Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303109N: *Satellite Communications (Space)*							
COST ($ in Millions)	**FY 2009 Actual**	**FY 2010 Estimate**	**FY 2011 Base Estimate**	**FY 2011 OCO Estimate**	**FY 2011 Total Estimate**	**FY 2012 Estimate**	**FY 2013 Estimate**	**FY 2014 Estimate**	**FY 2015 Estimate**	**Cost To Complete**	**Total Cost**
Total Program Element	625.193	471.917	422.268	0.000	422.268	267.740	155.504	6.761	7.225	Continuing	Continuing
0728: *EHF SATCOM Terminals*	113.931	82.476	16.145	0.000	16.145	20.773	28.257	6.564	7.026	Continuing	Continuing
0731: *FLTSATCOM*	10.280	1.062	0.424	0.000	0.424	1.328	1.247	0.197	0.199	Continuing	Continuing
2472: *Mobile User Objective Sys (MUOS)*	499.973	385.864	405.699	0.000	405.699	245.639	126.000	0.000	0.000	0.000	3,962.057
9122: *Adv Wideband System Integrated Term Prog*	0.212	2.515	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	64.402
9999: *Congressional Adds*	0.797	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.485

A. Mission Description and Budget Item Justification

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 Global Satellite (WGS) and Global Broadcast System (GBS). 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. Program efforts include investigation of emergent technologies through studying, development, and testing of insertion feasibility.

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

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(NCTAMS) Atlantic (LANT), NCTAMS Pacific (PAC), Naval Computer & Telecommunications Station (NCTS) Naples and NCTS Guam. It also replaces non-supportable aging WSC-5 terminals. It provides centralized control of full UHF Follow-On (UFO) satellite constellation. It 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. It remains backward compatible with all versions of all Demand Assigned Multiple Access (DAMA) waveforms and supports future waveform modifications and additions. It implements decentralized management of UHF SATCOM communications assets. It provides automated planning and management of UHF MILSATCOM resources with the Network Management System (NMS). It maintains planning reference data: terminals, networks, configuration codes. It 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.

The Sensitive Compartmented Information Networks (SCI Networks) will provide enabling technology for 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 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 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). 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 began migrating to the Integrated Shipboard Network System (ISNS) Increment 2/Consolidated Afloat Network Enterprise 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); Afloat Core Services (ACS) and Multi-Level Security (MLS)/Cross Domain Solutions (CDS). CANES Increment 1 transition begins in FY 2010.

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 deliver near real time data, enhancing the Common Operational Picture (COP) to support warfare areas including: Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASUW), Undersea Warfare (USW), and Electronic Warfare (EW). The program encompass all Maritime (Navy, Coast Guard, and Air Force) IBS systems (Joint Tactical Terminal - Maritime (JTT-M) and a Radiant Ether (RE) follow-on like system known as Network Enabled IBS (NEIBS)). These systems will provide the Navy, Coast Guard and other joint platforms with a coherent approach to fielding maritime IBS systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy	DATE: February 2010
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NEIBS (RE follow-on): An IBS network solution that provides IBS data to users via SIPRNET, while minimizing utilized bandwidth. NEIBS 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 receive IBS data through the shipboard network. It will reside on the ship's General Secret (GENSER) Local Area Network (LAN), providing data to required Tactical Data Processors (TDPs) via Transmission Control Protocol/Internet Protocol (TCP/IP).

Internet Protocol version 6 (IPv6): Manage and resource/coordinate resourcing of experiments and pilot testing of 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.

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 2011. The MUOS Program requirements are baselined to the 15 January 2008 Capability Production Document (CPD) Increment 1 validated by Joint Requirements Oversight Council Memorandum (JROCM) 015-08, which was derived from the 17 July 2001 MUOS Operational Requirements Documents (ORD) as modified by JROCM 187-03, dated 23 September 2003.

This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports an On-Orbit Capability (OOC) in calender year (CY) 2011 and Full Operational Capability (FOC) in CY2015. 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.

In FY 2011, MUOS efforts will be focused on completion of work on the assembly, integration and testing of satellite 1, satellite 1 shipment and launch vehicle mate operations and launch. Continue work on assembly, integration and testing of satellite 2. Complete development and test of follow-on versions of the CAI waveform. Complete ground systems software development/final qualification tests, as well as assembly/integration/factory acceptance tests. Complete site acceptance test at Wahiawa and Australia ground stations.

Note: The Navy anticipates requesting a reprogramming to meet FY10 requirements.

The UHF SATCOM Hosted Payload effort was funded to mitigate some of the long-term legacy UHF gap caused by projected UFO failures and the availability of the MUOS-compatible Joint Tactical Radio System (JTRS). FY09 funding supported the acquisition strategy development and contract planning efforts for the development of a UHF Hosted Payload capability. In February 2009, the Hosted Payload program was cancelled. Studies have identified methods to obtain a cost-effective, low risk path to implement legacy payload changes to mitigate any on-orbit losses of UHF capability and ensure continuity of legacy requirements. FY10 plan is to pursue additional UHF capability and incorporate into the MUOS spacecraft's final assembly and integration for Flight 1 and Flight 2.

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9122 Advanced Wideband System/Transformational Communications: The Navy Transformational Communications (NTC) terminal program was to provide US Navy ships, submarines and shore sites with access to the Transformational Communications Satellite. SECDEF has recommended this program for termination. As a consequence the basis for the NTC is no longer valid. Navy will utilize remaining funds to close out the program and properly document the research and development done to date.

B. Program Change Summary ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	651.227	474.009	0.000	0.000	0.000
Current President's Budget	625.193	471.917	422.268	0.000	422.268
Total Adjustments	-26.034	-2.092	422.268	0.000	422.268
• Congressional General Reductions		-1.967			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.125			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-6.966	0.000			
• SBIR/STTR Transfer	-19.068	0.000			
• Program Adjustments	0.000	0.000	422.268	0.000	422.268

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2009	FY 2010
Project: 9999: *Congressional Adds*		
Congressional Add: *JOINT INTEGRATED SYSTEMS FOR ADVANCED DIGITAL NETW*	0.797	0.000
Congressional Add Subtotals for Project: 9999	0.797	0.000
Congressional Add Totals for all Projects	0.797	0.000

Change Summary Explanation

Schedule:
EHF Satcom Terminals (project 0728)
Milestone C has shifted from April to June 2010.

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy	DATE: February 2010
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Fleet Satellite Comm. (project 0731)
Digital Modular Radio (DMR) Fleet Satellite Comm: The decision to incorporate the Mobile User Objective System (MUOS) waveform into the existing DMR software infrastructure is a requirement identified late in FY09. The full developmental timeline is anticipated to be 24 to 36 months after award of contract.

Sensitive Compartmented Information (SCI) Networks: Minor software delivery and testing updates. Events added for migration to Integrated Shipboard Network System (ISNS) Inc 2/Consolidated Adaptive Network Edge Services (CANES) began in FY 2009 to move to a Common Computing Environment (CCE) and Service Oriented Architecture (SOA). System development for AN/USQ 148A(V)5 and B(V) and B(V)3 shifts from 4Q/FY09 to 2Q/FY10 with associated Development Test Assist (DTA) from 4Q/FY09 to 3Q/FY10 and equipment delivery from 4Q/FY09 to 3Q/FY10. Full transition to CANES Inc 1 occurs in FY 2010.

Mobile User Objective System (project 2472)
MUOS schedule reflects changes to the test plan, launch, and On-Orbit Capability dates for Satellites 1 and 2. Changes result from technical design & development challenges for spacecraft 1, causing contractor schedule margin erosion.

Deleted Hosted Payload program from schedule.

Technical:
Mobile User Objective System (project 2472): No significant technical changes.

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

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
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COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
0728: *EHF SATCOM Terminals*	113.931	82.476	16.145	0.000	16.145	20.773	28.257	6.564	7.026	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

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 Global Satellite (WGS), and Global Broadcast System (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.

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.

FY11 Base Funding will be used to continue the development of X-band capability and conduct associated development and operational testing.

FY11 OCO: N/A.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
NMT Development	109.317	82.476	16.145	0.000	16.145

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Overall program efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of satellite communications-related program insertion. They also include first and second phases of Navy Multiband Terminal (NMT) development for System Design and Development (SDD) for ship, shore, and submarine platforms. *FY 2009 Accomplishments:* Completed design and development of 20 Q/Ka capable engineering development models (EDMs), X-band add-ons for submarines, and continued development of X/Ka upgrade kits for ships. Additional security measures included in terminal software and hardware were incorporated and tested via DITSCAP (Defense Information Technology Security Certification and Accredidation Process) testing. Two EDMs were delivered and installed on a ship or submarine platform, and a shore site that supported DT/OT and preparations for Milestone C. *FY 2010 Plans:* Conduct DT/Operational Assessment (OA) of Q/Ka-band capabilities and perform associated system modifications as merited by test results. Receive Milestone C approval. Develop X-band capability. The remaining eighteen EDMs will be delivered in the 1st quarter and installed on ships and submarine platforms and shore sites to support DT/OT and preparations for Milestone C. *FY 2011 Base Plans:* Continue development of X-band capability and conduct associated DT/OT. Perform associated system modifications as merited by test results.					
Commercial Broadband Satellite Program (CBSP) *FY 2009 Accomplishments:* Completed development of acquisition documentation and testing of commercial off the shelf terminals.	4.614	0.000	0.000	0.000	0.000

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals	113.931	82.476	16.145	0.000	16.145

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/3215: *CBSP*	30.002	11.545	12.402	0.000	12.402	9.262	6.374	7.212	7.557	0.000	84.354
• OPN/3216: *NMT*	0.000	62.973	161.021	0.000	161.021	195.541	200.673	253.902	271.893	0.000	1,146.003

D. Acquisition Strategy

Navy Multiband Terminal concept exploration contracts were awarded in FY 2001. 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 down select to Raytheon occurred for the development, demonstration and procurement of 20 Engineering Development Models (EDMs) which will incorporate integrated multi-band capabilities for Q/Ka band, Submarine X-Band, and Ship X/Ka frequency band communication requirements.

Commercial Broadband Satellite Program (CBSP) will support satellite communication 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. Acquisition documentation development and concept studies and analyses will be accomplished using existing contracts.

E. Performance Metrics

The RDT&E goal for the NMT program is to create a military satellite communications system that consolidates capabilities of current and future satellite systems in a single terminal.

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

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	C/CPAF	Various Various	177.754	0.000		0.000		0.000		0.000	0.000	177.754	Continuing
Hardware Development	C/FFP	Harris Melbourne, FL	6.551	0.000		0.000		0.000		0.000	0.000	6.551	Continuing
NMT EDM Development	C/CPAF	Raytheon Marlborough, MA	158.106	47.275	Oct 2009	7.448	Oct 2010	0.000		7.448	0.000	212.829	Continuing
Hardware Development	WR	SSC PAC San Diego, CA	1.077	0.000		0.000		0.000		0.000	0.000	1.077	Continuing
Ancillary Hardware Development	C/CPAF	Raytheon Marlborough, MA	57.790	0.000		0.000		0.000		0.000	0.000	57.790	Continuing
Software Development	WR	NUWC Newport, RI	9.161	0.000		0.000		0.000		0.000	0.000	9.161	Continuing
Software Development	C/CPAF	Raytheon Marlborough, MA	26.372	12.214	Oct 2009	2.174	Oct 2010	0.000		2.174	0.000	40.760	Continuing
Systems Engineering	WR	SSC PAC San Diego, CA	20.861	2.759	Oct 2009	0.245	Oct 2010	0.000		0.245	0.000	23.865	Continuing
Systems Engineering	WR	NUWC Newport, RI	20.833	5.411	Oct 2009	0.500	Oct 2010	0.000		0.500	0.000	26.744	Continuing
Systems Engineering	Various/ Various	Various Various	34.224	3.576	Oct 2009	0.000	Oct 2009	0.000		0.000	0.000	37.800	Continuing
Government Furnished Equipment	Various/ Various	Various Various	10.124	0.000		0.000		0.000		0.000	0.000	10.124	Continuing
		Subtotal	522.853	71.235		10.367		0.000		10.367	0.000	604.455	

Remarks

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

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	Various Various	9.637	1.375	Oct 2009	0.400	Oct 2010	0.000		0.400	0.000	11.412	Continuing
Logistics Support	Various/ Various	Various Various	2.603	0.702	Oct 2009	0.250	Oct 2010	0.000		0.250	0.000	3.555	Continuing
Studies & Analysis	WR	Various Various	6.702	0.167	Oct 2009	0.000		0.000		0.000	0.000	6.869	Continuing
Information Assurance	Various/ Various	Various Various	2.752	0.734	Oct 2009	0.400	Oct 2010	0.000		0.400	0.000	3.886	Continuing
		Subtotal	21.694	2.978		1.050		0.000		1.050	0.000	25.722	

Remarks

Test and Evaluation ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC San Diego, CA	15.341	0.000		2.000	Oct 2010	0.000		2.000	0.000	17.341	Continuing
Operational Test & Evaluation	WR	Various Various	1.956	0.000		1.800	Oct 2010	0.000		1.800	0.000	3.756	Continuing
		Subtotal	17.297	0.000		3.800		0.000		3.800	0.000	21.097	

Remarks

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

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Management	Various/ Various	Various Various	8.403	1.666	Oct 2009	0.125	Oct 2010	0.000		0.125	0.000	10.194	Continuing
Program Management	Various/ Various	Various Various	12.605	3.270	Oct 2009	0.245	Oct 2010	0.000		0.245	0.000	16.120	Continuing
Acquisition Management	Various/ Various	Various Various	8.177	3.020	Oct 2009	0.245	Oct 2010	0.000		0.245	0.000	11.442	Continuing
Acquisition Management	WR	NCCA Various	0.653	0.000		0.000		0.000		0.000	0.000	0.653	Continuing
Travel	Various/ Various	Govt Travel Various	0.987	0.307		0.313		0.000		0.313	0.000	1.607	Continuing
Acquisition Workforce	Allot	Not Specified Not Specified	0.000	0.000		0.000		0.000		0.000	0.000	0.000	Continuing
		Subtotal	30.825	8.263		0.928		0.000		0.928	0.000	40.016	

Remarks

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	592.669	82.476		16.145		0.000		16.145	0.000	691.290	

Remarks

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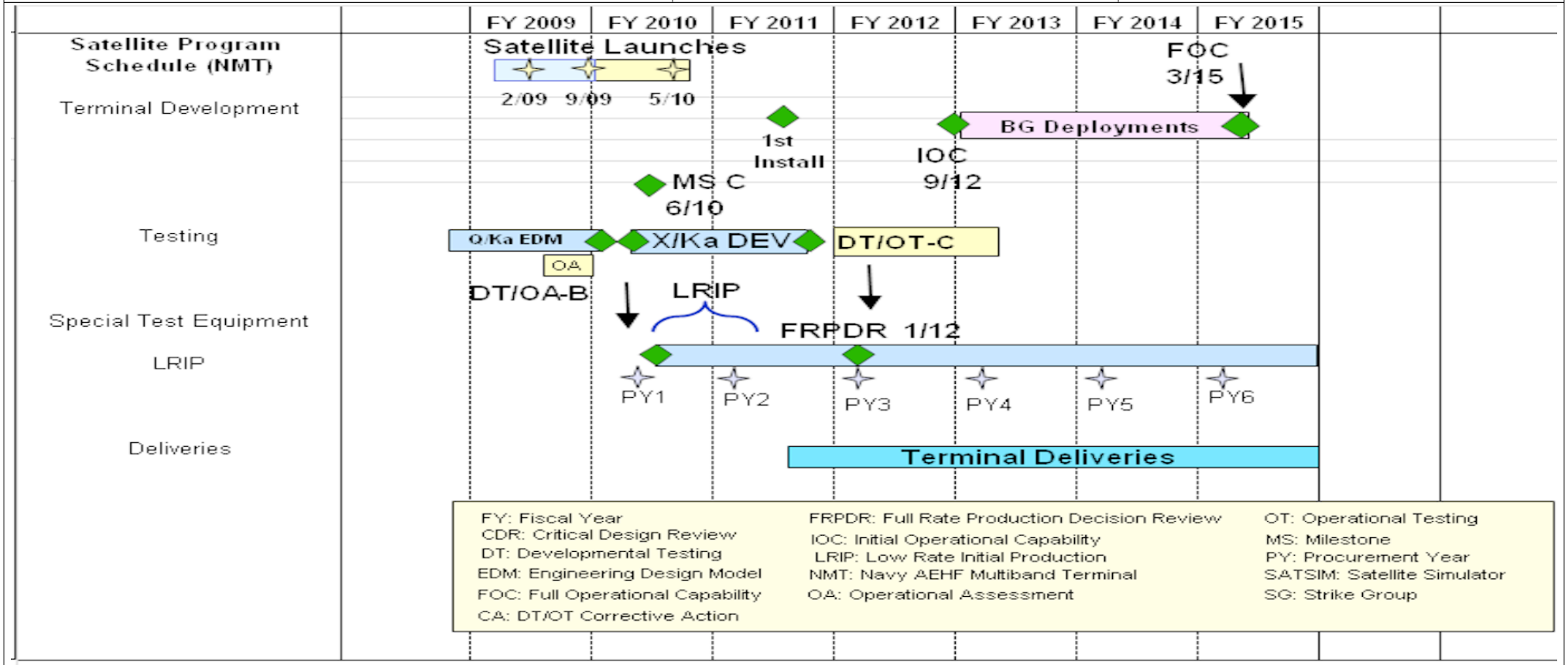

Note:
Reflects development of 20 Engineering Development Models (EDMs).
Milestone C changed from April to June 2010.

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303109N: *Satellite Communications (Space)*	PROJECT 0728: *EHF SATCOM Terminals*

Schedule Details

	Start		End	
Event	Quarter	Year	Quarter	Year
Prototype Complete	1	2009	1	2009
Engineering Development Model (EDM) Begins (Quantity = 20)	1	2009	1	2009
Developmental Testing (DT)	4	2009	4	2009
Operational Assessment (OA)	4	2009	4	2009
Milestone C	3	2010	3	2010
Start Low-Rate Initial Production I (LRIP I)	3	2010	3	2010
Start LRIP II	1	2011	1	2011
LRIP I Delivery	2	2011	2	2011
DT	1	2012	1	2012
Operational Testing (OT)	2	2011	2	2011
Full Rate Production Decision Review (FRPDR)	2	2011	2	2011
Procurement Year III	2	2011	2	2011
Initial Operational Capability (IOC)	4	2011	4	2011
Procurement Year IV	2	2013	2	2013
Procurement Year V	2	2014	2	2014
Procurement Year VI	2	2015	2	2015
Full Operational Capability (FOC)	2	2015	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
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COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
0731: *FLTSATCOM*	10.280	1.062	0.424	0.000	0.424	1.328	1.247	0.197	0.199	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

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. It replaces non-supportable aging WSC-5 terminals and provides centralized control of full UHF Follow-On (UFO) satellite constellation. It 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. It remains backward compatible with all versions of all Demand Assigned Multiple Access (DAMA) waveforms; supports future waveform modifications and additions. It implements decentralized management of UHF SATCOM communications assets. Automated planning and management of UHF MILSATCOM resources with the Network Management System (NMS). It maintains planning reference data including terminals, networks, and configuration codes. It 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.

Sensitive Compartmented Information Networks (SCI Networks) will provide enabling technology necessary for 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 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 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). 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 began migrating to the Integrated Shipboard Network System (ISNS) Increment 2/Consolidated Afloat Network Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will transition Fleet networks to a single, adaptive, available, and secure computing network infrastructure while delivering

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technologies in: Integrated Voice, Video, and Data; Common Computing Environment (CCE); Afloat Core Services (ACS) and Multi-Level Security (MLS)/Cross Domain Solutions (CDS). CANES Increment 1 transition begins in FY 2010.

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 deliver 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 - Maritime (JTT-M) 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. Radiant Ether (RE) is 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. FY 2010 funding continues to support RE application/architecture integration for Navy IP IBS capabilities. Efforts include completing developmental testing (DT), beginning operational testing (OT) incorporation of changes in architecture, technical documentation, & training curriculum resulting from DT, and obtain network certification. FY 2011 funding continues to support RE application/architecture integration for Navy IP IBS capabilities. Efforts include conducting operational testing (OT), Joint Interoperability Test Command (JITC) interoperability certification and finalizing of all technical documentation.

Internet Protocol version 6 (IPv6): Manage and resource / coordinate resourcing of experiments and pilot testing of 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.

FY 2011 will be utilized for continued SCI Networks 148G (V)2 and COMPOSE 4.0 Lab Development Test, MIBS, and IPv6 Transition development.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
JMINI IW Development	6.525	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Completed IW Technology and software development into Joint Ultra High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated (JMINI) control system architecture. Completed software development of the next JMINI control system to replace non-supported equipment, reduce system components, support tech insertion and system re-architecture. Effort transferred to DISA in FY 2010.					
MIBS / Radiant Ether *FY 2009 Accomplishments:* Supported the integration of Network Enabled Integrated Broadcast Service (NEIBS) (formerly Radiant Ether (RE)) Internet Protocol (IP) based architecture to receive, process, display Integrated Broadcast Service (IBS) data for the Navy. Efforts entailed design architecture testing, documentation, Integrated Logistics Support (ILS) certification and training documentation. *FY 2010 Plans:* Continue to support the integration of NEIBS to receive, process, display IBS data for the Navy. Efforts will entail completing platform integration and developmental testing (DT), incorporate changes in architecture, technical documentation, & training curriculum resulting from DT. *FY 2011 Base Plans:* Continue to support NEIBS to receive, process, display IBS data for the Navy. Efforts will entail conducting developmental testing (DT)/operational testing (OT), Joint Interoperability Test Command (JITC) interoperability certification and finalizing of all technical documentation.	0.617	0.201	0.116	0.000	0.116
SCI Networks	1.162	0.656	0.176	0.000	0.176

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Continued integration and implementation of SCI Networks and associated Special Intelligence Communications. Completed development of AN/USQ-148A(V)5 and AN/USQ-148B(V)3 systems. Continued development of AN/USQ-148G(V)2 and AN/USQ-148H(V)2 systems. Started migration to ISNS Inc 2/CANES. *FY 2010 Plans:* Complete development of AN/USQ-148G(V)2 and AN/USQ-148H(V)2 systems. Conduct DT of COMPOSE 3.5 with AN/USQ-148G(V)2 system. Conduct DT for AN/USQ-148H(V)2. Program continues transition to CANES Increment 1. Conduct AN/USQ-148A(V)5 and AN/USQ-148B(V)3 Lab DTA. *FY 2011 Base Plans:* Conduct 148G(V)2 and COMPOSE 4.0 Lab DTA. Conduct 148H(V)2 and COMPOSE 4.0 Lab DTA. Begin 148G(V)2 and COMPOSE 4.0 DT/OT.					
IPv6 Transition *FY 2009 Accomplishments:* Managed and resourced / coordinated resourcing of experiments and pilot testing of IPv6 technologies. Navy programs of record supported and were expanded to start including software application migration and transition mechanism support. *FY 2010 Plans:* Manage and resource / coordinate resourcing of experiments and pilot testing of IPv6 technologies. The projected work products will include continuation of FY 2009 efforts. Additionally, Navy programs of record supported will continue to include software application migration and transition mechanism support.	1.937	0.205	0.132	0.000	0.132

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: Manage and resource / coordinate resourcing of experiments and pilot testing of IPv6 technologies. The projected work products will include continuation of FY 2010 efforts. Additionally, Navy programs of record supported will continue to include software application migration and transition mechanism support.					
Acquisition Workforce Fund	0.039	0.000	0.000	0.000	0.000
FY 2009 Accomplishments: Funded acquisition workforce fund.					
Accomplishments/Planned Programs Subtotals	10.280	1.062	0.424	0.000	0.424

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/2900: *Maritime Integrated Broadcast Service (MIBS)*	4.345	0.790	6.909	0.000	6.909	8.151	0.896	0.940	0.858	Continuing	Continuing
• OPN/3050: *Comm Auto - SCI NETWORKS*	19.367	34.329	24.618	0.000	24.618	10.333	1.808	0.000	0.000	0.000	90.455
• OPN/3215: *Sat Comm - JMINI*	2.342	0.000	3.362	0.000	3.362	1.624	0.000	0.000	0.000	0.000	7.328

D. Acquisition Strategy

JMINI: The Integrated Waveform upgrade will be performed. It was jointly developed with Defense Information Systems Agency (DISA) with a planned software upload date of June 2009. The JMINI Control System provides channel control to all ultra high frequency satellite communications demand assigned mulitple access (UHF SATCOM DAMA) waveforms globally. The Integrated Waveform capability is an enhancement to those military satellite communications waveforms. Per Net-Centric Functional Capabilities (NC FCB), JMINI Program and DISA are jointly developing technology for emergent delivery to the joint warfighter in June 2009. Technology transition to final implementation into the JMINI architecture has not been determined.

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SCI Networks: Sensitive Compartmented Information (SCI) Networks 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.

E. Performance Metrics

Sensitive Compartmented Information (SCI) Networks: Develops a consolidated SCI architecture that reduces total ownership cost (TOC) of the afloat SI Local Area Network (LAN) systems and reduces the risk for implementation of CANES by introducing a Common Computing Environment (CCE) and an Afloat Cores Services (ACS) Architecture. SCI Networks will begin migrating to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY10. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Service Oriented Architecture (SOA); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).

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COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2472: *Mobile User Objective Sys (MUOS)*	499.973	385.864	405.699	0.000	405.699	245.639	126.000	0.000	0.000	0.000	3,962.057
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

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 2011. The MUOS Program requirements are baselined to the 15 January 2008 Capability Production Document (CPD) Increment 1 validated by Joint Requirements Oversight Council Memorandum (JROCM) 015-08, which was derived from the 17 July 2001 MUOS Operational Requirements Documents (ORD) as modified by JROCM 187-03, dated 23 September 2003.

This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports an On-Orbit Capability (OOC) in calender year (CY) 2011 and Full Operational Capability (FOC) in CY2015. 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.

In FY 2011, MUOS efforts will be focused on completion of work on the assembly, integration and testing of satellite 1, satellite 1 shipment and launch vehicle mate operations and launch. Continue work on assembly, integration and testing of satellite 2. Complete development and test of follow-on versions of the CAI waveform. Complete ground systems software development/final qualification tests, as well as assembly/integration/factory acceptance tests. Complete site acceptance test at Wahiawa and Australia ground stations.

Note: The Navy anticipates requesting a reprogramming to meet FY10 requirements.

The UHF SATCOM Hosted Payload effort was funded to mitigate some of the long-term legacy UHF gap caused by projected UFO failures and the availability of the MUOS-compatible Joint Tactical Radio System (JTRS). FY09 funding supported the acquisition strategy development and contract planning efforts for the development of a UHF Hosted Payload capability. In February 2009, the Hosted Payload program was cancelled. Studies have identified methods to obtain a cost-effective, low risk path to implement legacy payload changes to mitigate any on-orbit losses of UHF capability and ensure continuity of legacy requirements. FY10 plan is to pursue additional UHF capability and incorporate into the MUOS spacecraft's final assembly and integration for Flight 1 and Flight 2.

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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Mobile User Objective Sys (MUOS)	497.028	353.480	405.699	0.000	405.699
FY 2009 Accomplishments: Continued work on fabrication, assembly, integration and testing of the first two satellites. Continued fielding and testing of the ground segment. *FY 2010 Plans:* Continue work on the assembly, integration and testing of satellite 1, continue fabrication of satellite 2, and develop and test early versions of the Common Air Interface (CAI) waveform, including spectrum and certification testing. Design and test additional engineering changes to the contract baseline primarily due to additional National Security Agency (NSA) requirements. Continue software development and testing for the integrated ground system, which includes the MUOS CAI, as well as continue fielding and testing of the equipment for the ground infrastructure. *FY 2011 Base Plans:* Complete work on the assembly, integration and testing of satellite 1, satellite 1 shipment and launch vehicle mate operations, and launch. Continue work on assembly, integration and testing of satellite 2. Complete development and test of follow-on versions of the CAI waveform. Complete ground systems software development/final qualification tests, as well as assembly/integration/factory acceptance tests. Complete site acceptance test at Wahiawa and Australia ground stations.					
UHF Augmentation (formerly known as UHF Hosted Payload)	0.491	32.384	0.000	0.000	0.000
FY 2009 Accomplishments: Developed acquisition strategy and documentation to support contract award for the development of the Ultra-High Frequency (UHF) Satellite Communications (SATCOM) Hosted Payload.					

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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: In February 2009, the Hosted Payload program was cancelled. Studies have identified methods to obtain a cost-effective, low risk path to implement legacy payload changes to mitigate any on-orbit losses of UHF capability and ensure continuity of legacy requirements. FY10 plan is to pursue additional UHF capability and incorporate into the MUOS spacecraft's final assembly and integration for Flight 1 and Flight 2.					
Acquisition Workforce Funding *FY 2009 Accomplishments:* Funded acquisition workforce fund.	2.454	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	499.973	385.864	405.699	0.000	405.699

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 2433: *Mobile User Objective System (MUOS) (WPN Funding)*	342.942	509.863	505.734	0.000	505.734	208.250	206.086	25.678	11.700	Continuing	Continuing

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 (RDT&E,N) funds will be used to procure the first two satellites and to prepare the MUOS ground site located in Australia. 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 were required to prepare MUOS ground sites located in Sicily (Niscemi location), Virginia (Northwest location) and Hawaii (Wahiawa location).

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
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Program Office initiated acquisition strategy and discussions with potential vendors capable of developing the Hosted Payload in FY 2009. The technology development, design and build efforts were planned for FY 2010. In February 2009, the Hosted Payload program was cancelled. Studies have identified methods to obtain a cost-effective, low risk path to implement legacy payload changes to mitigate any on-orbit losses of UHF capability and ensure continuity of legacy requirements. FY10 plan is to pursue additional UHF capability and incorporate into the MUOS spacecraft's final assembly and integration for Flight 1 and Flight 2.

E. Performance Metrics

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

The MUOS Risk Reduction & Design Development (RRDD) contract was awarded to Lockheed Martin in September 2004. Completion of the RDT&E,N funded portion of the contract (CLIN 1) is expected in FY12.
The RDT&E,N funding profile from contract award to completion is represented by the following efforts:

FY05-06: System Engineering efforts associated with preparation and completion of the Preliminary Design Review (PDR); and preparation for the Critical Design Review (CDR).

FY07-08: Completion of CDR phase; procure material and begin fabrication of satellites (Qty 2); and begin design and development of entire ground segment.

FY09-12: Continue assembly, integration and testing, launch and achieve On-Orbit Capability of satellites 1 and 2; develop and test Common Air Interface (CAI) waveform; complete ground system software development/final qualification and acceptance testing. Complete site acceptance test at all ground stations.

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

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	C/CPAF	Lockheed Martin (LM) Sunnyvale, CA	2,409.609	335.785	Jan 2010	390.160	Nov 2010	0.000		390.160	Continuing	Continuing	Continuing
CE Contracts & Demos	C/FFP	LM / Raytheon / Spec Astro / Boeing VAR	21.320	0.000		0.000		0.000		0.000	0.000	21.320	Continuing
CAD Contracts	C/FFP	LM / Raytheon VAR	105.154	0.000		0.000		0.000		0.000	0.000	105.154	Continuing
AoA for MUOS	MIPR	Aerospace El Segundo, CA	2.782	0.000		0.000		0.000		0.000	0.000	2.782	Continuing
Government Studies	Various/ Various	VAR VAR	0.711	0.000		0.000		0.000		0.000	0.000	0.711	Continuing
Crypto Procurement	MIPR	NSA Fort Meade, MD	3.703	0.000		0.000		0.000		0.000	0.000	3.703	Continuing
UHF Hosted Payload	Various/ Various	VAR VAR	0.000	0.000		0.000		0.000		0.000	0.000	0.000	Continuing
UHF Augmentation	C/CPAF	Lockheed Martin (LM) Sunnyvale, CA	0.491	32.384	Jan 2010	0.000		0.000		0.000	0.000	32.875	Continuing
		Subtotal	2,543.770	368.169		390.160		0.000		390.160			

Remarks

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

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
UFO TT&C Terminal Upgrades	Various/ Various	VAR VAR	10.691	0.000		0.000		0.000		0.000	0.000	10.691	Continuing
Facilities Modifications	Various/ Various	VAR VAR	2.260	0.203	Apr 2010	0.207	Apr 2011	0.000		0.207	0.000	2.670	Continuing
Australian Site Prep	C/FFP	Boeing Brisbane, AUS	23.594	1.400	Apr 2010	0.000		0.000		0.000	0.000	24.994	Continuing
Leased Lines	C/FFP	Australian Government Brisbane, AUS	0.000	2.000	Apr 2010	0.000		0.000		0.000	0.000	2.000	Continuing
Studies & Analyses (EELV)	MIPR	SMC/FMAIC El Segundo, CA	0.825	0.000		0.000		0.000		0.000	0.000	0.825	Continuing
ISCS Integration	WR	NAVSOC Point Mugo, CA	6.765	0.223	Apr 2010	0.227	Apr 2011	0.000		0.227	0.000	7.215	Continuing
Narrowband SATCOM SE Group (NSSEG) - MUOS N2N	WR	SSC LANT Charleston, SC	0.623	0.623	Apr 2010	0.623	Apr 2011	0.000		0.623	0.000	1.869	Continuing
		Subtotal	44.758	4.449		1.057		0.000		1.057	0.000	50.264	

Remarks

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

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various/ Various	VAR VAR	3.821	3.377	Jan 2010	3.481	Jan 2011	0.000		3.481	Continuing	Continuing	Continuing
Operational Test & Evaluation	Various/ Various	VAR VAR	2.505	0.450	Jan 2010	1.500	Jan 2011	0.000		1.500	Continuing	Continuing	Continuing
		Subtotal	6.326	3.827		4.981		0.000		4.981			

Remarks

Management Services ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various/ Various	VAR VAR	122.744	5.470	Oct 2009	5.398	Oct 2010	0.000		5.398	Continuing	Continuing	Continuing
Government Engineering Support	Various/ Various	VAR VAR	25.568	2.041	Oct 2009	2.307	Oct 2010	0.000		2.307	Continuing	Continuing	Continuing
Program Management Support	Various/ Various	VAR VAR	34.405	1.708	Oct 2009	1.156	Oct 2010	0.000		1.156	Continuing	Continuing	Continuing
Travel	Various/ Various	VAR VAR	2.241	0.200	Oct 2009	0.200	Oct 2010	0.000		0.200	Continuing	Continuing	Continuing
Frequency Filing	C/FFP	ITU Geneva, CH	0.855	0.000		0.440	Oct 2010	0.000		0.440	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303109N: *Satellite Communications (Space)*	PROJECT 2472: *Mobile User Objective Sys (MUOS)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010 Cost	FY 2010 Award Date	FY 2011 Base Cost	FY 2011 Base Award Date	FY 2011 OCO Cost	FY 2011 OCO Award Date	FY 2011 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IPA/ICAT	Various/ Various	VAR VAR	0.390	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Acquistion Workforce Fund	Various/ Various	VAR VAR	2.454	0.000		0.000		0.000		0.000	0.000	2.454	Continuing
		Subtotal	188.657	9.419		9.501		0.000		9.501			

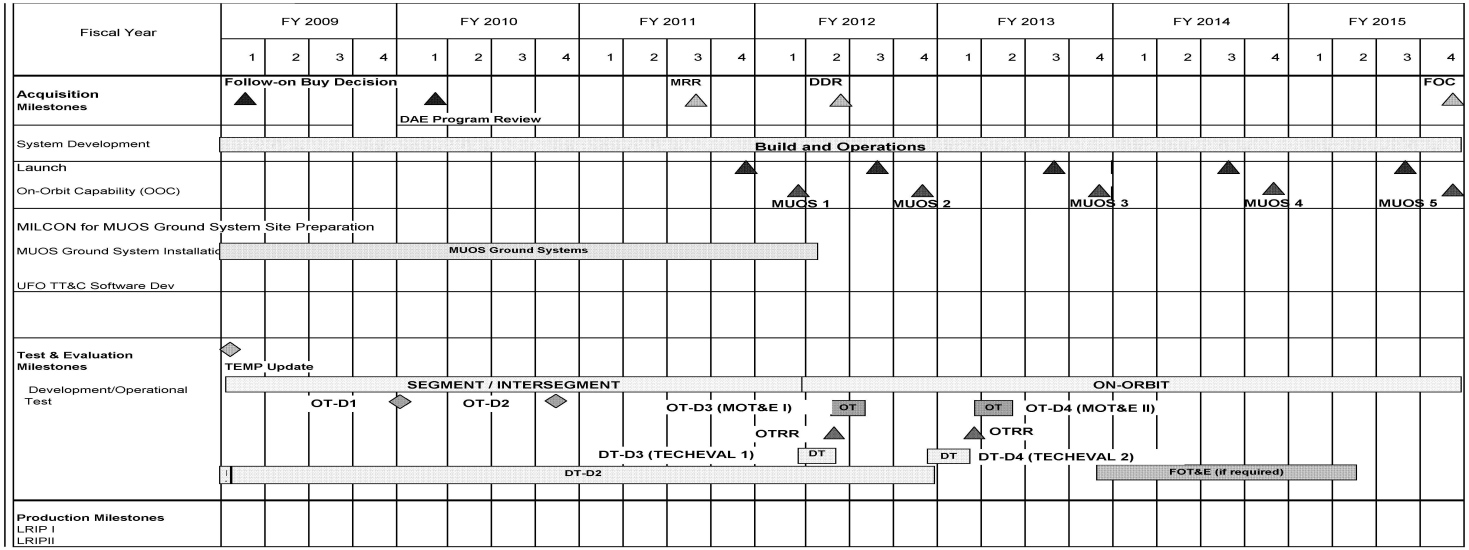
Remarks

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2,783.511	385.864		405.699		0.000		405.699			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303109N: *Satellite Communications (Space)*	**PROJECT** 2472: *Mobile User Objective Sys (MUOS)*

UNCLASSIFIED



Note: Acronyms are spelled out on R-4a

Exhibit R4, Schedule Profile

Change Descriptions:

(1) As a result of loss of all schedule margin and contractor cost overruns, the projected Launch and OOC dates for MUOS Satellites #1-5 have shifted beyond the Prime Contractor's baseline schedule.
(2) Test events reflect the latest notional schedule based on recent change in Launch/OOC dates

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303109N: *Satellite Communications (Space)*	**PROJECT** 2472: *Mobile User Objective Sys (MUOS)*

Schedule Details

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
Test and Evaluation Master Plan (TEMP)	1	2009	1	2009
Segment/Intersegment Testing	1	2009	1	2012
Build and Operations Phase	1	2009	4	2015
Operational Assessment (OT-D1)	1	2010	1	2010
Operational Test Readiness Review (OTRR)	2	2012	1	2013
DT-D2	1	2009	4	2012
Follow-On Buy Decision	1	2009	1	2009
Defense Acquisition Executive (DAE) Review	1	2010	1	2010
DT-D3 Tech Eval 1	1	2012	2	2012
Mission Readiness Review (MRR)	3	2011	3	2011
Operational Assessment (OT-D2)	4	2010	4	2010
Launch of Satellite #1 (MUOS 1)	4	2011	4	2011
On-Orbit Capability for Satellite #1 (MUOS 1)	1	2012	1	2012
MUOS Ground System Installation	1	2009	2	2012
On-Orbit Testing	1	2012	4	2015
OT-D3 Multi-Service Operational Testing & Evaluation (MOT&E 1)	2	2012	3	2012
OT-D4 Multi-Service Operational Testing & Evaluation (MOT&E 2)	1	2013	2	2013
Launch of Satellite #2 (MUOS 2)	3	2012	3	2012

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303109N: *Satellite Communications (Space)*	**PROJECT** 2472: *Mobile User Objective Sys (MUOS)*

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
On-Orbit Capability for Satellite #2 (MUOS 2)	4	2012	4	2012
DT-D4 Tech Eval 2	4	2012	1	2013
Follow-On Test Evaluation (FOT&E)	4	2013	2	2015
Deployment Decision Review (DDR)	2	2012	2	2012
Launch of Satellite #3 (MUOS 3)	3	2013	3	2013
On-Orbit Capability for Satellite #3 (MUOS 3)	4	2013	4	2013
Launch of Satellite #4 (MUOS 4)	3	2014	3	2014
On-Orbit Capability for Satellite #4 (MUOS 4)	4	2014	4	2014
Launch of Satellite #5 (MUOS 5)	3	2015	3	2015
On-Orbit Capability for Satellite #5 (MUOS 5)	4	2015	4	2015
Full Operational Capability (FOC)	4	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303109N: *Satellite Communications (Space)*	PROJECT 9122: *Adv Wideband System Integrated Term Prog*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
9122: *Adv Wideband System Integrated Term Prog*	0.212	2.515	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	64.402
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Navy Transformational Communications (NTC) terminal 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 Secretary of Defense (SECDEF) recommended this program for termination. As a consequence the basis for the NTC is no longer valid. Navy will utilize remaining funds to close out the program and properly document the research and development done to date.

FY11 OCO: N/A

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Adv Wideband System Integrated Term Prog	0.212	2.515	0.000	0.000	0.000
Overall program efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of satellite communications-related program insertion. *FY 2009 Accomplishments:* Participated in Joint TSAT system and terminal development activities. Continued system level engineering process related to Navy TSAT Terminal development with space, TSAT Mission Operations System (TMOS), and joint service activities.					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303109N: *Satellite Communications (Space)*	PROJECT 9122: *Adv Wideband System Integrated Term Prog*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: The Secretary of Defense (SECDEF) recommended this program for termination. As a consequence the basis for the NTC is no longer valid. Navy will utilize remaining funds to close out the program and properly document the research and development done to date.					
Accomplishments/Planned Programs Subtotals	0.212	2.515	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0303109N/9122: *Acquisition Workforce Fund*	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021

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 A decision, including, a terminal specification, Statement of Work (SOW), Acquisition Strategy Report (ASR), and Source Selection Plan.

E. Performance Metrics

N/A.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303109N: *Satellite Communications (Space)*	PROJECT 9122: *Adv Wideband System Integrated Term Prog*

Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	Various/ Various	Various Various	39.619	0.669	Oct 2009	0.000		0.000		0.000	0.000	40.288	Continuing
Systems Engineering1	Various/ Various	Various Various	5.764	0.250	Oct 2009	0.000		0.000		0.000	0.000	6.014	Continuing
Systems Engineering2	WR	Various Various	4.418	0.450		0.000		0.000		0.000	0.000	4.868	Continuing
		Subtotal	49.801	1.369		0.000		0.000		0.000	0.000	51.170	

Remarks

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	Various Various	4.665	0.200	Oct 2009	0.000		0.000		0.000	0.000	4.865	Continuing
Studies & Analysis	WR	Various Various	3.735	0.190		0.000		0.000		0.000	0.000	3.925	Continuing
Information Assurance	WR	Various Various	1.040	0.400	Oct 2009	0.000		0.000		0.000	0.000	1.440	Continuing
		Subtotal	9.440	0.790		0.000		0.000		0.000	0.000	10.230	

Remarks

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303109N: *Satellite Communications (Space)*	PROJECT 9122: *Adv Wideband System Integrated Term Prog*

Management Services ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various/ Various	Various Various	0.349	0.000		0.000		0.000		0.000	0.000	0.349	Continuing
Program Management Support	Various/ Various	Various Various	1.922	0.100	Oct 2009	0.000		0.000		0.000	0.000	2.022	Continuing
Acquisisiton Management Support	Various/ Various	Various Various	0.853	0.200	Oct 2009	0.000		0.000		0.000	0.000	1.053	Continuing
Travel	Various/ Various	Various Various	0.318	0.056		0.000		0.000		0.000	0.000	0.374	Continuing
Acquistion Workforce	Allot	Not Specified Not Specified	0.000	0.000		0.000		0.000		0.000	0.000	0.000	Continuing
		Subtotal	3.442	0.356		0.000		0.000		0.000	0.000	3.798	

Remarks

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	62.683	2.515		0.000		0.000		0.000	0.000	65.198	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303109N: *Satellite Communications (Space)*	**PROJECT** 9122: *Adv Wideband System Integrated Term Prog*

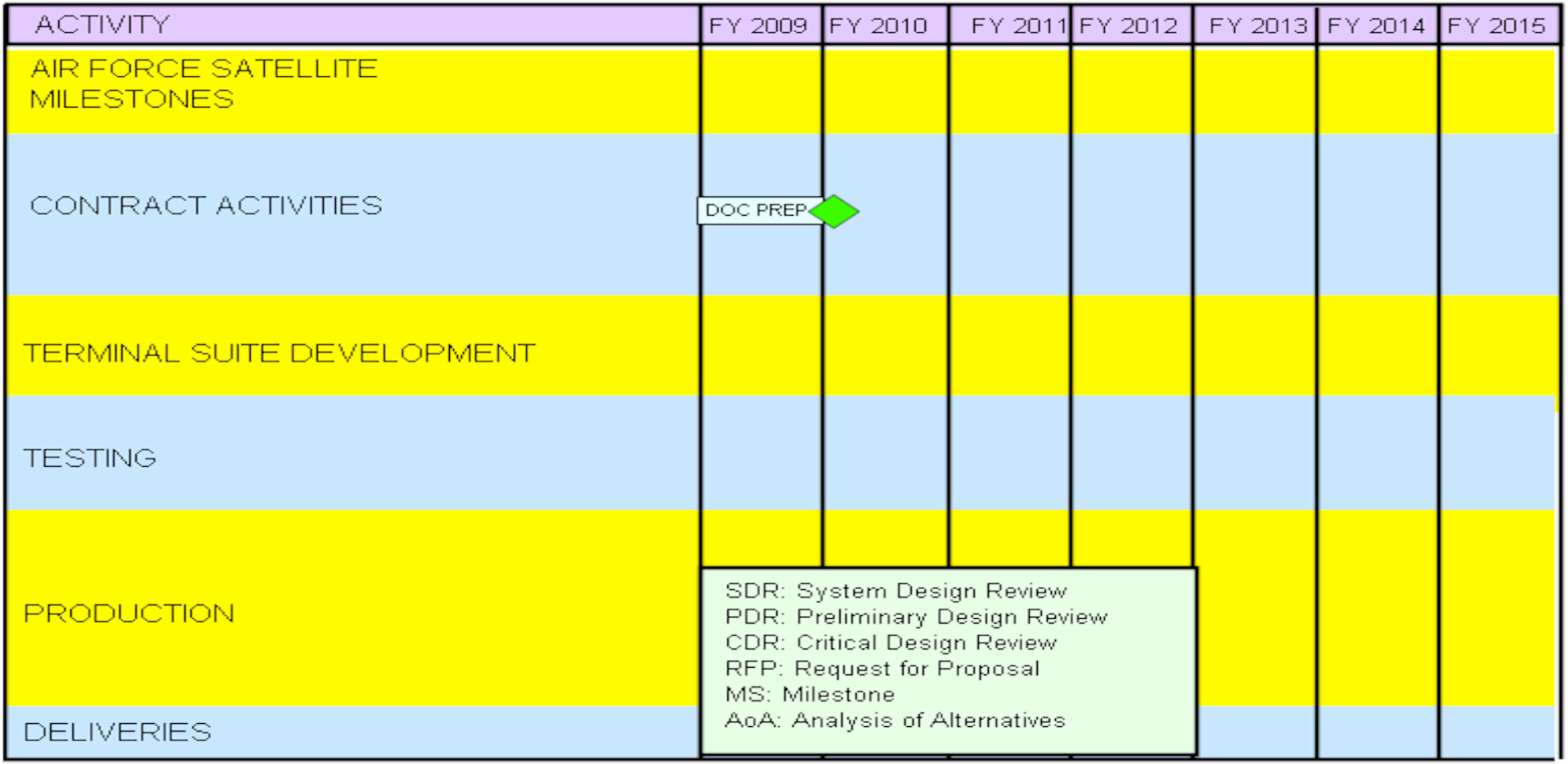


Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303109N: *Satellite Communications (Space)*	PROJECT 9999: *Congressional Adds*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.797	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.485
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional adds.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010
Congressional Add: JOINT INTEGRATED SYSTEMS FOR ADVANCED DIGITAL NETW *FY 2009 Accomplishments:* Completed development of JIST software (V3S2), hardware refresh and transition final JIST product to USSTRATCOM (includes training, shipping and intitial set-up).	0.797	0.000
Congressional Adds Subtotals	0.797	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Adds.