Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy												Date: May 2017
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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	4,680.128	45.946	37.372	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4,763.446
0728: *EHF SATCOM Terminals*	669.749	27.240	21.116	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	718.105
0731: *FLTSATCOM*	38.815	3.083	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	41.898
2472: *Mobile User Objective Sys (MUOS)*	3,971.564	15.623	13.867	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4,001.054
3398: *Enterprise SATCOM Gateway Modems (ESGMs)*	0.000	0.000	2.389	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.389
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 Service (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 protected MILSATCOM for shore sites.

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.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
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)*

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 relies on the MUOS legacy payload to meet the UHF SATCOM requirement. This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports Full Operational Capability (FOC) in FY 2020.

The Navy Global Broadcast Service (GBS) Program is the Navy component of the Joint Military Satellite Communications(MILSATCOM) ACAT IC program that delivers the continuous flow of high-speed, high-volume communication and information flow for deploying, deployed, on the move, and garrisoned forces. The Joint GBS system supports the Navy Strategic Plan and equips warfighters with counter Anti-Access/Area Denial (A2AD) communications in a denied Command, Control, Communications, Computers, and Intelligence (C4I) environment. The Enterprise SATCOM Gateway Modem (ESGM) is the DoD Chief Information Officer directed solution to satisfy the Transmission Security (TRANSEC) requirement in place of the Joint Internet. Testing and fielding of the ESGM is a joint venture, operationally directed by the Defense Information Systems Agency (DISA) and the Air Force as the lead service. GBS augments and interfaces with other communications systems, provides relief to overburdened communications systems already in place, and provides information to previously unsupported users. GBS provides bandwidth five times any other system, up to 45 Mbps of forward link data (shore to ship) per WGS satellite transponder.

Beginning in FY18, the Satellite Communications (Space) funding profiles have moved from PE 0303109N to PE 1203109N.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	47.312	37.372	47.478	-	47.478
Current President's Budget	45.946	37.372	0.000	-	0.000
Total Adjustments	-1.366	0.000	-47.478	-	-47.478
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.365	0.000			
• Program Adjustments	0.000	0.000	-47.478	-	-47.478
• Rate/Misc Adjustments	-0.001	0.000	0.000	-	0.000

Change Summary Explanation

Decrease in Satellite Communications (Space) by $0.93M as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

Schedule:
EHF SATCOM Terminals (project 0728) - This project has transferred to a new PE 1203109N FY2018-FY2022.
Enterprise SATCOM Gateway Modems (ESGMs Project 3398) - This project has been transferred to new PE 1203109N FY2018-FY2022.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
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)*

Funding:
0728: FY2018-FY2022 NMT, JALN-M and Technology Insertion funding transferred to a new PE 1203109N.
2472: FY2018-FY2022 MUOS funding transferred to a new PE 1203109N.
3398: FY2018-FY2022 ESGMs funding transferred to a new PE 1203109N.

Technical:
EHF SATCOM Terminals (project 0728) and Enterprise SATCOM Gateway Modems (ESGMs) transferred to a new PE 1203109N FY2018-FY2022.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy											Date: May 2017	
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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
0728: *EHF SATCOM Terminals*	669.749	27.240	21.116	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	718.105
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 290												

Note

NMT FY18-FY22 funding profile has moved to PE 1203109N.

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 Military Strategic, Tactical & Relay System (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Global Satellite (WGS), and Global Broadcast Service (GBS) terminal capabilities. 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 protected MILSATCOM for shore sites.

Wideband Anti-Jam Modem Systems (WAMS) enhances communication capability of shipboard and submarine NMTs by providing wideband Anti-Jam (AJ) Satellite Communication throughput over Wideband Global SATCOM (WGS). WAMS enables space segment AJ diversity (EHF/AEHF and WGS), thus enabling NMT ships and submarines equipped with the modem to operate in wideband links closer to threat jammers. WAMS enables the use of WGS X and Ka-band resources to assure access to mission critical communications in the A2AD environment. The use of WAM Protected Tactical Waveform (PTW) on WGS will augment AEHF extended data rate (XDR) services to provide the information throughput capacity necessary to support critical Command and Control capability.

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) satellite denied 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 intend to develop a pre-planned product improvement to leverage enhanced Ultra High Frequency/High Frequency (UHF/HF) waveforms for coalition connectivity. A critical component of A2AD is Adaptive Coding software development incorporation into the baseline NMT terminal in addition to supporting the JALN-M demonstration. This capability

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

autonomously enhances maximum throughput and supports degraded conditions by adjusting End-to-End code rate to provide continuous, mission critical, and protected communications.

Technology Insertion, studies and implementation is necessary for military satellite communications systems development to support emerging technologies for Commercial Broadband Satellite Program (CBSP) and Global Broadcast Service (GBS) Terminals. Efforts will include evaluation of End-to-End performance testing of data rates associated with Broadband and Broadcast transmissions.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NMT Development	16.362	7.732	0.000	0.000	0.000
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 2016 Accomplishments: Initiated Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Airborne XDR waveform. Continued on-going efforts to test the Enhanced Polar System (EPS) functionality with the NMT system. Continued A2AD development to include the ATIP and AC initiatives. Continued AC software design and development. Initiated development of Wideband Anti Jam Modem System (WAMS) specification and risk reduction crypto interface efforts. Initiated WAMS acquisition documentation to include update of the Acquisition Plan, update APB, Clinger Cohen Act (CCA) and Request for Information (RFI). Developed test plans for Protected Tactical Service Field Demonstration (PTSFD) modems with NMT. Planned for and commenced the ATIP and NMT SATCOM AC Design Verification Tests executed to illustrate specification compliance. Began development of all Fleet logistics support products in support of initial fielding of the SATCOM AC capability. Analyzed network architectures and satellite resource utilization in support of SATCOM AC to ensure realistic fleet implementation.					
FY 2017 Plans: Complete Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit XDR waveform. Continue efforts to test the Enhanced Polar System (EPS) functionality with the NMT system. Continue development of the WAMS technical baseline for use with the NMT. Commence and complete studies to modify the NMT to optimize the NMT/WAMS interface based on known existing limitations. Develop design of the Modem Mission Management System (MMS) and Key Management System (KMS). Research and pursue integration strategies for MMS/KMS operational compatibility with DoD enterprise Protected Tactical Enterprise Service (PTES) ground solution architecture. Procure Air Force Engineering Development Model (EDM) modem					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
hardware from three separate vendors for initial Navy testing and verification of Navy requirements. Develop and mature the baseband interface from WAMS to Automated Digital Network Systems (ADNS) that supports the ability for the data rate to change in the dynamic environment to the NMT technical baseline. Develop specific ADNS Service Pack WAM to ADNS Interface Control Document (ICD) for implementing WAMS in the Shipboard and Shore architecture. Complete the Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) and NMT SATCOM Adaptive Coding (AC) software Design Verification Test executed to illustrate specification compliance. Initiate studies for AC Time of Day (TOD) encryption to enable a more robust, lower code rate when the link margin is degraded and begin Software modifications on the NMT, ATIP, and KIV-7M to implement the capability. Perform technical and system risk reduction and implement the A2AD mitigation strategy for NMT. ***FY 2018 Base Plans:*** NMT Development FY18 funding profile has moved to PE 1203109N. ***FY 2018 OCO Plans:*** N/A					
Title: Joint Aerial Layer Network Maritime (JALN-M)	10.878	13.284	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Continued system of systems development, integration, and testing, to include development of capabilities for shipboard and submarine NMT systems to support AEHF Airborne XDR waveform communications with the JALN-M Pod Airborne XDR payload and High Capacity Backbone. Developed detailed test plans for validating the JALN-M Airborne XDR payload. ***FY 2017 Plans:*** Continue system of systems development, integration, and testing. Includes completion of design verification of JALN-M capabilities of NMT by testing with the Airborne XDR payload. Perform ATIP, Adaptive Coding and Automated Digital Network System (ADNS) integration testing. Continue design verification of JALN-M capabilities of NMT by testing with the Airborne XDR payload and the Position Reporting System / Topology Manager (PRS/TM) Plan. Create all data needed to obtain approval for Interim Authority To Test (IATT) associated with NMT and ATIP for the JALN-M demonstration. Begin installing the JALN-M capabilities and					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
execute site verification by using the AEHF satellite for End-to-End SATCOM Adaptive Coding. Create detailed test plans and scenario data for the JALN-M FY18 Demonstration. ***FY 2018 Base Plans:*** Joint Aerial Layer Network Maritime (JALN-M) FY18 funding profile has moved to PE 1203109N. ***FY 2018 OCO Plans:*** N/A					
Title: Technology Insertion ***Articles:*** ***Description:*** Overall program efforts include technology insertion implementation and associated testing required to support satellite communications. ***FY 2016 Accomplishments:*** N/A ***FY 2017 Plans:*** Develop Test Plan and Procedures for Development Test (DT) and Operational Test (OT) of Commercial Broadband Satellite Program (CBSP) Force Level Variant (FLV) Capacity Key Performance Parameter (KPP) to evaluate End-to-End performance of data rates throughout the shipboard network. ***FY 2018 Base Plans:*** Technology Insertion FY18 funding has transferred to PE 1203109N. ***FY 2018 OCO Plans:*** N/A	0.000 -	0.100 -	0.000 -	0.000 -	0.000 -
Accomplishments/Planned Programs Subtotals	27.240	21.116	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• OPN/3216: *Navy Multiband Terminal (NMT)*	118.142	38.365	69.764	-	69.764	99.741	98.101	22.528	14.462	74.074	1,388.196

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 supports 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 into a single terminal. SATCOM-related technology insertion, studies and associated testing will support the GBS and CBSP Programs.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy		Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	Various	Various : Various	431.733	0.000		0.000		0.000		-		0.000	0.000	431.733	-
Software Development	C/CPAF	Raytheon : Marlborough, MA	71.425	0.000		0.000		0.000		-		0.000	12.492	83.917	-
Systems Engineering	WR	SSC PAC : San Diego, CA	22.088	0.000		3.102	Jan 2017	0.000		-		0.000	0.000	25.190	-
Systems Engineering	WR	NUWC : Newport, RI	34.122	3.000	Jan 2016	3.051	Jan 2017	0.000		-		0.000	3.000	43.173	-
WAMS EDM Hardware	C/CPIF	RAYTHEON : Marlborough, MA	0.000	0.000		0.600	May 2017	0.000		-		0.000	0.000	0.600	-
WAMS EDM Hardware	C/CPIF	L3 Systems West : Salt Lake City, UT	0.000	0.000		0.600	May 2017	0.000		-		0.000	0.000	0.600	-
WAMS EDM Hardware	C/CPIF	ViaSat : Carlsbad, CA	0.000	0.000		0.600	May 2017	0.000		-		0.000	0.000	0.600	-
Software Development JALN-M	C/CPAF	RAYTHEON : Marlborough, MA	0.000	12.492	Dec 2015	3.200	Mar 2017	0.000		-		0.000	0.000	15.692	-
Systems Engineering	C/CPAF	Systech : San Diego, CA	5.438	0.000		0.000		0.000		-		0.000	0.000	5.438	-
Software Development Time of Day (TOD)	C/CPAF	RAYTHEON : Marlborough, MA	0.000	0.000		1.102	Jan 2017	0.000		-		0.000	0.000	1.102	-
Systems Engineering	C/CPFF	MIT/LL : Marlborough, MA	0.000	0.400	Jun 2016	0.000		0.000		-		0.000	0.400	0.800	-
Software Development ATIP Adaptive Coding (AC) /Time of Day (TOD)	C/CPFF	COMTECH : Tempe, AZ	24.597	2.866	Dec 2015	1.100	Nov 2016	0.000		-		0.000	2.867	31.430	-
		Subtotal	589.403	18.758		13.355		0.000		-		0.000	18.759	640.275	-

Remarks

FY17 initiated studies for the Adaptive Coding Time of Day effort. FY18 NMT Product Development focuses on the complexity of software design development across systems and vendors to support Adaptive Coding Time of Day (TOD) Encryption. Additionally the program will be performing NMT testing with Enhanced Polar Systems (EPS) and will initiate testing of the PTSFD EDM modems. NMT FY18 funding profile has moved to PE 1203109N.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support	Various	Various : Various	25.722	0.000		0.000		0.000		-		0.000	0.000	25.722	-
Software Integration/ Government Oversight	WR	NUWC : Newport, RI	0.272	2.008	Nov 2015	1.887	Nov 2016	0.000		-		0.000	2.008	6.175	-
Software Engineering Support	C/CPAF	SYSTECH : San Diego, CA	1.365	1.194	Nov 2015	0.660	Nov 2016	0.000		-		0.000	1.194	4.413	-
Software Integration Support	WR	SSC PAC : San Diego, CA	0.000	1.266	Jan 2016	0.733	Nov 2016	0.000		-		0.000	1.266	3.265	-
		Subtotal	27.359	4.468		3.280		0.000		-		0.000	4.468	39.575	-

Remarks

NMT FY18 funding profile has moved to PE 1203109N.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EPS & JALN-M Development	WR	SSC PAC : San Diego, CA	22.197	2.000	Nov 2015	2.789	Nov 2016	0.000		-		0.000	2.000	28.986	-
Operational Test & Evaluation 1	WR	COMOPTEVFOR : Norfolk, VA	5.869	0.100	Nov 2015	0.100	Nov 2016	0.000		-		0.000	0.100	6.169	-
Developmental Test & Evaluation	C/CPAF	Raytheon : Marlborough, MA	3.947	0.000		0.000		0.000		-		0.000	0.000	3.947	-
		Subtotal	32.013	2.100		2.889		0.000		-		0.000	2.100	39.102	-

Remarks

NMT FY18 funding profile has moved to PE 1203109N.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Management	C/CPFF	BAH : San Diego	9.225	0.220	Nov 2015	0.200	Nov 2016	0.000		-		0.000	0.220	9.865	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	C/CPFF	BAH : San Diego	9.245	1.654	Nov 2015	1.342	Nov 2016	0.000		-		0.000	1.654	13.895	-
Acquisition Management	WR	NCCA : Various	0.653	0.000		0.000		0.000		-		0.000	0.000	0.653	-
Travel	Reqn	SPAWAR : Various	1.851	0.040	Nov 2015	0.050	Nov 2016	0.000		-		0.000	0.040	1.981	-
		Subtotal	20.974	1.914		1.592		0.000		-		0.000	1.914	26.394	-

Remarks

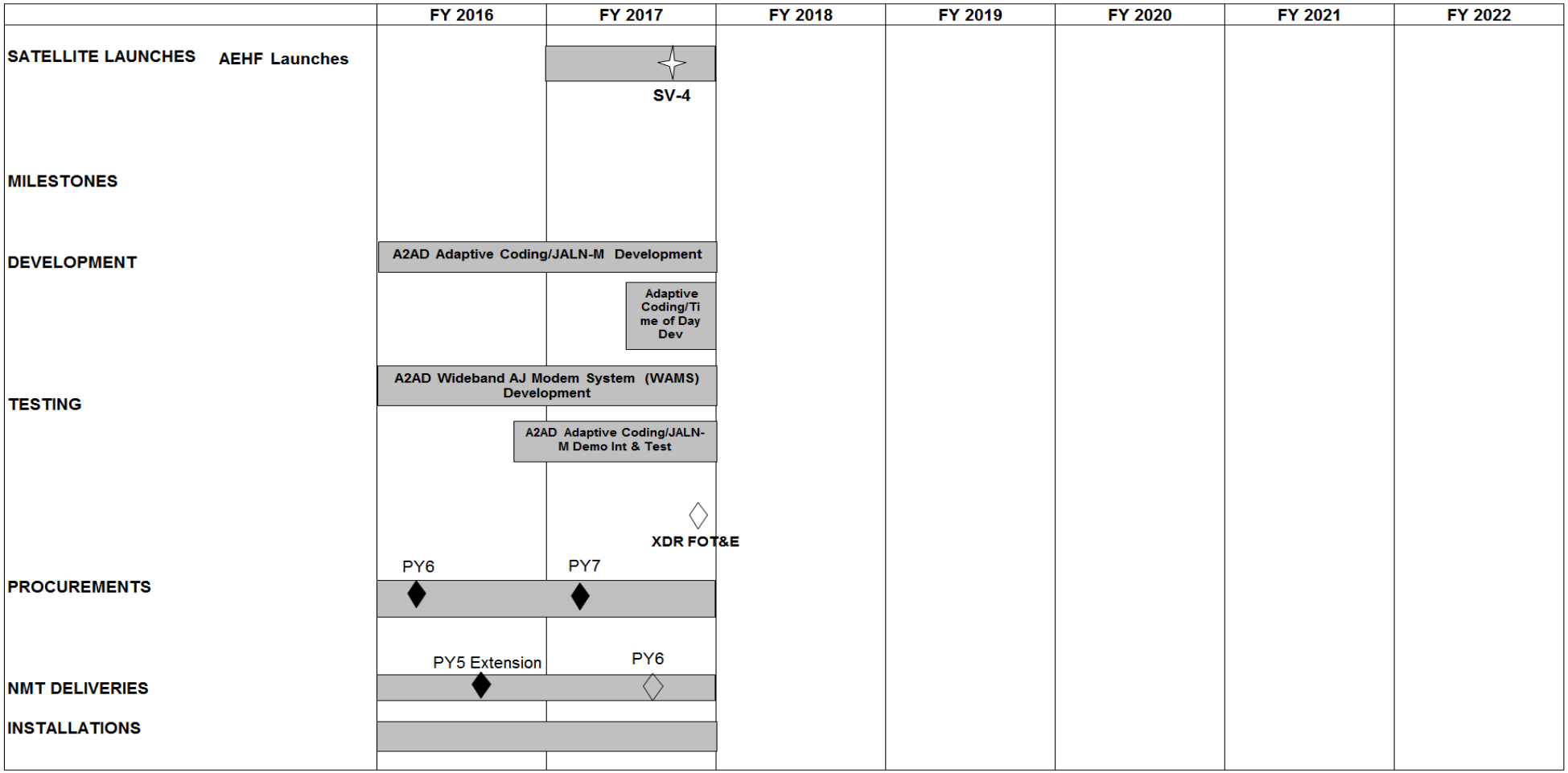
NMT FY18 funding profile has moved to PE 1203109N.

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	669.749	27.240		21.116		0.000		-		0.000	27.241	745.346	-

Remarks

NMT FY18 funding profile has moved to PE 1203109N.

Exhibit R-4, RDT&E Schedule Profile: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*



Note: FY18-FY22 NMT funding profile resides in PE 1203109N.

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy		Date: May 2017
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				
Procurement Year 6 (PY6)	1	2016	1	2016
FRP PY5 Extension Delivery	3	2016	3	2016
AEHF Launch SV-4	3	2017	3	2017
A2AD Adaptive Coding & JALN-M Development	1	2016	4	2017
A2AD Wideband AJ Modem Development	1	2016	4	2017
XDR FOT&E	4	2017	4	2017
A2AD Wideband AJ Modem System (WAMS) Development	1	2016	4	2017
Procurement Year 7 (PY7)	1	2017	1	2017
FRP PY6 Delivery	3	2017	3	2017
A2AD Adaptive Coding/Time of Day	3	2017	4	2017
A2AD Adaptive Coding/JALN-M Demo Integration & Test	4	2016	4	2017

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0731: *FLTSATCOM*	38.815	3.083	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	41.898
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: JMINI CS	3.083	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Completion of documentation and testing of software and hardware required for fielding decisions.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	3.083	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• OPN/3215: *JMINI*	4.491	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	90.772

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-2A, RDT&E Project Justification: FY 2018 Navy											Date: May 2017	
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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
2472: *Mobile User Objective Sys (MUOS)*	3,971.564	15.623	13.867	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4,001.054
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 345

Note

Project 2472 will be realigned to PE 1203109N FY2018-FY2022

A. Mission Description and Budget Item Justification

The Mobile User Objective System (MUOS) provides a worldwide, multi-service population of mobile and fixed-site terminal users with Ultra-High Frequency (UHF), narrowband, beyond line of sight satellite communications (SATCOM). MUOS significantly increases performance and capacity in support of critical Combatant Command SATCOM priorities. MUOS is the replacement system for the UHF Follow-on (UFO) system, which is currently beyond its design life. MUOS consists of Space, Ground, and User Entry Segments. The Space Segment consists of 5 geosynchronous satellites, one which is an on-orbit spare, and provides both a legacy UHF payload, which is backward compatible with UFO, and a Wideband Code Division Multiple Access (WCDMA) payload, which provides 3G cellular-like capability. The Ground Segment consists of four world-wide Radio Access Facilities (RAFs) and two satellite control facilities. Each RAF includes three 60 ft. antennas, and numerous racks of equipment. The RAF in Hawaii includes a Network Management Facility (NMF). The RAFs in Hawaii and Virginia each include a Switching Facility (SF). The User Entry Segment consists of the MUOS waveform that is ultimately integrated into MUOS-capable terminals. The MUOS legacy capability has been in operational use since 2012, and the WCDMA capability transitioned to Early Combatant Command Use in July 2016.

In addition to providing UHF SATCOM for the Department of Defense (DoD), the Navy has the overall responsibility to deliver the End-to-End (E2E) MUOS capability to the warfighter. This responsibility involves systems engineering, integration, and test management of all MUOS system of system activities, to include the integration of the MUOS waveform into MUOS-capable terminals and the subsequent terminal certification testing.

In June 2016 based on the results of the Multi-Service Operational Test and Evaluation-2 (MOT&E-2), Director, Operational Test & Evaluation (DOT&E) assessed MUOS not operationally effective or suitable. As a result of the program addressing findings and preparing for MOT&E-2B in FY19, Full Operational Capability (FOC) has been moved to FY20.

The budget line beginning in FY17 is dedicated to completion of the MOT&E-2B activities, system optimization to address the dynamic, worldwide electromagnetic and cybersecurity environment in which MUOS operates, and testing to support certification of MUOS-capable terminals.

Funding moved from PE 0303109N to 1203109N starting in FY18.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Mobile User Objective Sys (MUOS)	15.623	13.867	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Continued terminal integration and testing of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground system. Completed engineering capability assessments in preparation for FY16 Multi-Service Operational Test and Evaluation (MOT&E). Conducted the MOT&E-2. Completed Information Assurance (IA) vulnerability fixes identified during the IA Control Validations (IACV) at all sites and regression test (acceptance test) of IA issues. Conducted engineering and acceptance test activities to address IA and emergent system requirements/enhancements in relation to operational environment.					
FY 2017 Plans: Continue to support integration of the MUOS waveform into MUOS-capable terminals and execution of certification testing of MUOS-capable terminals in support of the U.S. Army Handheld, Manpack, and Small Form Fit (HMS) terminal program. Address operational test deficiencies and prepare for FY19 MOT&E-2B activities, particularly addressing the capability to monitor system status and provide situational awareness for the system operators. Continue to address emerging cybersecurity requirements. Continue development and delivery of a modernized geolocation Ground Segment subsystem in order to meet baseline requirements.					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	15.623	13.867	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• WPN/2433: *Mobile User Objective System (MUOS)*	35.961	36.723	46.357	-	46.357	68.018	70.225	55.935	48.248	757.868	3,150.400

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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)*

D. Acquisition Strategy

Currently sustainment and engineering activities are procured via the baseline MUOS Risk Reduction and Design Development contract. The program is working to transition these activities to dedicated sustainment contracts for the Ground/User Entry and Space Segments. Integration of the MUOS waveform into MUOS-capable terminals and execution of certification testing of MUOS-capable terminals are executed primarily by the Navy Working Capital Funded SPAWAR Systems Center Pacific.

E. Performance Metrics

MUOS Goal: Achieve Full Operational Capability in FY 2020.

Metric: Successfully complete 5 developmental test assist events in FY18, and Multi-Service Operational Test and Evaluation-2B FY19.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy		Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	C/CPAF	Lockheed Martin (LM) : Sunnyvale, CA	3,538.047	12.480	Mar 2016	6.967	Oct 2016	0.000		-		0.000	0.000	3,557.494	-
Product Development PY	Various	Various : Various	133.670	0.000		0.000		0.000		-		0.000	0.000	133.670	-
		Subtotal	3,671.717	12.480		6.967		0.000		-		0.000	0.000	3,691.164	-

Remarks

In accordance with Program Office's Acquisition Strategy, engineering services will be continued and negotiated on a new contract vehicle to be awarded in FY18.
Increase of ~$600K in RRDD AOS Contract (Engineering Contract) from FY17 to FY18 due to increased efforts to address Operational Test deficiencies.
Funding moved from PE 0303109N to 1203109N starting in FY18.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support PY	Various	Various : Various	38.378	0.000		0.000		0.000		-		0.000	0.000	38.378	-
		Subtotal	38.378	0.000		0.000		0.000		-		0.000	0.000	38.378	-

Remarks

Funding moved from PE 0303109N to 1203109N starting in FY18.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	23.178	0.000		0.000		0.000		-		0.000	0.000	23.178	-
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	6.096	1.995	Dec 2015	0.000		0.000		-		0.000	0.000	8.091	-
		Subtotal	29.274	1.995		0.000		0.000		-		0.000	0.000	31.269	-

Remarks

Increase of $1.765M in Test and Evaluation efforts from FY17 to FY18 due to Test Assist Events in preparation for MOT&E-2B.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy			Date: May 2017
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)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Funding moved from PE 0303109N to 1203109N starting in FY18.															

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	145.020	0.343	Nov 2015	3.000	Nov 2016	0.000		-		0.000	0.000	148.363	-
Government Engineering	Various	Various : Various	37.639	0.805	Oct 2015	3.900	Oct 2016	0.000		-		0.000	0.000	42.344	-
Travel	WR	PMW 146 : San Diego, CA	2.623	0.000		0.000		0.000		-		0.000	0.000	2.623	-
Management Services PY	Various	Various : Various	46.913	0.000		0.000		0.000		-		0.000	0.000	46.913	-
		Subtotal	232.195	1.148		6.900		0.000		-		0.000	0.000	240.243	-

Remarks

Funding moved from PE 0303109N to 1203109N starting in FY18.

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3,971.564	15.623		13.867		0.000		-		0.000	0.000	4,001.054	-

Remarks

Funding moved from PE 0303109N to 1203109N starting in FY18.

Exhibit R-4, RDT&E Schedule Profile: FY 2018 Navy		Date: May 2017
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)*

MUOS Program Schedule

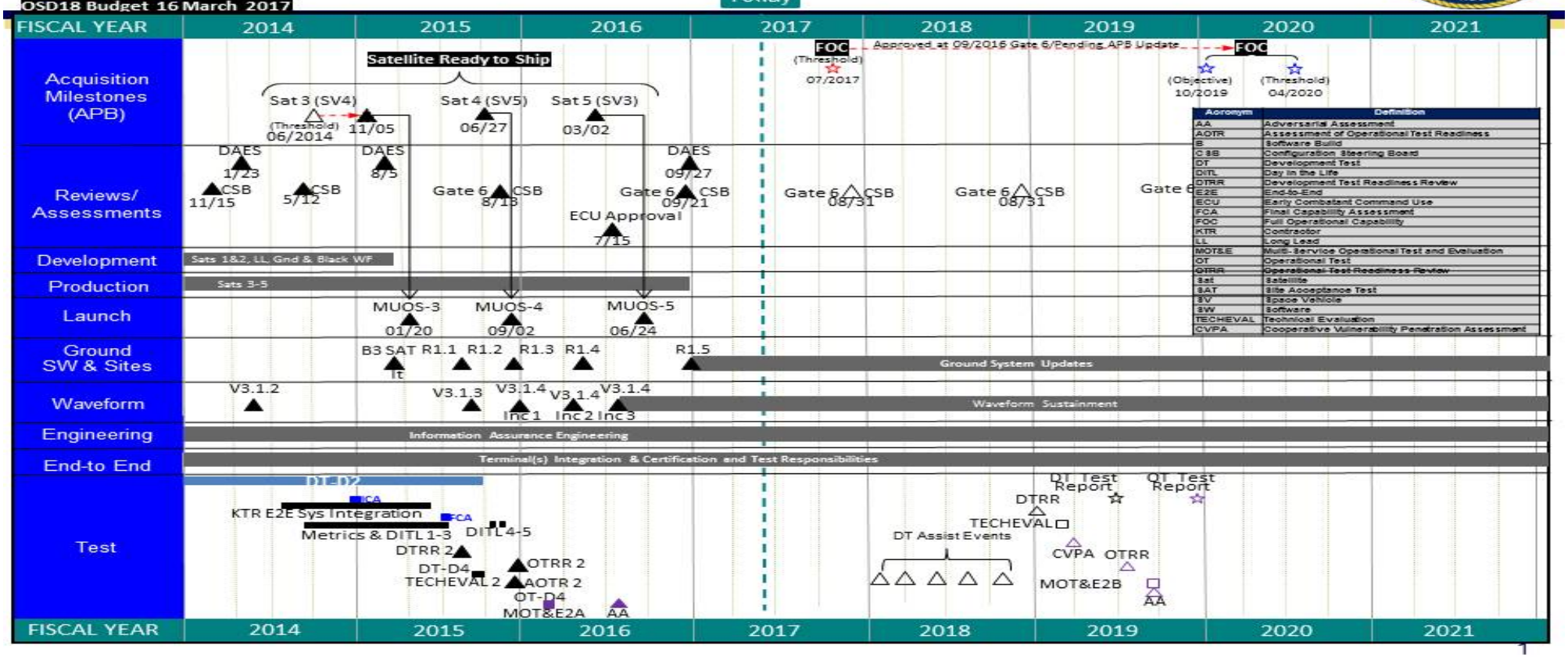


Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2472				
Information Assurance Engineering	1	2016	4	2017
Terminal Integration, Certification, and Test	1	2016	4	2017
Production Satellites	1	2016	4	2016
OT-D4 Multi-Service Operational Testing & Evaluation 2A	1	2016	1	2016
Ready to Ship date #5	2	2016	2	2016
Early Combatant Command Use Approval	3	2016	3	2016
Launch of Satellite #5 (MUOS 5)	3	2016	3	2016
Waveform Sustainment	3	2016	4	2017
Gate 6/CSB FY16	4	2016	4	2016
DAES	4	2016	4	2016
Gate 6/CSB FY17	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 3398 / *Enterprise SATCOM Gateway Modems (ESGMs)*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3398: *Enterprise SATCOM Gateway Modems (ESGMs)*	0.000	0.000	2.389	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.389
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

ESGM's FY18-FY19 funding profile has moved to PE 1203109N.

A. Mission Description and Budget Item Justification

The Navy Global Broadcast Service (GBS) Program is the Navy component of the Joint Military Satellite Communications (MILSATCOM) program that delivers the continuous flow of high-speed, high-volume communication and information flow for deploying, deployed, on the move, and garrisoned forces. The GBS system supports the Navy Strategic Plan and equips warfighters with counter Anti-Access/Area Denial (A2AD) communications in a denied Command, Control, Communications, Computers, and Intelligence (C4I) environment. GBS provides Satellite Communications (SATCOM) capability for forces afloat, ashore, and Naval Special Warfare Command.

The Enterprise SATCOM Gateway Modem (ESGM) is the DoD Chief Information Officer directed solution to satisfy the Transmission Security (TRANSEC) requirement. This modem will replace the existing modem in the GBS System. Testing and fielding of the ESGM is a joint venture, operationally directed by the Defense Information Systems Agency (DISA) and the Air Force as the lead service. Additionally, the ESGM will continue to enable GBS reception of the Digital Video Broadcast - Satellite 2nd Generation (DVB-S2).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Enterprise SATCOM Gateway Modems (ESGMs)	0.000	2.389	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: Begin integration and testing necessary to support the Enterprise Satellite Communications Gateway Modems (ESGM) technical baseline for use in Global Broadcast Service (GBS) in the joint operational environment to support Joint TRANSEC requirement on the Radio Frequency (RF) segment. Begin planning for qualification testing for Navy-specific requirements. GBS Joint ESGM Developmental Test (DT) and Operational Test (OT) activities for ESGM integration with the system will be scheduled to begin during this timeframe; to conduct the					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 3398 / *Enterprise SATCOM Gateway Modems (ESGMs)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
ESGM design and application integration verification tests to illustrate specification compliance with Navy C4I systems. ***FY 2018 Base Plans:*** Enterprise SATCOM Gateway Modems (ESGMs) FY18 funding profile resides in PE 1203109N. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	2.389	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The GBS program reached a Full Rate Production Decision on 24 Oct 2008 and is in sustainment. The Enterprise Satellite Communications (SATCOM) Gateway Modem (ESGM), the Commercial Off-The-Shelf (COTS) Internet Protocol (IP) modem, provides Transmission Security functionality in support of DoD CIO direction to implement Information Assurance for all transmission media.

E. Performance Metrics

The RDT&E goal for the GBS program is to create a military satellite communications system that supports current and future requirements for Anti-Access/Area Denial and Information Assurance.