Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303109N *I Satellite Communications (Space)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	4,595.343	63.642	41.729	53.239	-	53.239	45.403	37.053	47.088	43.889	Continuing	Continuing
0728: *EHF SATCOM Terminals*	631.684	19.774	24.803	33.967	-	33.967	33.801	24.657	34.370	30.906	Continuing	Continuing
0731: *FLTSATCOM*	25.070	9.010	4.752	3.101	-	3.101	-	-	-	-	-	41.933
2472: *Mobile User Objective Sys (MUOS)*	3,938.589	34.858	12.174	16.171	-	16.171	11.602	12.396	12.718	12.983	238.343	4,289.834

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 290, 345

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 in support of A2AD initiatives. 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). The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

The Joint Ultra-High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated Control System (JMINI CS) is a legacy system that commenced in 1998. JMINI CS is a Navy-led, Joint-interest program providing integrated, dynamic, and centralized control of non-processed UHF MILSATCOM 5/25 kHz Demand Assigned Multiple Access (DAMA) and Demand Assigned Single Access (DASA) channels to maximize existing highly sought after SATCOM resources. The system also provides decentralized web-based management of those resources for use as a situational awareness tool for Combatant Commanders, Global SATCOM Support Centers, and Regional SATCOM Support Centers. The system is expected to operate well beyond the original 2015 End of Life (EoL) date to 2033. The JMINI CS Program will perform concept development and exploration to identify cost-effective solutions to address multiple life cycle support issues, in order to minimize loss of service to the fleet. The effort will involve evaluation, development, laboratory and integration testing of Commercial Off-The-Shelf (COTS) and Government off-the-shelf (GOTS) hardware and software to replace obsolete components or subsystems while maintaining interoperability with existing systems.

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 United States Navy ships, shore headquarters, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other tactical, operational, and strategic users in theatre. MIBS provides the Navy

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303109N *I Satellite Communications (Space)*

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 (ASW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompasses Navy IBS systems (Joint Tactical Terminal - Maritime (JTT-M)). These systems will provide the Navy and other joint platforms with a coherent approach to fielding maritime IBS systems that takes advantage of all available pathways and services.

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 2015. This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports Full Operational Capability (FOC) in FY 2017.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	66.196	41.829	31.076	-	31.076
Current President's Budget	63.642	41.729	53.239	-	53.239
Total Adjustments	-2.554	-0.100	22.163	-	22.163
• Congressional General Reductions	-	-0.100			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.650	-			
• SBIR/STTR Transfer	-1.904	-			
• Program Adjustments	-	-	18.000	-	18.000
• Rate/Misc Adjustments	-	-	4.163	-	4.163

Change Summary Explanation

Schedule:
EHF SATCOM Terminals (project 0728)
No significant technical changes.

Mobile User Objective System (project 2472)
MUOS schedule reflects adjustments to test events (including End-to-End integration and test), and delays to the completion of the MUOS ground station in Niscemi.

Technical:
No significant technical changes.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0728 / *EHF SATCOM Terminals*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0728: *EHF SATCOM Terminals*	631.684	19.774	24.803	33.967	-	33.967	33.801	24.657	34.370	30.906	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 290

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.

Joint Aerial Layer Network-Maritime (JALN-M) is the Navy implementation of the JALN architecture which provides assured communications in any environment, especially in an Anti-Access Area Denial (A2AD) environment. With disruption or loss of Space tier communications, JALN-M establishes and/or restores connectivity within the High Capacity Backbone (HCB) Common Data Link (CDL) tier, the Distribution Access Range Extension (DARE) tier, and the Transition tier in accordance with the JALN-M Initial Capabilities Document and the JALN Analysis of Alternatives (AoA) Final Report. JALN-M is a robust, assured communications capability providing joint connectivity via the HCB and Navy platform connectivity via a pseudo satellite DARE capability. JALN-M will use the Extended Data Rate (XDR) NMT waveform for intra-battle group DARE communications, a Common Data Link (CDL) waveform for the HCB cross-link capability, and will leverage enhanced Ultra High Frequency/High Frequency (UHF/HF) waveforms for coalition connectivity.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NMT Development	19.774	7.238	16.967	-	16.967
Articles:	-	-	-	-	-
Description: Overall program efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of satellite communications-related program insertion.					
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Prepared for Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Completed the development and integration of the Advanced Time Delay Multiple Access Interface Processor (ATIP) into the NMT Terminal. Performed system modifications to correct deficiencies discovered during testing. Continued on-going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Developed Anti-Access Area Denial (A2AD) specifications, performed technical and system risk reduction, and solution analysis for Airborne Extended Data Rate (AXDR) and Advanced Extremely High Frequency (AEHF), to implement the A2AD mitigation strategy as prescribed in the Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA). ***FY 2015 Plans:*** Complete Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Continue on-going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Begin Anti-Access Area Denial (A2AD) development for Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) initiatives, Adaptive Coding terminal design development, and crypto interface. Perform technical and system risk reduction, and solution analysis for Airborne XDR and AEHF, and implement the A2AD mitigation strategy for NMT. ***FY 2016 Base Plans:*** Continue Anti-Access Area Denial (A2AD) development to include the Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) initiatives. Initiate Adaptive Coding terminal design development, and Wideband Anti Jam Modem specification and crypto interface. Perform technical and system risk reduction, and solution analysis for Airborne XDR and Advanced Extremely High Frequency (AEHF), and implement the A2AD mitigation strategy for NMT. ***FY 2016 OCO Plans:*** N/A					
Title: Joint Aerial Layer Network Maritime (JALN-M)	-	17.565	17.000	-	17.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2015 Plans:*** Begin Joint Aerial Layer Network Maritime (JALN-M) System of Systems development, integration, and testing, to include development of capabilities for shipboard and submarine NMT systems to support Advanced Extremely High Frequency (AEHF) Airborne Extended Data Rate (XDR) waveform communications with the JALN-M Pod AXDR payload, High Capacity Backbone, and the Distribution Access Range Extension (DARE). Develop design specification of JALN-M payload requirements for integration into an airborne prototype Pod. Begin Anti-Access Area Denial (A2AD) development for JALN. Includes Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) initiatives, Adaptive Coding terminal design development, and crypto interface to implement the A2AD mitigation strategy for JALN. ***FY 2016 Base Plans:*** Continue Joint Aerial Layer Network Maritime (JALN-M) System of Systems development, integration, and testing, to include development of capabilities for shipboard and submarine NMT systems to support Extremely High Frequency (EHF) Airborne Extended Data Rate (XDR) waveform communications with the JALN-M Pod AXDR payload, High Capacity Backbone, and the Distribution Access Range Extension (DARE). Develop design specification of JALN-M payload requirements for integration into an airborne prototype Pod. Continue Anti-Access Area Denial (A2AD) development to include Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) initiatives to implement the A2AD mitigation strategy for JALN. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	19.774	24.803	33.967	-	33.967

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/3216: *Navy Multiband Terminal (NMT)*	183.620	247.617	118.113	-	118.113	47.315	78.186	106.653	93.633	101.633	1,413.343

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

D. Acquisition Strategy

The NMT Follow-On Full Deployment (FOFD) contract will continue NMT production for Afloat platforms and Shore locations, in support of the Chief of Naval Operations and the Department of the Navy (DON), and will allow the NMT Program to complete Full Operational Capability (FOC). The competitive contract awarded to COMTECH in 2013 will support the development of Anti-Access Area Denial (A2AD).

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 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	C/CPAF	Various : Various	126.499	-		-		-		-		-	-	126.499	-
Hardware Development	C/FFP	Harris : Melbourne, FL	6.136	-		-		-		-		-	-	6.136	-
NMT EDM Development	C/CPAF	Raytheon : Marlborough, MA	198.680	-		-		-		-		-	-	198.680	-
Hardware Development	WR	SSC PAC : San Diego, CA	1.009	-		-		-		-		-	-	1.009	-
Ancillary Hardware Development	C/CPAF	Raytheon : Marlborough, MA	55.923	-		-		-		-		-	-	55.923	-
Software Development	WR	NUWC : Newport, RI	8.581	-		-		-		-		-	-	8.581	-
Software Development	C/CPAF	Raytheon : Marlborough, MA	58.123	6.330	Mar 2014	16.808	Jan 2015	22.553	Jan 2016	-		22.553	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC : San Diego, CA	22.088	-		-		-		-		-	-	22.088	-
Systems Engineering	WR	NUWC : Newport, RI	30.404	1.033	Nov 2013	0.975	Nov 2014	2.008	Nov 2015	-		2.008	Continuing	Continuing	Continuing
Systems Engineering	C/CPAF	Linquest : San Diego, CA	34.905	-		-		-		-		-	-	34.905	-
Systems Engineering	C/CPAF	Systech : San Diego, CA	3.984	1.454	Nov 2013	1.365	Nov 2014	1.194	Nov 2015	-		1.194	Continuing	Continuing	Continuing
Software Development	C/CPFF	COMTECH : Tempe, AZ	12.600	7.547	Mar 2014	3.011	Dec 2014	4.900	Dec 2015	-		4.900	Continuing	Continuing	Continuing
		Subtotal	558.932	16.364		22.159		30.655		-		30.655	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	SSC PAC : San Diego, CA	11.412	-		-		-		-		-	-	11.412	-
Logistics Support	WR	SSC PAC : San Diego, CA	3.555	-		-		-		-		-	-	3.555	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0728 / *EHF SATCOM Terminals*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analysis	WR	NUWC : Newport, RI	6.869	-		-		-		-		-	-	6.869	-
Information Assurance	WR	SSC PAC : San Diego, CA	3.886	-		-		-		-		-	-	3.886	-
		Subtotal	25.722	-		-		-		-		-	-	25.722	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	20.290	0.990	Nov 2013	0.917	Nov 2014	2.000	Nov 2015	-		2.000	Continuing	Continuing	Continuing
Operational Test & Evaluation 1	WR	COMOPTEVFOR : Norfolk, VA	4.566	1.000	Nov 2013	0.400	Nov 2014	0.352	Nov 2015	-		0.352	Continuing	Continuing	Continuing
Developmental Test & Evaluation	C/CPAF	Raytheon : Marlborough, MA	2.238	0.890	Nov 2013	0.819	Nov 2014	-		-		-	-	3.947	-
		Subtotal	27.094	2.880		2.136		2.352		-		2.352	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Management	C/CPFF	BAH : San Diego	8.741	0.250	Nov 2013	0.234	Nov 2014	0.220	Nov 2015	-		0.220	Continuing	Continuing	Continuing
Program Management	C/CPFF	BAH : San Diego	8.761	0.250	Nov 2013	0.234	Nov 2014	0.700	Nov 2015	-		0.700	Continuing	Continuing	Continuing
Acquisition Management	WR	NCCA : Various	0.653	-		-		-		-		-	-	0.653	-
Travel	Reqn	SPAWAR : Various	1.781	0.030	Nov 2013	0.040	Nov 2014	0.040	Nov 2015	-		0.040	Continuing	Continuing	Continuing
		Subtotal	19.936	0.530		0.508		0.960		-		0.960	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	631.684	19.774		24.803		33.967		-		33.967	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0728 / *EHF SATCOM Terminals*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

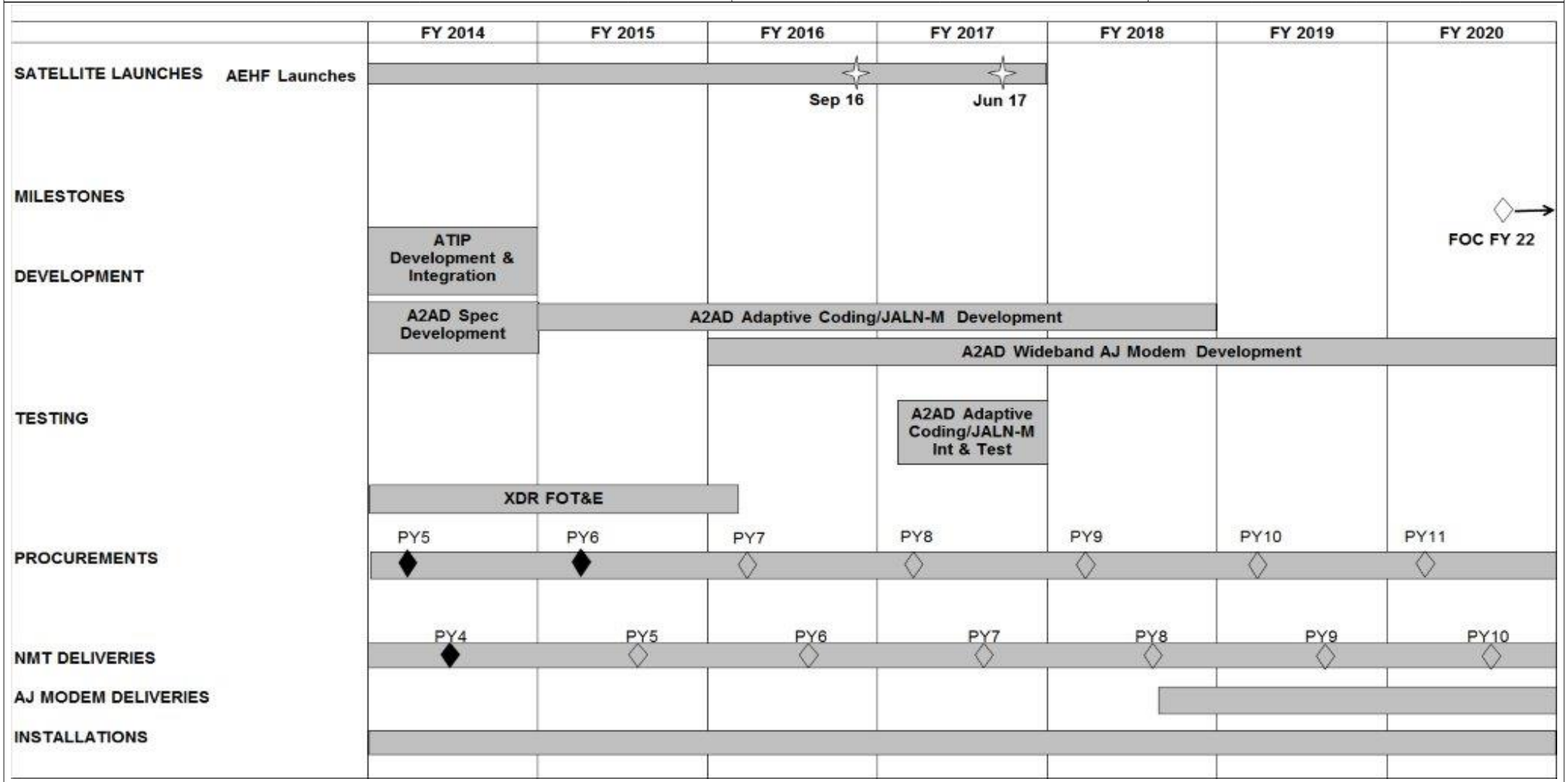

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0728				
ATIP Development & Integration	1	2014	4	2014
XDR FOT&E	1	2014	1	2016
A2AD Spec Development	1	2014	4	2014
Procurement Year 5 (PY5)	2	2014	2	2014
FRP PY4 Delivery	2	2014	2	2014
Procurement Year 6 (PY6)	2	2015	2	2015
FRP PY5 Delivery	3	2015	3	2015
Procurement Year 7 (PY7)	2	2016	2	2016
FRP PY6 Delivery	3	2016	3	2016
AEHF Launch SV-4	4	2016	4	2016
FRP PY7 Delivery	3	2017	3	2017
AEHF Launch SV-5	3	2017	3	2017
A2AD Adaptive Coding & JALN-M Development	1	2015	4	2018
A2AD Adaptive Coding & JALN-M Integration & Testing	1	2017	4	2017
A2AD Wideband AJ Modem Development	3	2018	4	2020
AJ Modem Deliveries	3	2018	4	2020
Procurement Year 8 (PY8)	2	2017	2	2017
Procurement Year 9 (PY9)	2	2018	2	2018
Procurement Year 10 (PY10)	2	2019	2	2019
Procurement Year 11 (PY11)	2	2020	2	2020
FRP PY8 Delivery	3	2018	3	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
FRP PY9 Delivery	3	2019	3	2019
FRP PY10 Delivery	3	2020	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0731 / *FLTSATCOM*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0731: *FLTSATCOM*	25.070	9.010	4.752	3.101	-	3.101	-	-	-	-	-	41.933
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Ultra-High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated Control System (JMINI CS) is a legacy system that commenced development in 1998. JMINI CS is a Navy-led, Joint interest program providing integrated, dynamic, and centralized control of non-processed UHF MILSATCOM 5/25 kHz Demand Assigned Multiple Access (DAMA) and Demand Assigned Single Access (DASA) channels to maximize existing highly sought after SATCOM resources used to support operational missions as well as joint training and tactical exercises. The system provides decentralized web-based management of those resources for use as a situational awareness tool for Combatant Commanders and SATCOM Support Centers. The JMINI CS is required to operate beyond the original End of Life (EoL) of 2015 in order to continue to support mission critical operations through at least 2033. The JMINI CS Program of Record (POR) will perform concept development and exploration to identify cost-effective solutions to address multiple life cycle support issues in order to address the increasing risk of an unrecoverable hardware or software failure, which would result in a loss of service for the fleet. The effort will involve evaluation, prototype development, laboratory and integration testing of Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) hardware and software to replace obsolete components or subsystems while maintaining interoperability with existing platforms/systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: JMINI CS	9.010	4.752	3.101	-	3.101
Articles:	-	1	-	-	-
FY 2014 Accomplishments: Completed software analysis and assessments, as well as cost-benefit analyses and market research of system design elements to determine the most cost effective and technically appropriate hardware and software solutions. Developed a system prototype and commenced software integration efforts based upon System Engineering Design Reviews conducted by the SPAWAR Technical Authority.					
FY 2015 Plans: Finalize prototype design, develop test plans and begin implementation of a comprehensive test strategy. Continue software development and integration of the system architecture.					
FY 2016 Base Plans: Completion of development effort in support of fielding decisions.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	9.010	4.752	3.101	-	3.101

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/3215: *JMINI*	-	6.947	5.691	-	5.691	-	-	-	-	-	92.371

Remarks

D. Acquisition Strategy

JMINI CS: The Joint Ultra-High Frequency (UHF) Military Satellite Communications (MILSATCOM) is an ACAT IV (T) system that is post-FRP. As a legacy system that commenced in 1998, JMINI CS is expected to operate well beyond the original 2015 End of Life (EoL) date. The projected EoL for JMINI CS extends past 2033. The JMINI CS Program of Record (POR) will evaluate the most cost-effective solutions to address multiple life cycle support issues, in order to minimize loss of service to the fleet. The effort will involve evaluating Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) hardware and software, and conducting laboratory/ integration testing to ensure proper functionality and interoperability.

E. Performance Metrics

JMINI CS: The JMINI CS POR will perform concept development and exploration of the JMINI CS 5 kHz and 25 kHz systems, to analyze alternatives for the most advantageous use of new technologies to extend the JMINI CS system life span in order to minimize loss of service to the Fleet.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JMINI Contractor Engineering Support	C/CPFF	SSC PAC : San Diego, CA.	13.296	3.864	Dec 2013	-		-		-		-	-	17.160	-
JMINI Government Engineering	WR	SSC PAC : San Diego, CA.	7.808	4.846	Nov 2013	3.074	Nov 2014	2.606	Nov 2015	-		2.606	-	18.334	-
JMINI Certification Authority	WR	SSC LANT : Charleston, SC	0.598	0.100	Jan 2014	0.680	Jan 2015	-		-		-	-	1.378	-
		Subtotal	21.702	8.810		3.754		2.606		-		2.606	-	36.872	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IPv6 Support	WR	SSC PAC : San Diego	2.418	-		-		-		-		-	-	2.418	-
JMINI Obsolescense Forecast & Analysis	WR	NSWC : Corona	0.000	-		0.050	Nov 2014	-		-		-	-	0.050	-
		Subtotal	2.418	-		0.050		-		-		-	-	2.468	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JMINI Interoperability Test	WR	JITC : Ft. Huachaca	0.000	0.200	Feb 2014	0.222	Nov 2014	0.185	Dec 2015	-		0.185	-	0.607	-
JMINI Test & Evaluation	WR	COTF : Norfolk, VA	0.000	-		0.330	Nov 2014	-		-		-	-	0.330	-
MIBS Development Test & Evaluation	WR	SSC PAC : San Diego, CA.	0.409	-		-		-		-		-	-	0.409	-
		Subtotal	0.409	0.200		0.552		0.185		-		0.185	-	1.346	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JMINI Program Management	C/CPFF	BAH : San Diego, CA.	0.498	-		-		-		-		-	-	0.498	-
JMINI Program Management	C/CPFF	STF : San Diego, CA.	0.000	-		0.396	Nov 2014	0.310	Nov 2015	-		0.310	-	0.706	-
MIBS Program Management	WR	SSC PAC : San Diego, CA.	0.043	-		-		-		-		-	-	0.043	-
		Subtotal	0.541	-		0.396		0.310		-		0.310	-	1.247	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	25.070	9.010		4.752		3.101		-		3.101	-	41.933	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

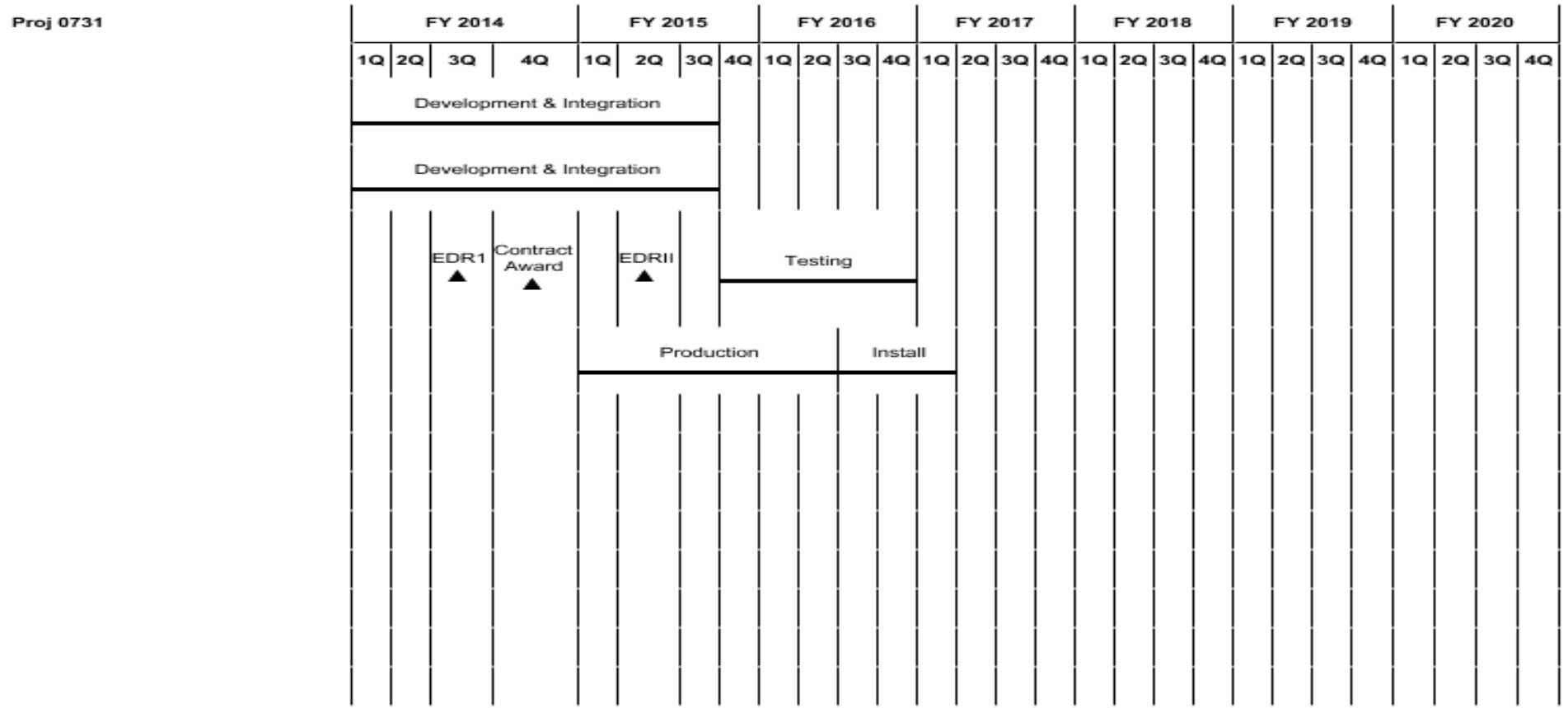

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0731				
Software development, test, and integration	1	2014	3	2015
Prototype development and testing	1	2014	3	2015
Engineering Design Review I (EDRI)	3	2014	3	2014
Engineering Design Review II (EDRII)	2	2015	2	2015
System Testing	4	2015	4	2016
Production Contract Award	4	2014	4	2014
Production	1	2015	2	2016
Install	3	2016	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*				Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
2472: *Mobile User Objective Sys (MUOS)*	3,938.589	34.858	12.174	16.171	-	16.171	11.602	12.396	12.718	12.983	238.343	4,289.834
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 345

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 2015.

This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports Full Operational Capability (FOC) in FY 2017.

FY16: Conduct Assessment of Operational Test Readiness 2 (AOTR 2), Operational Test Readiness Review 2 (OTRR 2), and the Multiservice Operational Test and Evaluation 2 (MOT&E 2). Continue Information Assurance (IA) vulnerability fixes identified during the Information Assurance Control & Validation (IACV) at all sites and regression test (acceptance test) of IA issues. Conduct engineering activities to address IA and emergent system requirements/enhancements in relation to operational environment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Title: Mobile User Objective Sys (MUOS)	34.858	12.174	16.171	-	16.171
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed On-Orbit testing phase for Satellite 2, continued contractor System Integration End to End (E2E) Risk Reduction (RR) testing, began Metrics & Capability Assessment. Conducted pre-Multiservice Operational Test and Evaluation (MOT&E) engineering activities. Provided fixes to waveform and ground software resulting from system testing, and Information Assurance Vulnerability Alerts. Implemented Engineering Change Proposals requiring Ground software changes. Completed the accreditation effort to obtain the Interim Authority To Operate (IATO) for Niscemi. Continued fixing Information Assurance (IA) vulnerabilities identified during the Information Assurance Control & Validation (IACV) effort for Geraldton, Wahiawa, and Northwest.					
FY 2015 Plans: Conduct follow-on IACVs at each ground site to obtain IATO extensions. Continue Information Assurance (IA) vulnerability fixes identified during the IACVs at all sites. Continue research for emerging IA issues, maintain					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
security accreditations, regression test (acceptance test) and implement mandated security changes to ensure system readiness/availability. Conduct terminal integration and testing of MUOS capable terminal hardware/ software devices to ensure interoperability with the MUOS ground systems. Conduct developmental and test readiness events in preparation for program level TECHEVAL. Continue engineering capability assessments in preparation for FY16 MOT&E. ***FY 2016 Base Plans:*** Conduct terminal integration and testing of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground systems. Continue engineering capability assessments in preparation for FY16 MOT&E. Conduct Assessment of Operational Test Readiness 2 (AOTR 2), Operational Test Readiness Review 2 (OTRR 2), and the Multiservice Operational Test and Evaluation 2 (MOT&E 2). Continue IA vulnerability fixes identified during the IACVs at all sites and regression test (acceptance test) of IA issues. Conduct engineering activities to address IA and emergent system requirements/enhancements in relation to operational environment. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	34.858	12.174	16.171	-	16.171

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• WPN/2433: *Mobile User Objective System (MUOS)*	16.914	206.700	39.932	-	39.932	10.085	10.161	10.587	10.809	832.471	2,945.109

Remarks

D. Acquisition Strategy

Research Development Test & Evaluation, Navy (RDT&E,N) funds in FY14 planned for the continuation of the Risk Reduction & Design Development (RRDD) contract for the first 2 MUOS satellites, ground infrastructure, waveform development and associated system engineering and integration, test and evaluation. Funds in FY15 and out planned for engineering activities to address IA and emergent system requirements/enhancements in relation to operational environment.

Weapons Procurement, Navy (WPN) funds in FY14 and beyond used for production support of the remaining satellites and launch services.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

E. Performance Metrics

FY 2014 and beyond: Installation and test initial and follow-on waveforms; complete acceptance testing of entire ground system. Conduct IA, ground, and waveform assessment and remediation of findings. Conduct End-to-End (E2E) Risk Reduction testing and integration activities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	C/CPAF	Lockheed Martin (LM) : Sunnyvale, CA	3,506.290	20.876	Mar 2014	4.898	Jan 2015	12.683	Nov 2015	-		12.683	250.874	3,795.621	Continuing
CE Contracts & Demos	C/FFP	LM / Raytheon / Spec Astro / Boeing : VAR	21.320	-		-		-		-		-	-	21.320	Continuing
CAD Contracts	C/FFP	LM / Raytheon : VAR	105.154	-		-		-		-		-	-	105.154	Continuing
AoA for MUOS	MIPR	Aerospace : El Segundo, CA	2.782	-		-		-		-		-	-	2.782	Continuing
Government Studies	MIPR	Aerospace : El Segundo, CA	0.711	-		-		-		-		-	-	0.711	Continuing
Crypto Procurement	MIPR	NSA : Fort Meade, MD	3.703	-		-		-		-		-	-	3.703	Continuing
UHF Augmentation	C/CPAF	Lockheed Martin (LM) : Sunnyvale, CA	0.491	-		-		-		-		-	-	0.491	Continuing
		Subtotal	3,640.451	20.876		4.898		12.683		-		12.683	250.874	3,929.782	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UFO TT&C Terminal Upgrades	WR	SSC PAC : San Diego, CA	10.691	-		-		-		-		-	-	10.691	Continuing
Facilities Modifications	WR	SSC LANT : Norfolk, VA	2.772	-		-		-		-		-	-	2.772	Continuing
Australian Site Prep	C/FFP	Boeing : Brisbane, AUS	24.870	-		-		-		-		-	-	24.870	Continuing
Studies & Analyses (EELV)	MIPR	SMC/FMAIC : El Segundo, CA	0.825	-		-		-		-		-	-	0.825	Continuing
ISCS Integration	WR	NAVSOC : Point Mugu, CA	7.419	-		-		-		-		-	-	7.419	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Narrowband SATCOM SE Group (NSSEG) - MUOS E2E	WR	SSC LANT : Charleston, SC	2.492	-		-		-		-		-	-	2.492	Continuing
		Subtotal	49.069	-		-		-		-		-	-	49.069	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	18.728	3.990	Feb 2014	3.728	Nov 2014	1.745	Nov 2015	-		1.745	3.159	31.350	Continuing
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	4.392	0.762	Nov 2013	1.170	Nov 2014	0.250	Nov 2015	-		0.250	-	6.574	Continuing
		Subtotal	23.120	4.752		4.898		1.995		-		1.995	3.159	37.924	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	Accenture : San Diego, CA	134.249	-		-		-		-		-	-	134.249	Continuing
Contractor Engineering Support	C/CPFF	Vector Planning and Services, Inc. : San Diego, CA	8.581	3.413	Jul 2014	-		-		-		-	-	11.994	Continuing
Contractor Engineering Support	Various	Various : Various	0.000	-		0.950	Nov 2014	0.347	Oct 2015	-		0.347	12.113	13.410	Continuing
Government Engineering	WR	SSC PAC : San Diego, CA	32.480	4.492	Feb 2014	0.920	Dec 2014	0.805	Dec 2015	-		0.805	11.990	50.687	Continuing
Program Mgmt Support	C/CPAF	Booz Allen Hamilton : McLean, VA	41.862	-		-		-		-		-	-	41.862	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	Booz Allen Hamilton : McLean, VA	2.549	1.258	Dec 2013	0.408	Dec 2014	0.341	Dec 2015	-		0.341	9.906	14.462	Continuing
Travel	WR	PMW 146 : San Diego, CA	2.529	0.067	Oct 2013	0.100	Oct 2014	-		-		-	-	2.696	Continuing
Frequency Filing	C/FFP	ITU : Geneva, CH	0.855	-		-		-		-		-	-	0.855	Continuing
IPA/ICAT	WR	Aerospace : El Segundo, CA	0.390	-		-		-		-		-	-	0.390	Continuing
Acquisition Workforce Fund	C/FP	Not Specified : Not Specified	2.454	-		-		-		-		-	-	2.454	Continuing
		Subtotal	225.949	9.230		2.378		1.493		-		1.493	34.009	273.059	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3,938.589	34.858		12.174		16.171		-		16.171	288.042	4,289.834	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

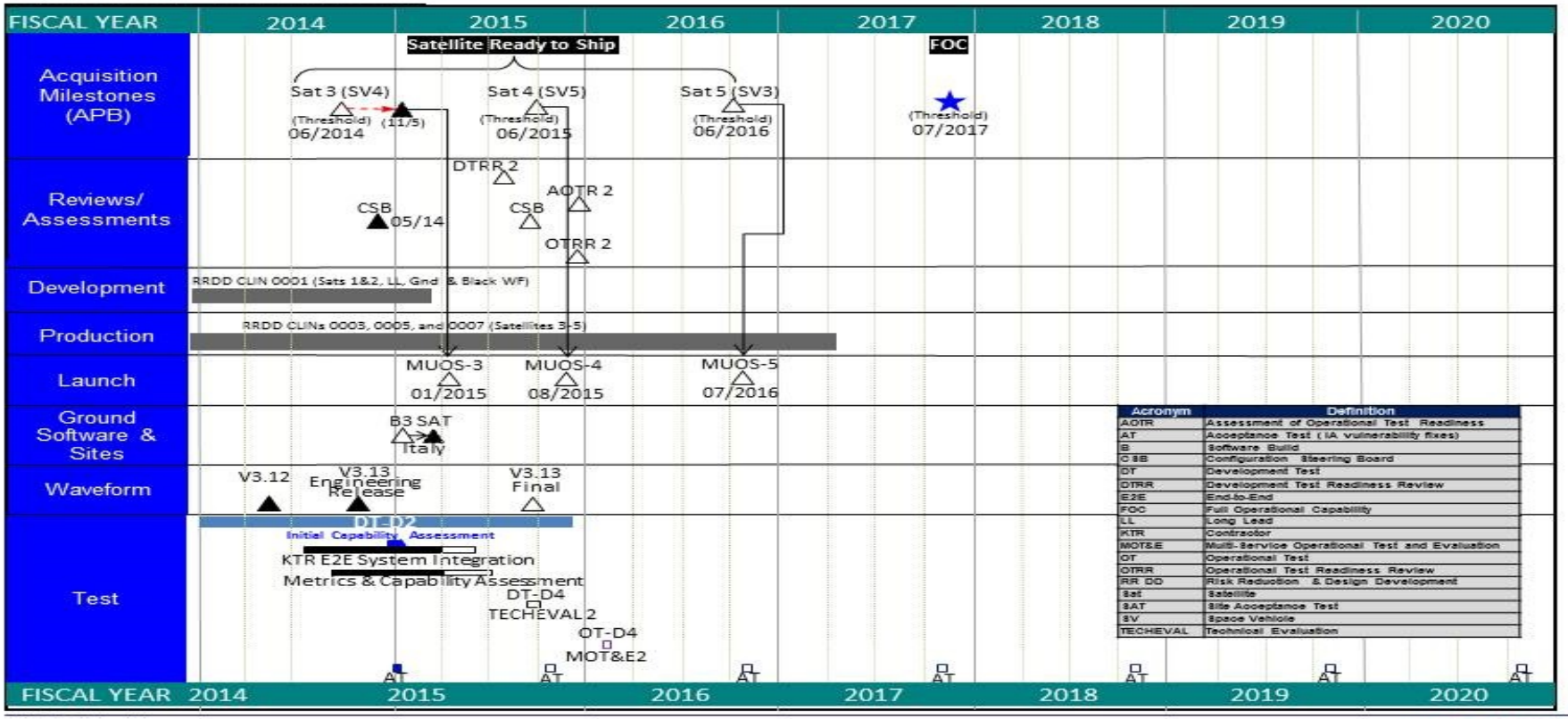

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2472				
Waveform Version 3.12 Delivery to Information Repository	2	2014	2	2014
KTR System Integration	3	2014	2	2015
Configuration Steering Board (FY14)	3	2014	3	2014
Metrics & Capability Assessment	3	2014	3	2015
Waveform Version 3.13 (Engineering Release) Delivery to Information Repository	4	2014	4	2014
Acceptance Test FY14 (AT)	4	2014	1	2015
Initial Capability Assessment	4	2014	1	2015
Italy Build 3.1	1	2015	1	2015
Ready to Ship date #3	1	2015	1	2015
Launch of Satellite #3 (MUOS 3)	2	2015	2	2015
Configuration Steering Board (FY15)	3	2015	3	2015
Development Test Readiness Review (DTRR) 2	3	2015	3	2015
Waveform Version 3.13 (Final) Release Delivery to Information Repository	3	2015	3	2015
DT-D4 Tech Eval 2	3	2015	4	2015
Ready to Ship date #4	3	2015	3	2015
Acceptance Test FY15 (AT)	4	2015	4	2015
Launch of Satellite #4 (MUOS 4)	4	2015	4	2015
Operational Test Readiness Review (OTRR) #2	1	2016	1	2016
Assessment of Operational Test Readiness (AOTR)	1	2016	1	2016
OT-D4 Multi-Service Operational Testing & Evaluation (MOT&E 2) Report	1	2016	1	2016
Ready to Ship date #5	3	2016	3	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acceptance Test FY16 (AT)	4	2016	4	2016
Launch of Satellite #5 (MUOS 5)	4	2016	4	2016
Full Operational Capability (FOC)	4	2017	4	2017
Acceptance Test FY17 (AT)	4	2017	4	2017
Acceptance Test FY18 (AT)	4	2018	4	2018
Acceptance Test FY19 (AT)	4	2019	4	2019
Acceptance Test FY20 (AT)	4	2020	4	2020