Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
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 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
Total Program Element	4,645.411	34.717	47.312	37.372	-	37.372	47.478	48.911	43.786	23.505	Continuing	Continuing
0728: *EHF SATCOM Terminals*	651.521	18.228	28.044	21.116	-	21.116	32.104	34.812	30.826	10.301	Continuing	Continuing
0731: *FLTSATCOM*	34.080	4.735	3.101	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	41.916
2472: *Mobile User Objective Sys (MUOS)*	3,959.810	11.754	16.167	13.867	-	13.867	13.885	13.193	12.960	13.204	221.435	4,276.275
3398: *Enterprise SATCOM Gateway Modems (ESGMs)*	0.000	0.000	0.000	2.389	-	2.389	1.489	0.906	0.000	0.000	0.000	4.784

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: PB 2017 Navy	Date: February 2016
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 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.

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.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	41.729	53.239	45.403	-	45.403
Current President's Budget	34.717	47.312	37.372	-	37.372
Total Adjustments	-7.012	-5.927	-8.031	-	-8.031
• Congressional General Reductions	-	-0.127			
• Congressional Directed Reductions	-	-5.800			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.801	0.000			
• SBIR/STTR Transfer	-1.211	0.000			
• Program Adjustments	0.000	0.000	-10.500	-	-10.500
• Rate/Misc Adjustments	0.000	0.000	2.469	-	2.469

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) - No significant technical changes.
Enterprise SATCOM Gateway Modems (ESGMs Project 3398) - Incorporates Enterprise SATCOM Gateway Modem (ESGM) Implementation for the Global Broadcast Service Program (FY2017-FY2019).

Funding:

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy	Date: February 2016
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)*

0728: FY2016 $5.8M funding decrease to NMT requirements for support of range and elevation to JALN-M AEHF Airborne XDR waveform communications development.
0728: FY2017 funding request was reduced by $10.5M for Wideband Anti-Jam (AJ) Modem Re-phase.
2472: FY2017 funding decreased by $2.7M for Engineering Contract. Will be restored in FY18/FY19.
3398: FY2017 funding increased by $2.4M for ESGM Implementation for the Global Broadcast Service Program.

Technical:
Enterprise SATCOM Gateway Modems (ESGMs) (project 3398) - Incorporates Enterprise SATCOM Gateway Modem (ESGM) Implementation for the Global Broadcast Service Program (FY2017-FY2019).

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0728: *EHF SATCOM Terminals*	651.521	18.228	28.044	21.116	-	21.116	32.104	34.812	30.826	10.301	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 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 autonomously enhances maximum throughput and supports degraded conditions by adjusting End-to-End code rate to provide continuous, mission critical, and protected communications.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: NMT Development	7.238	16.844	7.682	0.000	7.682
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 2015 Accomplishments:
Completed demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Continued on-going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system.
Began Anti-Access Area Denial (A2AD) development for Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) Adaptive Coding (AC) initiatives, AC terminal design development and crypto interface studies. Performed technical and system risk reduction, and solution analysis for Airborne Extended Data Rate (XDR) and implemented the A2AD mitigation strategy for NMT.

FY 2016 Plans:
Complete Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Airborne XDR waveform. Continue on-going efforts to test the Enhanced Polar System (EPS) functionality with the NMT system. Continue A2AD development to include the ATIP and AC initiatives. Continue AC terminal design. Initiate development and complete Wideband Anti Jam Modem (WAM) specification and risk reduction crypto interface efforts. Complete NMT design for the Airborne XDR JALN-M demonstration. Plan for and complete the ATIP and NMT SATCOM AC Design Verification Tests executed to illustrate specification compliance. Begin development of all Fleet logistics support products in support of initial fielding of the SATCOM AC capability. Analyze network architectures and satellite resource utilization in support of SATCOM AC to ensure realistic fleet implementation.

FY 2017 Base Plans:
Continue development of the WAM technical baseline for use in NMT. 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)

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
ground solution architecture. Plan for and complete the NMT SATCOM AC Design Verification Test executed to illustrate specification compliance. Initiate design development for Adaptive Coding 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 2017 OCO Plans:*** N/A					
Title: Joint Aerial Layer Network Maritime (JALN-M)	10.990	11.200	13.284	0.000	13.284
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Began 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 Airborne XDR payload. Developed design specification of JALN-M payload requirements for integration into an airborne prototype Pod. Began Anti-Access Area Denial (A2AD) development for JALN. Included Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) initiatives, Adaptive Coding terminal design and design modifications to the NMT for Airborne XDR waveform implementation and the ability to acquire and track an airborne payload to implement the A2AD mitigation strategy for JALN-M. ***FY 2016 Plans:*** Continue 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. Develop detailed test plans for validating the JALN-M Airborne XDR payload. ***FY 2017 Base 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. Complete the 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. Install the JALN-M capabilities and execute site					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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 2017 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 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:*** Perform DT and 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 2017 OCO Plans:*** N/A	0.000 -	0.000 -	0.150 -	0.000 -	0.150 -
Accomplishments/Planned Programs Subtotals	18.228	28.044	21.116	0.000	21.116

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• OPN/3216: *Navy Multiband Terminal (NMT)*	233.162	118.113	38.365	-	38.365	68.054	95.021	71.425	11.102	103.000	1,358.435

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 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	64.516	6.909	Jan 2015	14.054	Jan 2016	6.576	Jan 2017	-		6.576	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC : San Diego, CA	22.088	0.000		0.000		1.748	Nov 2016	-		1.748	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC : Newport, RI	31.437	2.685	Nov 2014	3.000	Jan 2016	2.000	Jan 2017	-		2.000	Continuing	Continuing	Continuing
Systems Engineering	C/CPAF	Systech : San Diego, CA	5.438	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	MIT/LL : Marlborough, MA	0.000	0.000	Oct 2014	0.400	Jun 2016	1.656	Jan 2017	-		1.656	Continuing	Continuing	Continuing
Software Development	C/CPFF	COMTECH : Tempe, AZ	20.147	4.450	Dec 2014	2.108	Dec 2015	2.000	Dec 2016	-		2.000	Continuing	Continuing	Continuing
		Subtotal	575.359	14.044		19.562		13.980		-		13.980	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 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	-
Government Oversight	WR	NUWC : Newport, RI	0.000	0.272	Nov 2014	2.008	Nov 2015	2.512	Nov 2016	-		2.512	Continuing	Continuing	Continuing
Support	C/CPAF	Systech : San Diego, CA	0.000	1.365	Nov 2014	1.194	Nov 2015	1.160	Nov 2016	-		1.160	Continuing	Continuing	Continuing
Support	WR	SSC PAC : San Diego, CA	0.000	0.000		1.266	Jan 2016	0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	25.722	1.637		4.468		3.672		-		3.672	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	21.280	0.917	Nov 2014	2.000	Nov 2015	2.000	Nov 2016	-		2.000	Continuing	Continuing	Continuing
Operational Test & Evaluation 1	WR	COMOPTEVFOR : Norfolk, VA	5.566	0.303	Nov 2014	0.100	Nov 2015	0.000	Nov 2016	-		0.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation	C/CPAF	Raytheon : Marlborough, MA	3.128	0.819	Nov 2014	0.000		0.000		-		0.000	0.000	3.947	-
		Subtotal	29.974	2.039		2.100		2.000		-		2.000	-	-	-

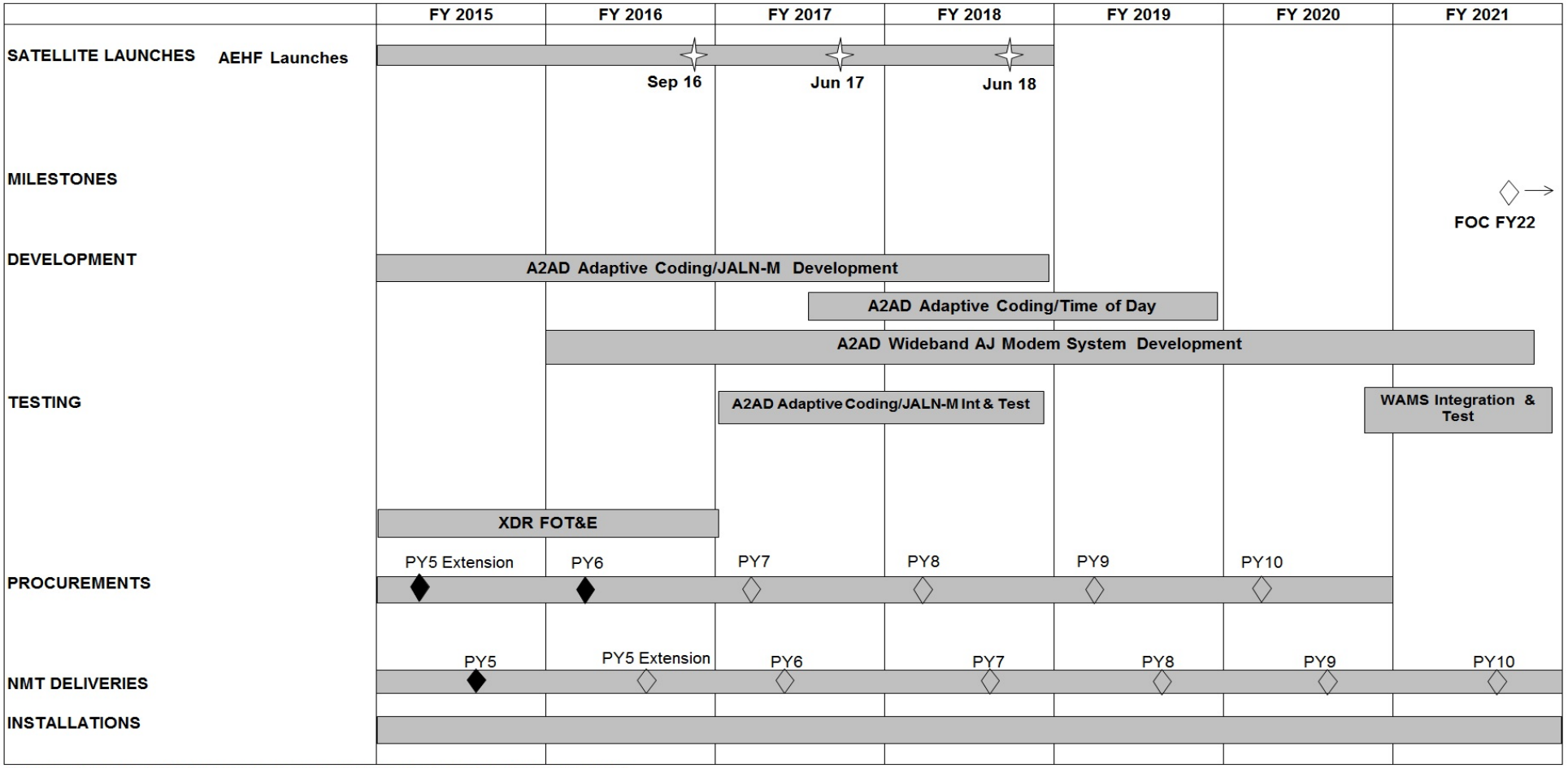
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Management	C/CPFF	BAH : San Diego	8.991	0.234	Nov 2014	0.220	Nov 2015	0.178	Nov 2016	-		0.178	Continuing	Continuing	Continuing
Program Management	C/CPFF	BAH : San Diego	9.011	0.234	Nov 2014	1.654	Nov 2015	1.246	Nov 2016	-		1.246	Continuing	Continuing	Continuing
Acquisition Management	WR	NCCA : Various	0.653	0.000		0.000		0.000		-		0.000	0.000	0.653	-
Travel	Reqn	SPAWAR : Various	1.811	0.040	Nov 2014	0.040	Nov 2015	0.040	Nov 2016	-		0.040	Continuing	Continuing	Continuing
		Subtotal	20.466	0.508		1.914		1.464		-		1.464	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	651.521	18.228		28.044		21.116		-		21.116	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*



Note: Procurement and Delivery nomenclature updated to align to NMT production contract

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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 5 Extension (PY5 E)	2	2015	2	2015
FRP PY5 Delivery	3	2015	3	2015
Procurement Year 6 (PY6)	1	2016	1	2016
FRP PY5 Extension Delivery	3	2016	3	2016
AEHF Launch SV-4	4	2016	4	2016
FRP PY6 Delivery	2	2017	2	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	2018
A2AD Wideband AJ Modem Development	1	2016	4	2021
Procurement Year 7 (PY7)	2	2017	2	2017
Procurement Year 8 (PY8)	2	2018	2	2018
Procurement Year 9 (PY9)	2	2019	2	2019
Procurement Year 10 (PY10)	2	2020	2	2020
FRP PY7 Delivery	3	2018	3	2018
FRP PY8 Delivery	3	2019	3	2019
FRP PY9 Delivery	3	2020	3	2020
WAM Integration & Testing	4	2020	4	2021
FRP PY10 Delivery	3	2021	3	2021
XDR FOT&E	1	2015	4	2016
AEHF Launch SV-6	3	2018	3	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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**
A2AD Adaptive Coding/Time of Day	3	2017	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0731: *FLTSATCOM*	34.080	4.735	3.101	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	41.916
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: JMINI CS	4.735	3.101	0.000	0.000	0.000
Articles:	1	-	-	-	-
FY 2015 Accomplishments: Finalized prototype design, developed test plans and began implementation of a comprehensive test strategy. Continued software development and integration of the system architecture.					
FY 2016 Plans: Completion of documentation and testing of software and hardware required for fielding decisions.					
FY 2017 Base Plans: N/A					
FY 2017 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.735	3.101	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• OPN/3215: *JMINI*	6.548	4.491	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-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JMINI Contractor Engineering Support	C/CPFF	SSC PAC : San Diego, CA.	17.160	0.000		0.000		0.000		-		0.000	0.000	17.160	-
JMINI Government Engineering	WR	SSC PAC : San Diego, CA.	12.654	3.075	Nov 2014	1.106	Nov 2015	0.000		-		0.000	0.000	16.835	-
JMINI Certification Authority	WR	SSC LANT : Charleston, SC	0.698	0.680	Jan 2015	0.000		0.000		-		0.000	0.000	1.378	-
		Subtotal	30.512	3.755		1.106		0.000		-		0.000	0.000	35.373	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IPv6 Support	WR	SSC PAC : San Diego	2.418	0.000		0.000		0.000		-		0.000	0.000	2.418	-
JMINI Obsolescense Forecast & Analysis	WR	NSWC : Corona	0.000	0.050	Nov 2014	0.000		0.000		-		0.000	0.000	0.050	-
		Subtotal	2.418	0.050		0.000		0.000		-		0.000	0.000	2.468	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JMINI Interoperability Test	WR	JITC : Ft. Huachaca	0.200	0.222	Nov 2014	0.185	Dec 2015	0.000		-		0.000	0.000	0.607	-
JMINI Test & Evaluation	WR	COTF : Norfolk, VA	0.000	0.320	Nov 2014	0.000		0.000		-		0.000	0.000	0.320	-
MIBS Development Test & Evaluation	WR	SSC PAC : San Diego, CA.	0.408	0.000		0.000		0.000		-		0.000	0.000	0.408	-
JMINI Test & Evaluation	WR	SSC PAC : San Diego, CA	0.000	0.000		1.500	Nov 2015	0.000		-		0.000	0.000	1.500	-
		Subtotal	0.608	0.542		1.685		0.000		-		0.000	0.000	2.835	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JMINI Program Management	C/CPFF	BAH : San Diego, CA.	0.498	0.000		0.000		0.000		-		0.000	0.000	0.498	-
JMINI Program Management	C/CPFF	STF : San Diego, CA.	0.000	0.388	Nov 2014	0.310	Nov 2015	0.000		-		0.000	0.000	0.698	-
MIBS Program Management	WR	SSC PAC : San Diego, CA.	0.044	0.000		0.000		0.000		-		0.000	0.000	0.044	-
		Subtotal	0.542	0.388		0.310		0.000		-		0.000	0.000	1.240	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	34.080	4.735		3.101		0.000		-		0.000	0.000	41.916	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

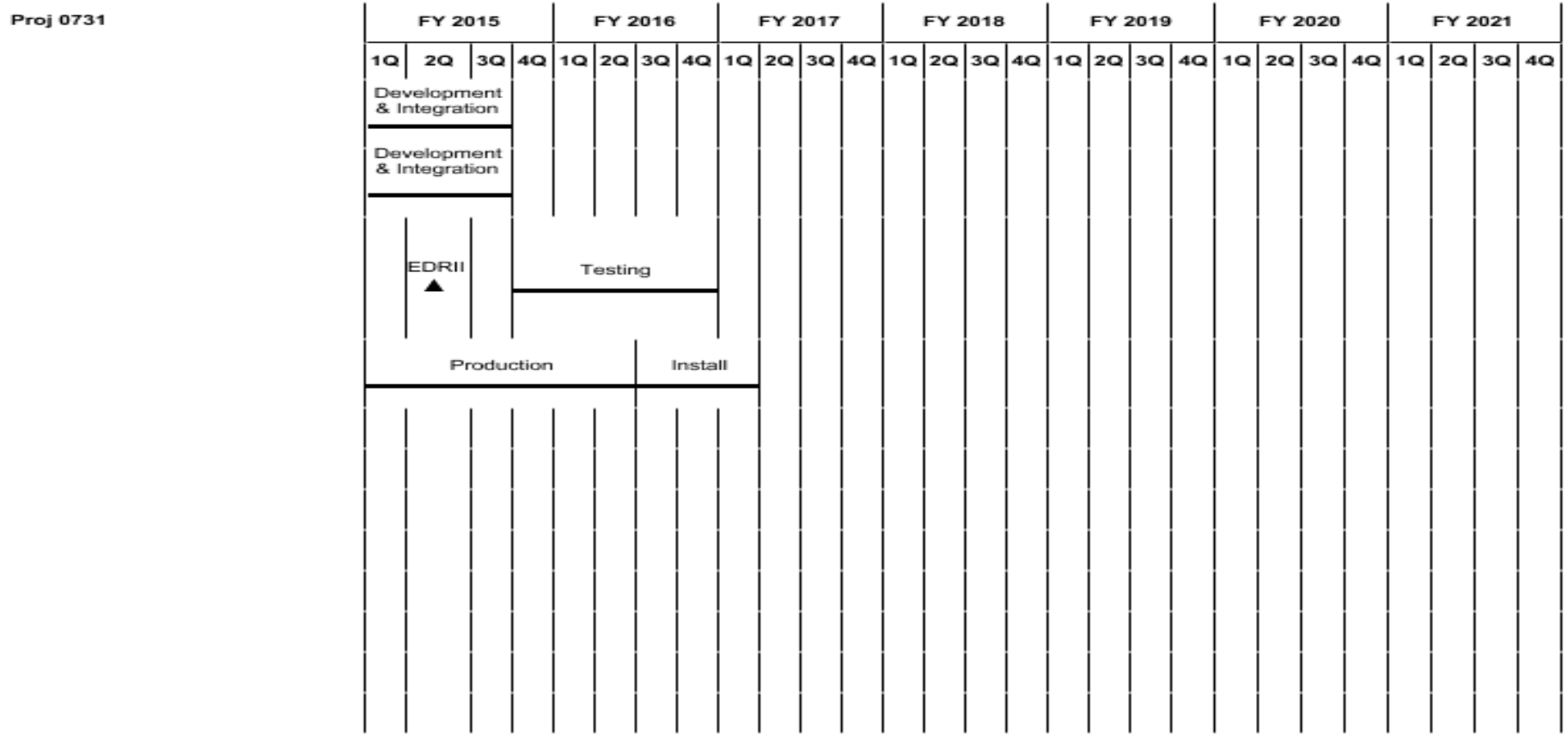


Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

Schedule Details

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

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2472: *Mobile User Objective Sys (MUOS)*	3,959.810	11.754	16.167	13.867	-	13.867	13.885	13.193	12.960	13.204	221.435	4,276.275
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.

FY17: Conduct engineering activities and acceptance testing to address Information Assurance (IA) and emergent system requirements/enhancements in relation to operational environment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Mobile User Objective Sys (MUOS)	11.754	16.167	13.867	0.000	13.867
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Conducted follow-on Information Assurance Control & Validation (IACVs) at each ground station to obtain Interim Authority To Operate (IATO) extensions. Continue Information Assurance (IA) vulnerability fixes identified during the IACVs at all sites. Continue research for emerging IA issues, maintain security accreditations, regression test (acceptance test) and implement mandated security changes to ensure system readiness/ availability. Initiated terminal integration and testing of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground systems. Conducted developmental and test readiness events in preparation for program level TECHEVAL. Conducted Assessment of Operational Test Readiness 2 (AOTR 2) and Operational Test Readiness Review 2 (OTRR 2). Initiated engineering capability assessments in preparation for FY16 Multiservice Operational Test and Evaluation 2 (MOT&E 2).					
FY 2016 Plans: Continue terminal integration and testing of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground system. Complete engineering capability assessments in preparation					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
for FY16 MOT&E. Conduct the Multiservice Operational Test and Evaluation 2 (MOT&E 2). Complete IA vulnerability fixes identified during the IACVs at all sites and regression test (acceptance test) of IA issues. Conduct engineering and acceptance test activities to address IA and emergent system requirements/ enhancements in relation to operational environment. ***FY 2017 Base Plans:*** Continue terminal integration and testing of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground system. Continue engineering activities and acceptance testing to address IA and emergent system requirements/enhancements in relation to operational environment. Achieve Full Operational Capability (FOC). ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	11.754	16.167	13.867	0.000	13.867

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• WPN/2433: *Mobile User Objective System (MUOS)*	206.700	34.232	36.723	-	36.723	46.119	41.913	40.336	37.470	796.087	3,063.945

Remarks

D. Acquisition Strategy

Research Development Test & Evaluation, Navy (RDT&E,N) funds in FY17 and out planned for engineering activities and acceptance testing to address Information Assurance (IA) and emergent system requirements/enhancements in relation to operational environment.

E. Performance Metrics

FY17: Conduct IA vulnerability and ground system tests and implement fixes/complete updates to ensure system readiness/availability in the operational environment. Achieve Full Operational Capability (FOC) in FY 2017.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	C/CPAF	Lockheed Martin (LM) : Sunnyvale, CA	3,528.952	9.095	Feb 2015	13.024	Mar 2016	0.000		-		0.000	0.000	3,551.071	-
Engineering Contract	C/CPAF	TBD : TBD	0.000	0.000		0.000		12.110	Dec 2016	-		12.110	252.429	264.539	-
Product Development PY	Various	Various : Various	133.670	0.000		0.000		0.000		-		0.000	0.000	133.670	-
		Subtotal	3,662.622	9.095		13.024		12.110		-		12.110	252.429	3,949.280	-

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 FY17.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 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	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	22.718	0.460	Oct 2014	0.000		0.000		-		0.000	0.000	23.178	-
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	5.029	1.067	Dec 2014	1.995	Dec 2015	0.000		-		0.000	0.000	8.091	-
		Subtotal	27.747	1.527		1.995		0.000		-		0.000	0.000	31.269	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	144.658	0.362	Nov 2014	0.343	Nov 2015	0.905	Nov 2016	-		0.905	11.158	157.426	-
Government Engineering	Various	Various : Various	36.897	0.742	Dec 2014	0.805	Oct 2015	0.852	Oct 2016	-		0.852	11.090	50.386	-
Travel	WR	PMW 146 : San Diego, CA	2.595	0.028	Oct 2014	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	231.063	1.132		1.148		1.757		-		1.757	22.248	257.348	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3,959.810	11.754		16.167		13.867		-		13.867	274.677	4,276.275	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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)*

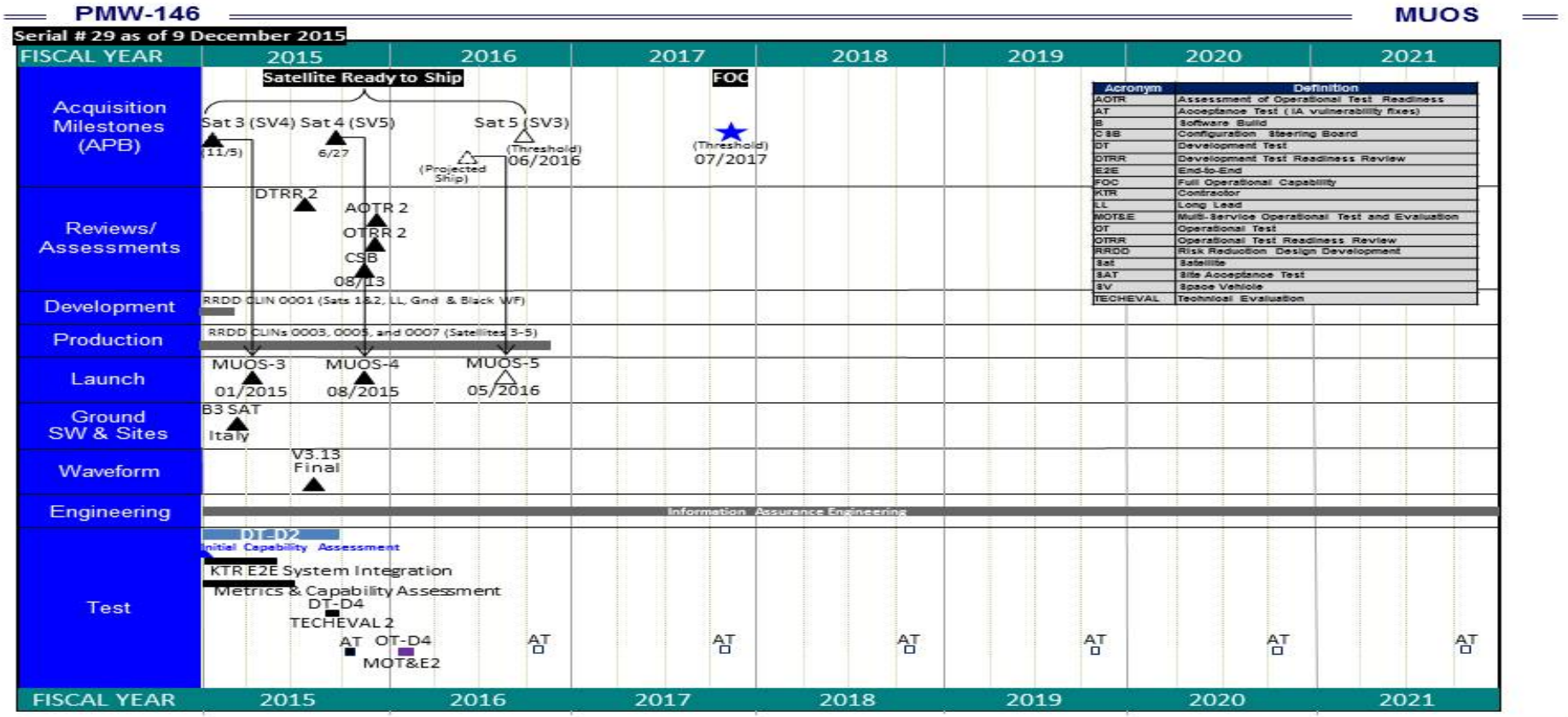


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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2472				
Initial Capability Assessment	1	2015	1	2015
Italy Build 3.1	1	2015	1	2015
Ready to Ship date #3	1	2015	1	2015
KTR E2E System Integration	1	2015	2	2015
Metrics & Capability Assessment	1	2015	3	2015
Information Assurance Engineering	1	2015	4	2021
Launch of Satellite #3 (MUOS 3)	2	2015	2	2015
Development Test Readiness Review (DTRR) 2	3	2015	3	2015
Waveform Version 3.1.3 (Final) Release Delivery to Information Repository	3	2015	3	2015
DT-D4 Tech Eval 2	3	2015	3	2015
Ready to Ship date #4	3	2015	3	2015
Configuration Steering Board (FY15)	4	2015	4	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	4	2015	4	2015
Assessment of Operational Test Readiness (AOTR) 2	4	2015	4	2015
OT-D4 Multi-Service Operational Testing & Evaluation (MOT&E 2) Report	1	2016	1	2016
Ready to Ship date #5	2	2016	2	2016
Launch of Satellite #5 (MUOS 5)	3	2016	3	2016
Acceptance Test FY16 (AT)	4	2016	4	2016
Full Operational Capability (FOC)	4	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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 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
Acceptance Test FY21 (AT)	4	2021	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3398: *Enterprise SATCOM Gateway Modems (ESGMs)*	0.000	0.000	0.000	2.389	-	2.389	1.489	0.906	0.000	0.000	0.000	4.784
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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 in place of the Joint Internet Protocol Modem (JIPM) acquisition strategy. 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: GBS Enterprise Satellite Communications Gateway Modems	0.000	0.000	2.389	0.000	2.389
Articles:	-	-	-	-	-
FY 2015 Accomplishments: N/A					
FY 2016 Plans: N/A					
FY 2017 Base 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. GBS Joint ESGM Developmental Test (DT) and Operational Test (OT) activities for ESGM integration with the system will be scheduled during					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
this timeframe. Plan for and complete the ESGM design and application integration verification tests to illustrate specification compliance with Navy C4I systems. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.389	0.000	2.389

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 Navy program is approaching Full Operational Capability (FOC). 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	SSC PAC : San Diego, CA	0.000	0.000		0.000		0.499	Nov 2016	-		0.499	0.000	0.499	-
Systems Engineering	WR	NUWC : Newport, RI	0.000	0.000		0.000		0.280	Nov 2016	-		0.280	0.000	0.280	-
Systems Engineering	WR	SSC LANT : Charleston, SC	0.000	0.000		0.000		0.785	Nov 2016	-		0.785	0.000	0.785	-
		Subtotal	0.000	0.000		0.000		1.564		-		1.564	0.000	1.564	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	C/BA	SYSTECH : San Diego, CA	0.000	0.000		0.000		0.200	Nov 2016	-		0.200	0.000	0.200	-
Operational Test & Evaluation	C/BA	COMOPTEVFOR : Norfolk, VA	0.000	0.000		0.000		0.370	Nov 2016	-		0.370	0.000	0.370	-
		Subtotal	0.000	0.000		0.000		0.570		-		0.570	0.000	0.570	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	C/CPFF	BAH : San Diego	0.000	0.000		0.000		0.240	Nov 2016	-		0.240	0.000	0.240	-
Travel	Reqn	SPAWAR : Various	0.000	0.000		0.000		0.015	Nov 2016	-		0.015	0.000	0.015	-
		Subtotal	0.000	0.000		0.000		0.255		-		0.255	0.000	0.255	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		2.389		-		2.389	0.000	2.389	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
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)*

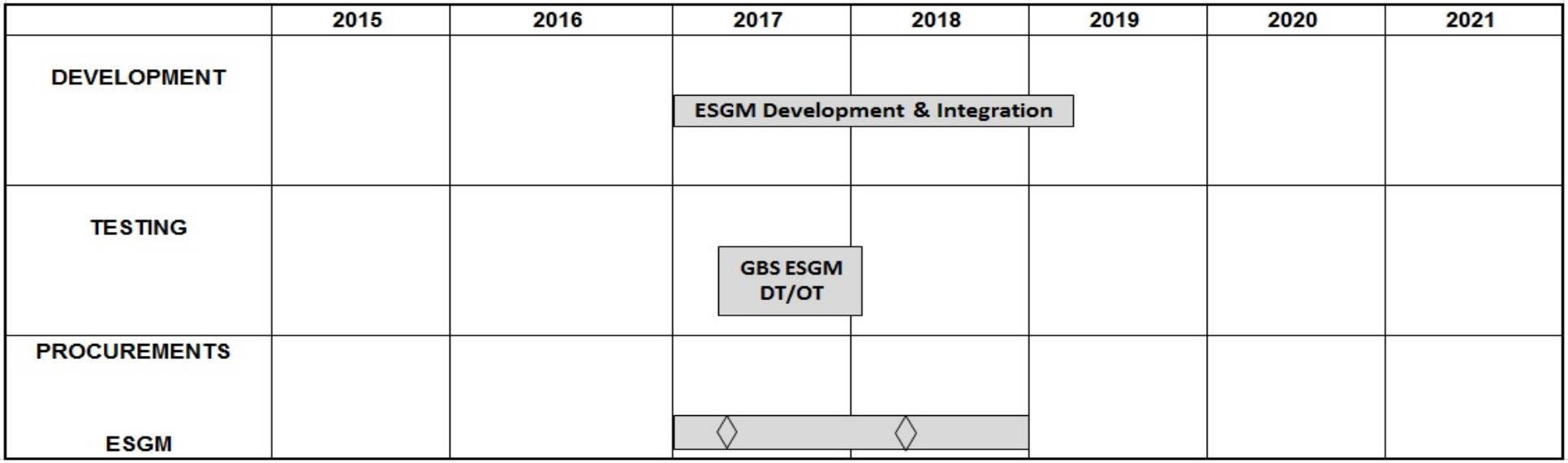

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 3398 / *Enterprise SATCOM Gateway Modems (ESGMs)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3398				
ESGM Development and Integration	1	2017	2	2019
GBS ESGM DT/OT	2	2017	1	2018
ESGM Procurement 1	2	2017	2	2017
ESGM Procurement 2	2	2018	2	2018

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