(V)2 surface suites and COMPOSE 3.X. software. Continue development and integration of IPv6 capabilities.</p> <p>FY06: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. DT AN/USQ-148D(V)2 and development and integration of COMPOSE 3.X software. IPv6 integration and laboratory testing.</p> <p>FY07: Continue integration and implementation of SCI Networks and associated Special Intelligence Communications. DT of AN/USQ-148(V)4. OT of AN/USQ-148D(V)2 and AN/USQ-148(V)4. IPv6 integration and shipboard testing efforts. Integration and testing of VoIP and Video IP.</p>				

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm																																																																								
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 05 President's Budget:</td> <td style="text-align: right;">0.578</td> <td style="text-align: right;">0.644</td> <td style="text-align: right;">1.493</td> <td style="text-align: right;">1.775</td> </tr> <tr> <td>FY 06 President's Budget:</td> <td style="text-align: right;">0.524</td> <td style="text-align: right;">0.605</td> <td style="text-align: right;">0.631</td> <td style="text-align: right;">0.699</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.054</td> <td style="text-align: right; border-top: 1px solid black;">-0.039</td> <td style="text-align: right; border-top: 1px solid black;">-0.862</td> <td style="text-align: right; border-top: 1px solid black;">-1.076</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Congressional Recissions</td> <td></td> <td style="text-align: right;">-0.039</td> <td></td> <td></td> </tr> <tr> <td>Reprogrammings</td> <td style="text-align: right;">-0.038</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Programmatic Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.843</td> <td style="text-align: right;">-1.055</td> </tr> <tr> <td>Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.002</td> <td style="text-align: right;">0.003</td> </tr> <tr> <td>Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.021</td> <td style="text-align: right;">-0.024</td> </tr> <tr> <td>SBIR/STTR Transfers</td> <td style="text-align: right;">-0.016</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.054</td> <td style="text-align: right; border-top: 1px solid black;">-0.039</td> <td style="text-align: right; border-top: 1px solid black;">-0.862</td> <td style="text-align: right; border-top: 1px solid black;">-1.076</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <p>Technical issues with the interfacing system (ADNS), as well as submarine availabilities have delayed the DT/OT events (DT IID/OT IIB) for the SCI Networks submarine variant. Additional software certification security accreditation and testing to accommodate hosted systems will be accomplished in FY04. DT/OT is now scheduled for FY05 Q2 and Q4. Submarine/BCA Lab DT completed in FY04 Q2. Relabeled all Test & Evaluation milestones (DT IID, OT IIB, DT IIB, DT IIIC & OT IIIA) to provide more schedule clarity and break out testing of 148D and 148E SCI Networks variants. 148E development accelerated to support an interfacing system that requires 148E services. Identified 4.X and 5.X software delivery and Test & Evaluation milestones in the out years.</p> <p style="margin-top: 20px;">(U) Technical:</p> <p>Not applicable.</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY 05 President's Budget:	0.578	0.644	1.493	1.775	FY 06 President's Budget:	0.524	0.605	0.631	0.699	Total Adjustments	-0.054	-0.039	-0.862	-1.076	Summary of Adjustments					Congressional Adjustments					Congressional Recissions		-0.039			Reprogrammings	-0.038				Programmatic Adjustments			-0.843	-1.055	Economic Assumptions			0.002	0.003	Pricing Adjustments			-0.021	-0.024	SBIR/STTR Transfers	-0.016				Subtotal	-0.054	-0.039	-0.862	-1.076
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)			PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</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>FY 2010</u>	<u>FY 2011</u>	To Complete	Total Cost
3050 COMM AUTO - SCI Networks	6.638	0.814	4.468	4.556	4.708	4.875	4.975	5.088	Cont	Cont
 (U) E. ACQUISITION STRATEGY: *										
SCI Network variants are comprised of Commercial Off the Shelf equipments and Government Off the Shelf software integrated into SCI Networks designs associated with class of ship. Next Generation versions are being considered for acquisition via the LM Q-70 contract vehicle.										
 (U) F. Major Performers:										
SPAWAR Systems Center, San Diego (SSC SD) provides research and development for next generation SCI Networks.										
 * Not required for Budget Activities 1,2,3, and 6										

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 16 of 48)

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0303109N Satellite Communications (Space)				0731 Fleet Satellite Comm					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Var	Var	21.359	0.605	12/04	0.631	12/05	0.699	12/06	Continuing	Continuing	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering											0.000	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			21.359	0.605		0.631		0.699		0.000	23.294	0.000
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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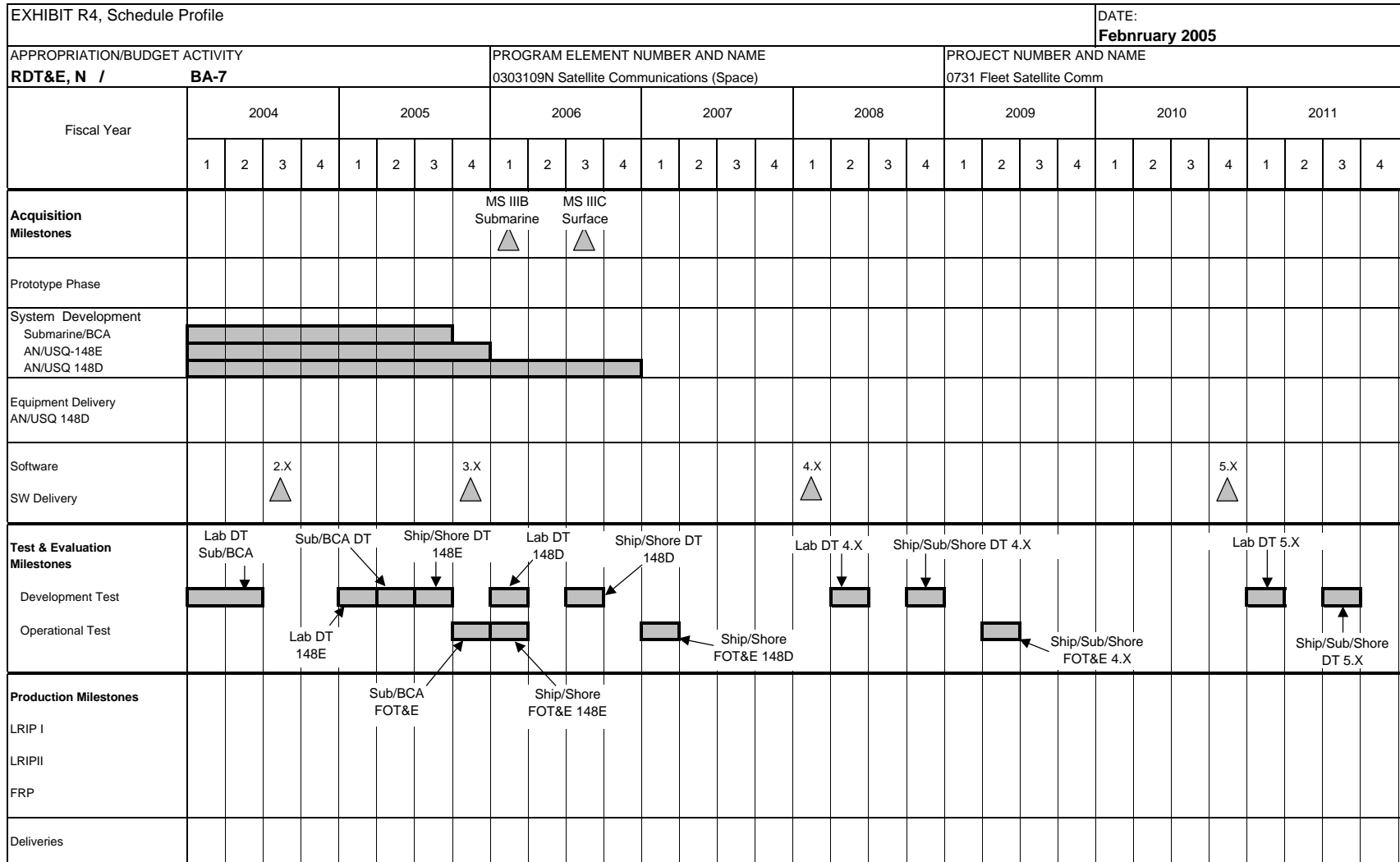
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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 0731 Fleet Satellite Comm					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Total Cost			21.359	0.605		0.631		0.699		0.000	23.294	0.000
Remarks:												

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CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		\$84.433	\$389.408	\$469.999	\$688.307	\$631.970	\$486.081	\$220.039
RDT&E Articles Qty					1	1		
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>U) The Mobile User Objective System (MUOS) program provides for the development of the next generation DoD advanced narrowband communications satellite constellation. The current UHF Follow-On (UFO) constellation is expected to degrade below acceptable availability parameters in 2010. The MUOS program builds on state-of-the-art technologies and best commercial practices to develop a totally responsive joint warfighter system. In addition, new user requirements have been identified and advanced concepts developed to incorporate new programs and technologies which address the significant growth in requirements for military narrowband communications, as required per the approved joint interest MUOS Operational Requirements Document (ORD).</p> <p>(U) This RDT&E effort supports a USecAF approved IOC in 2010 and FOC in 2014. Two Component Advanced Development (CAD) contracts were awarded in Q4 FY 2002. The CAD contracts continued into FY 2004. A single Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 after Key Decision Point (KDP) B, also in September 2004. With KDP-B, MUOS was officially designated a Department of Defense Space Major Defense Acquisition Program. Also included is software development for UFO TT&C Terminal and advanced planning and engineering for the terminals in FY2007.</p>								

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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) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	84.433	389.408	469.999	688.307
RDT&E Articles Quantity				1
<div style="border: 1px solid black; padding: 5px;"> <p>(U) FY04: Completed MUOS CAD contracts and associated system engineering tasks. Also includes forward funding of 48M for FY05 RRDD contract.</p> <p>(U) FY05: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Also includes forward funding of 95.3M for FY06 RRDD contract.</p> <p>(U) FY06: Continue funding for MUOS RRDD contract and associated system engineering tasks.</p> <p>(U) FY07: Continue funding for MUOS RRDD contract and start manufacturing MUOS 1 including associated system engineering tasks. Also includes software development for UFO TT&C Terminal and advanced planning and engineering for the terminals.</p> </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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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) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</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>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
2433 Mobile User Objective System					160.463	532.968	524.237	483.392	896.200	2,597.260

(U) E. 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 RRDD contract was awarded in September 2004 for the first two satellites, system engineering and associated ground infrastructure. WPN funds the remaining four satellites and launch services for all six satellites.

Updates to the ground UFO TT&C terminals that support UFO on-orbit operations are included \$13.2M in FY08 and \$2M FY09.

(U) F. MAJOR PERFORMERS:

Lockheed Martin

(U) G. METRICS:

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

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

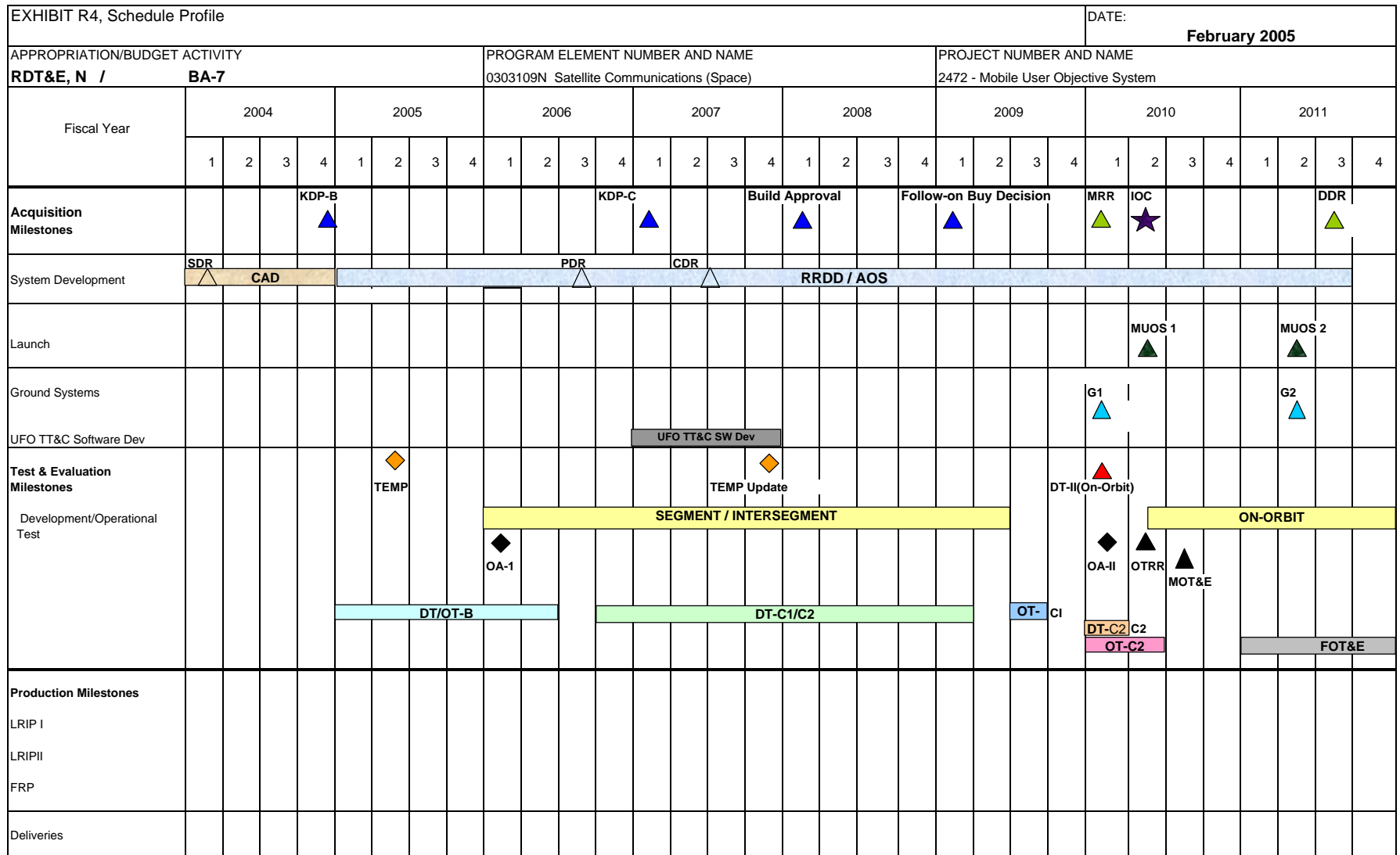
CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 2472 Mobile User Objective System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	CPAF/FP	LM	48.000	353.080	1Q	433.639	1Q	625.668	1Q	1,196.493	2,656.880	2656.880
CE Contracts & Demos	FFP	Boeing/LM/Ratheon/Spec	21.320								21.320	21.320
		Spectrum Astro										
CAD Contracts	FFP	LM/Ratheon	105.154								105.154	105.154
AoA for MUOS	MIPR	Aerospace	2.782								2.782	2.782
Government Studies	VAR		0.711								0.711	
Crypto Procurement	MIPR	NSA	1.520								1.520	1.520
AOS Contract												
Subtotal Product Development			179.487	353.080		433.639		625.668		1,196.493	2,788.367	2787.656
Remarks:												
Development Support											0.000	
Software Development for UFO TT&C								10.500	1Q		10.500	
Integrated Logistics Support			0.500								0.500	
Ground Site Engineering	MIPR	TBD		3.500	1Q	3.500	1Q	3.500	1Q	10.500	21.000	
Leased Lines										23.500	23.500	
Studies & Analyses (EELV)				0.400	1Q	0.800	1Q	16.600		2.000	19.800	
GFE											0.000	
Award Fees												
Subtotal Support			0.500	3.900		4.300		30.600		36.000	75.300	
Remarks:												

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, 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 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	MIPR		0.182	0.840	1Q	0.914	1Q	0.824	1Q	3.688	6.448	
Operational Test & Evaluation	MIPR			0.588	1Q	0.646	1Q	0.715	1Q	4.019	5.968	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.182	1.428		1.560		1.539		7.707	12.416	
Remarks:												
Contractor Engineering Support	PMTO/MIP	VAR	32.301	18.000	1Q	18.000	1Q	18.000	1Q	210.000	296.301	
Government Engineering Support	WX/MIPR	VAR	4.436	5.000	1Q	5.000	1Q	5.000	1Q	62.000	81.436	
Program Management Support	PMTO/MSA	VAR	1.750	7.000	1Q	7.000	1Q	7.000	1Q	35.000	57.750	
Travel	WX		0.295	0.500	1Q	0.500		0.500		10.000	11.795	
ITU IRIS Filing Fee			0.635	0.500							1.135	
Other Support												
Subtotal Management			39.417	31.000		30.500		30.500		317.000	448.417	
Remarks:												
Total Cost			219.586	389.408		469.999		688.307		1,557.200	3,324.500	
Remarks:												

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[CDR]

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Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&BA-7	0303109N Satellite Communications (Space)				2472 Mobile User Objective System				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
System Design Review (SDR)	1Q								
Component Advanced Development (CAD)	1Q-4Q								
Key Decision Point B	4Q								
Risk Reduction and Design Development (RRDD)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q	
DT-B/OT-B		1Q-4Q	1Q-2Q						
Test and Evaluation Master Plan (TEMP)		2Q		4Q					
Operational Assessment (OA-1)			1Q						
Preliminary Design Review (PDR)			3Q						
Key Decision Point C				1Q					
DT-C1			3Q-4Q	1Q-4Q	1Q-4Q				
OT-C1						3Q			
Critical Design Review (CDR)				3Q					
Build Approval					1Q				
Acquisition & Operations Support (AOS)				3Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Follow-On Buy Decision						1Q			
Segment/Intersegment Testing			1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
Ground System (1)							1Q		
DT-C2							1Q		
OT-C2							1Q-2Q		
Developmental Testing (DT-11A) (On Orbit)							1Q		
Mission Readiness Review (MRR)							1Q		
Operational Assessment (OA-11)							1Q		
IOC							2Q		
Launch 1 (M1)							2Q		
On-Orbit Testing							2Q-4Q	1Q-4Q	
Operational Test Readiness Review (OTRR) for MOT&E							2Q		
Ground System (2)								2Q	
Multi-Service Operational Testing & Evaluation (MOT&E)							3Q		
Deployment Decision Review (DDR)								3Q	
Launch 2 (M2)								2Q	
Follow-On Test Evaluation (FOT&E)								1Q-4Q	
UFO TT&C Terminal Software Development				1Q-4Q					

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		\$11.982	\$17.972	\$20.516	\$22.424	\$79.392	\$67.396	\$74.210
RDT&E Articles Qty						4	16	
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) The Navy Transformational Communications Integrated 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 LAN to Antenna capability, including quality of service required for Navy unique missions. 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.</p>								

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
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

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
AWS/TC Concept Development	11.982	17.972	20.516	22.424
RDT&E Articles Quantity				

(U) **FY04:** Continued concept exploration systems engineering and analysis. Began building and testing prototype systems components including the multiband feed assemblies, multiband Radio Frequency (RF) equipment, multiband antenna radome for Radar Cross Section reduction and RF transmissibility. FY 2004 goals are to validate component designs for migration to system level inclusion.

(U) **FY05:** Migrate component prototypes tested in FY 2004 into a terminal level design. Begin system level engineering process to determine optimal tradeoffs between cost and performance. Build prototypes of terminal level components (multi band antenna system, multi-band IF and RF generation systems).

(U) **FY06:** Continue system level engineering process to determine optimal tradeoffs between cost and performance. Continue building prototypes of terminal level components (multi band antenna system, multi-band IF and RF generation systems).

(U) **FY07:** Award System Design & Development (SDD) contract(s); commence development of terminal suite components to include network modifications, routers, information assurance, and the SATCOM terminal, addressing networking, link and physical layers required to communicate with Transformational Communications MILSATCOM (TCM) System. Develop high-level test plan and continue systems engineering activities.

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APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communications (Space)	PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	12.564	18.452	62.702	104.263
FY06 President's Budget	11.982	17.972	20.516	22.424
Total Adjustments	-0.582	-0.480	-42.186	-81.839

Summary of Adjustments

Congressional Adjustments				
Congressional Recissions		-0.480		
Reprogrammings	-0.239			
Programmatic Adjustments			-42.640	-83.028
Economic Assumptions			0.567	1.261
Pricing Adjustments			-0.113	-0.072
SBIR/STTR Transfers	-0.343			
Subtotal	-0.582	-0.480	-42.186	-81.839

(U) Schedule:

Acquisition Strategy development and refinement began in FY04. Milestone B is currently projected in FY06. A draft schedule is provided in R4 exhibit. Changes in draft schedule are driven by space segment schedule changes and modifications to draft acquisition strategy. Previously planned prototype and EDM development schedules were combined into a Terminal Suite Development phase.

(U) Technical:

Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005																							
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																									
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Line Item No. & Name</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY 2004</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY 2005</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY 2006</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY 2007</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY 2008</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY 2009</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY 2010</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>FY 2011</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>To Complete</u></th> <th style="text-align: center; border-bottom: 1px solid black;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>321500 - OPN Ship and Shore*</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">23.913</td> <td style="text-align: center;">91.374</td> <td style="text-align: center;">174.774</td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">Continuing</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) E. ACQUISITION STRATEGY:</p> <p style="margin-left: 20px;">TBD until the system architecture is defined by the ongoing Transformational Communication Study.</p> <p style="margin-top: 20px;">(U) F. MAJOR PERFORMERS:</p> <p style="margin-left: 20px;">TBD</p> <p style="margin-top: 20px;">(U) G. METRICS:</p> <p style="margin-left: 20px;">Earned Value Management (EVM) is used for metrics reporting and risk management.</p>										<u>Line Item No. & Name</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>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	321500 - OPN Ship and Shore*	N/A	N/A	N/A	N/A	N/A	23.913	91.374	174.774	Continuing	Continuing
<u>Line Item No. & Name</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>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																					
321500 - OPN Ship and Shore*	N/A	N/A	N/A	N/A	N/A	23.913	91.374	174.774	Continuing	Continuing																					

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, 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 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	Various	Various	11.774	11.890	11/04	15.241	10/05	16.618	10/06	Continuing	Continuing	
Ancillary Hardware Development												
Systems Engineering	Various	Various	1.359	1.374	10/04	1.758	10/05	1.804	10/06	Continuing	Continuing	
Systems Engineering	WR	NUWC	0.895	0.885	10/04	0.985	10/05	0.993	10/06	Continuing	Continuing	
Subtotal Product Development			14.028	14.149		17.984		19.415		Continuing	Continuing	
Remarks:												
Development Support	WR	SSC SD	0.860	1.191	10/04	1.223	10/05	1.324	10/06	Continuing	Continuing	
Integrated Logistics Support							10/05	0.232	10/06		0.000	
Studies & Analyses	Various	Various	2.275	1.603	10/04	0.242	10/05	0.272	10/06	Continuing	Continuing	
Subtotal Support			3.135	2.794		1.465		1.828		Continuing	Continuing	
Remarks:												

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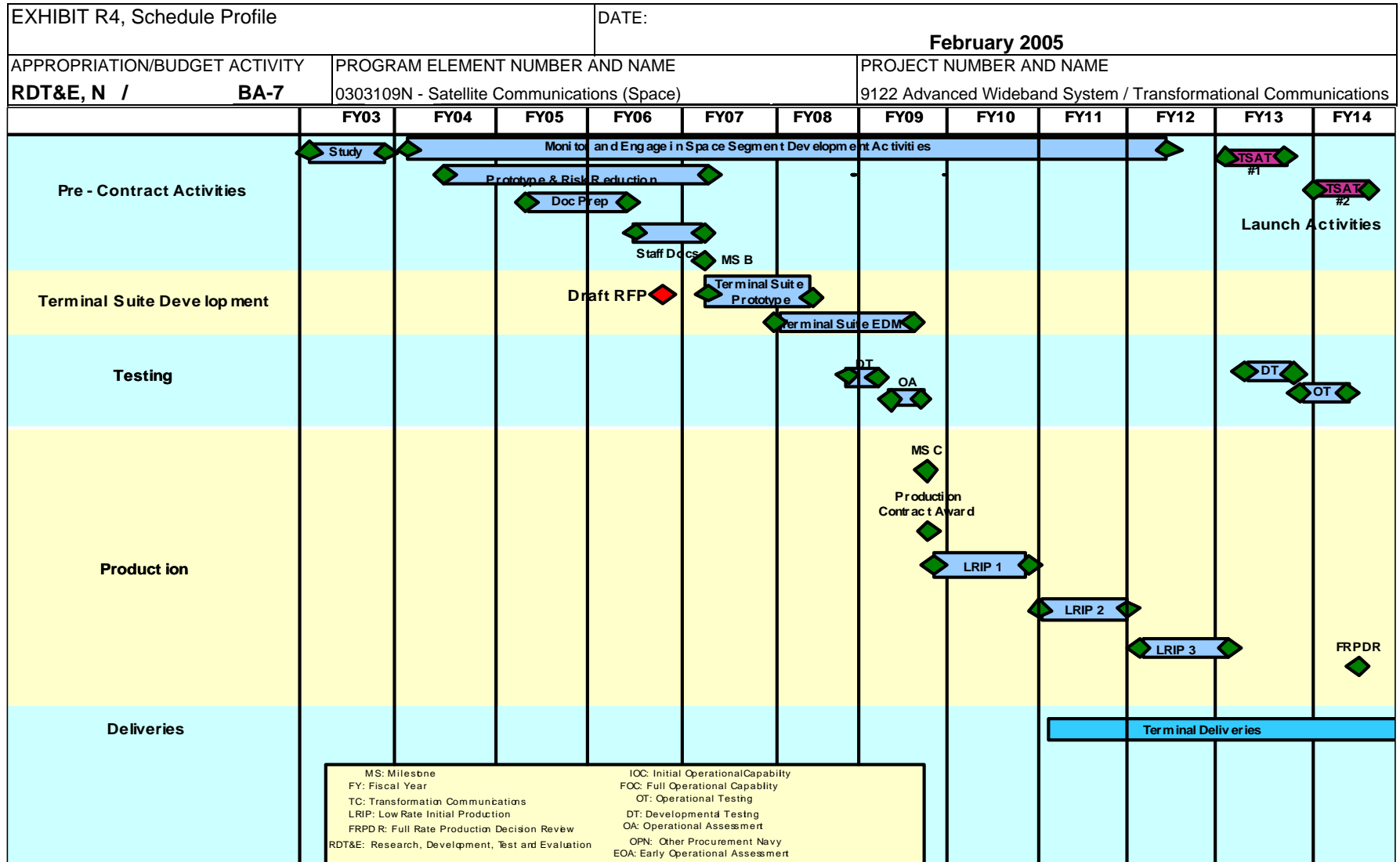
CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME 9122 Advanced Wideband System / Transformational Communications					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Development Support											0.000	
Program Management Support	Various	Various	0.446	0.954	10/04	0.970	10/05	1.069	10/06	Continuing	Continuing	
Studies & Analyses											0.000	
Travel			0.047	0.075	10/04	0.097	10/05	0.112	10/06		0.331	
Subtotal Management			0.493	1.029		1.067		1.181		Continuing	Continuing	
Remarks:												
Total Cost			17.656	17.972		20.516		22.424		Continuing	Continuing	
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME		
RDT&E, N / BA-7		0303109N - Satellite Communications (Space)				9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		0.000	4.844	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress. The project was realigned to PEO C4I & Space from the United States Air Force starting in FY04 to meet the requirements and funding priorities established for the project.</p> <p>Conduct JIST-NET software development and engineering analysis operations. Program is currently in the system and software engineering phase. The project will have the necessary system and software engineering to PEO C4I & Space, PMW 170 team define requirements and interface/integrate existing and newly developed SATCOM mission management capabilities into the JIST-NET project. The contractor will update the JIST-NET Software Design for the next JIST-NET prototype using the results of the Software Requirements Analyses. The Software Design Update will build upon the current JIST-NET V1S3 prototype software. The contractor will design, implement, and test the next JIST-NET prototype. Also, comprehensive studies of the actual usage of satellite resources in a given Area Of Responsibility (AOR) for a specified period of time will be done. Support will include all requirements analysis and development and interface definition support. The project team will provide all the necessary tools, software, documentation, and support necessary to accomplish the required analysis and integration. 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 Commanders.</p>								

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																															
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0303109N - Satellite Communications (Space)	PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)																															
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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> <th style="width: 10%; text-align: right;">FY 2006</th> <th style="width: 10%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">4.844</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">4.844</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: 20px;">Summary of Adjustments</td> </tr> <tr> <td>Congressional Increase</td> <td></td> <td style="text-align: right;">4.900</td> <td></td> <td></td> </tr> <tr> <td>Congressional Rescissions</td> <td></td> <td style="text-align: right;">-0.056</td> <td></td> <td></td> </tr> <tr> <td colspan="5" style="padding-top: 20px;"> <div style="border-top: 1px solid black; margin-top: 10px;"></div> </td> </tr> <tr> <td style="text-align: right; padding-top: 20px;">Subtotal</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">4.844</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 40px;">(U) Schedule: Not Applicable.</p> <p style="margin-top: 40px;">(U) Technical: Not Applicable.</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY05 President's Budget	0.000	0.000	0.000	0.000	FY06 President's Budget	0.000	4.844	0.000	0.000	Total Adjustments	0.000	4.844	0.000	0.000	Summary of Adjustments					Congressional Increase		4.900			Congressional Rescissions		-0.056			<div style="border-top: 1px solid black; margin-top: 10px;"></div>					Subtotal	0.000	4.844	0.000	0.000
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EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-7			0303109N Satellite Communications (Space)				9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)			
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</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>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
0204163N - RDT&E FLEET COMMUNICATIONS	6.742	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Continuing	Continuing
 (U) E. ACQUISITION STRATEGY:										
 (U) F. MAJOR PERFORMERS:										
NUWC (Newport, RI)										
SSC CH (Charleston, SC)										
(U) G. METRICS:										

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N - Satellite Communications (Space)			PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	Various	Various	0.000	1.694	01/05					0.000	1.694	
Software Development	Various	Various	0.000	1.932	01/05					0.000	1.932	
Subtotal Product Development			0.000	3.627		0.000		0.000		0.000	3.627	
Remarks:												
Studies & Analyses	Various	Various	0.000	0.847	01/05							
Subtotal Support			0.000	0.847		0.000		0.000		0.000	0.847	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N - Satellite Communications (Space)			PROJECT NUMBER AND NAME 9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC CH (Charleston, SC)	0.000	0.150	11/04					0.000	0.150	
Subtotal T&E			0.000	0.150		0.000		0.000		0.000	0.150	
Remarks:												
Program Management Support	Various	Various	0.000	0.220	01/05					0.000	0.220	
Subtotal Management			0.000	0.220		0.000		0.000		0.000	0.220	
Remarks:												
Total Cost			0.000	4.844		0.000		0.000		0.000	4.844	
Remarks:												

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CLASSIFICATION:									
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0303109N Satellite Communiations (Space)				PROJECT NUMBER AND NAME X9429 SPAWAR Covert Communication and Information Transfer			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		1.728	0.988	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Covert Communications required for operational utilization.									

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
CCIT	1.728	0.988	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>				
<div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>				
	FY 04	FY 05	FY 06	FY 07
	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
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	FY 04	FY 05	FY 06	FY 07
	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="width: 45%;"></th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> <th style="width: 10%; text-align: right;">FY 2006</th> <th style="width: 10%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">1.728</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">1.728</td> <td style="text-align: right;">0.988</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.988</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 * Include Issue No. & Cong. Language Sec. if applicable</td> </tr> <tr> <td> Congressional Add : Covert Communications</td> <td></td> <td style="text-align: right;">1.000</td> <td></td> <td></td> </tr> <tr> <td> Congressional Rescission</td> <td></td> <td style="text-align: right;">-0.012</td> <td></td> <td></td> </tr> <tr> <td style="padding-top: 10px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.988</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> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable</p> <p style="margin-top: 20px;">(U) Technical: Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY05 President's Budget	1.728				FY06 President's Budget	1.728	0.988	0.000	0.000	Total Adjustments	0.000	0.988	0.000	0.000	Summary of Adjustments * Include Issue No. & Cong. Language Sec. if applicable					Congressional Add : Covert Communications		1.000			Congressional Rescission		-0.012			Subtotal	0.000	0.988	0.000	0.000
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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 46 of 48)

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0303109N Satellite Communications (Space)				X9429 SPAWAR Covert Communication and Information Transfer					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Systems Engineering	WX	SSC-CH	0.328	0.164							0.492	
Systems Engineering	RC	NSMA/AMTI	1.400	0.824							2.224	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			1.728	0.988		0.000		0.000		0.000	2.716	
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0303109N Satellite Communications (Space)				PROJECT NUMBER AND NAME X9429 SPAWAR Covert Communication and Information Transfer					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Development Support											0.000	
Program Management Support											0.000	
Studies & Analyses											0.000	
Travel											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			1.728	0.988		0.000		0.000		0.000	2.716	
Remarks:												

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