Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy												Date: March 2014
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	4,420.314	179.029	66.196	41.829	-	41.829	31.076	16.789	34.088	38.357	Continuing	Continuing
0728: *EHF SATCOM Terminals*	603.553	28.131	21.056	24.805	-	24.805	17.235	5.099	21.618	25.581	Continuing	Continuing
0731: *FLTSATCOM*	19.364	9.706	9.202	4.752	-	4.752	3.101	-	-	-	-	46.125
2472: *Mobile User Objective Sys (MUOS)*	3,797.397	141.192	35.938	12.272	-	12.272	10.740	11.690	12.470	12.776	249.835	4,284.310
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 290, 345												

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Navy Multiband Terminal (NMT) Program is the required Navy component to the Advanced Extremely High Frequency (AEHF) program for enhancing protected and survivable satellite communications to Naval forces. The NMT system provides an increase in single service capability from 1.5 Megabits per second (Mbps) to 8 Mbps, increases the number of coverage areas and retains Anti-Jam/Low Probability of Intercept (AJ/LPI) protection characteristics. It is compatible with today's Navy Low Data Rate/Medium Data Rate (LDR/MDR) terminals and will sustain the Military Satellite Communications (MILSATCOM) architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on Navy terminal capabilities of the Military Strategic, Tactical & Relay System (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Global Satellite (WGS) and Global Broadcast System (GBS). The new system will equip the warfighters with the assured, jam resistant, secure communications as described in the joint AEHF satellite communications system and WGS Operational Requirements Documents (ORD). The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

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

Maritime Integrated Broadcast Service (MIBS) (formerly Tactical Data Information Exchange Subsystem Broadcast (TADIXS-B)) Program Charter is to deliver Integrated Broadcast Service (IBS) data to operational and tactical decision makers aboard United States Navy ships, shore headquarters, and other joint platforms. It

will provide means to disseminate organically derived data from Navy platforms to other tactical, operational, and strategic users in theatre. MIBS provides the Navy a capability to deliver near real time data, enhancing the Common Operational Picture (COP), to support operations in all warfare areas, including: Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompasses Navy IBS systems (Joint Tactical Terminal - Maritime (JTT-M)). These systems will provide the Navy and other joint platforms with a coherent approach to fielding maritime IBS systems that takes advantage of all available pathways and services.

The Mobile User Objective System (MUOS) program provides for the development of the next generation Department of Defense (DoD) advanced narrowband communications satellite constellation. The current Ultra-High Frequency (UHF) Follow-On (UFO) constellation is projected to degrade below acceptable availability parameters in 2014. This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports Full Operational Capability (FOC) in FY 2017.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	188.482	66.231	33.188	-	33.188
Current President's Budget	179.029	66.196	41.829	-	41.829
Total Adjustments	-9.453	-0.035	8.641	-	8.641
• Congressional General Reductions	-	-0.035			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-5.753	-			
• Program Adjustments	-	-	12.725	-	12.725
• Rate/Misc Adjustments	-	-	-4.084	-	-4.084
• Congressional General Reductions Adjustments	-3.700	-	-	-	-

Change Summary Explanation

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

Mobile User Objective System (project 2472)
MUOS schedule reflects adjustments to test events (including End-to-End integration and test), and delays to MUOS Hardware and antenna installation in Niscemi.

Technical:

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy	Date: March 2014
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)*

No significant technical changes.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
0728: *EHF SATCOM Terminals*	603.553	28.131	21.056	24.805	-	24.805	17.235	5.099	21.618	25.581	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 290

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Navy Multiband Terminal (NMT) Program is the required Navy component to the Advanced Extremely High Frequency (AEHF) Program for enhancing protected and survivable satellite communications to Naval forces. The NMT system provides an increase in single service capability from 1.5 Megabits per second (Mbps) to 8 Mbps, increases the number of coverage areas, and retains Anti-Jam/Low Probability of Intercept (AJ/LPI) protection characteristics. It is compatible with today's Navy Low Data Rate/Medium Data Rate (LDR/MDR) terminals and will sustain the Military Satellite Communications (MILSATCOM) architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on Navy terminal capabilities of the Military Strategic, Tactical & Relay System (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Global Satellite (WGS), and Global Broadcast System (GBS). The new system will equip the warfighters with assured, jam resistant, secure communications as described in both the joint AEHF Satellite Communications System and the WGS Operational Requirement Documents (ORD). Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the ORD. The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: NMT Development	28.131	21.056	24.805
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 2013 Accomplishments: Completed the Developmental Testing (DT) and Operational Testing (OT) of Q/Ka, Ship X/Ka, and submarine X-band capabilities into the NMT system. Completed the DT of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Continued the development and integration of the Advanced Time Division Multiple Access Interface Processor (ATIP) into the NMT terminal. Performed system modifications to correct deficiencies discovered during testing. Continued on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Achieved Initial Operational Capability milestone.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
Prepare for Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Complete the development and integration of the Advanced Time Delay Multiple Access Interface Processor (ATIP) into the NMT Terminal. Perform system modifications to correct deficiencies discovered during testing. Continue on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Develop Anti-Access Area Denial (A2AD) specifications, perform technical and system risk reduction, and solution analysis for Airborne XDR and AEHF, to implement the A2AD mitigation strategy as prescribed in the Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA). ***FY 2015 Plans:*** Complete Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Continue on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Begin Anti-Access Area Denial (A2AD) development. Includes Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) initiatives, Adaptive Coding terminal design development, and crypto interface necessary for support of Anti-Access Area Denial (A2AD) development. Perform technical and system risk reduction, and solution analysis for Airborne XDR and AEHF, to implement the A2AD mitigation strategy as prescribed in the Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA).			
Accomplishments/Planned Programs Subtotals	28.131	21.056	24.805

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/3216: *Navy Multiband Terminal (NMT)*	156.171	183.620	272.076	-	272.076	119.072	50.848	71.033	72.114	73.968	1,279.304

Remarks

D. Acquisition Strategy

The existing Raytheon developmental contract awarded in 2007 will support the completion of Follow-On Test and Evaluation (FOT&E) of the NMT system. A new competitive contract awarded to COMTECH in 2013 will support the development of Anti-Access Area Denial (A2AD). A new competitive production contract is being planned for terminals to be procured in FY15 and beyond.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	C/CPAF	Various : Various	126.499	-		-		-		-		-	-	126.499	-
Hardware Development	C/FFP	Harris : Melbourne, FL	6.136	-		-		-		-		-	-	6.136	-
NMT EDM Development	C/CPAF	Raytheon : Marlborough, MA	198.680	-		-		-		-		-	-	198.680	-
Hardware Development	WR	SSC PAC : San Diego, CA	1.009	-		-		-		-		-	-	1.009	-
Ancillary Hardware Development	C/CPAF	Raytheon : Marlborough, MA	55.923	-		-		-		-		-	-	55.923	-
Software Development	WR	NUWC : Newport, RI	8.581	-		-		-		-		-	-	8.581	-
Software Development	C/CPAF	Raytheon : Marlborough, MA	50.355	7.768	Jan 2013	6.920	Mar 2014	17.010	Jan 2015	-		17.010	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC : San Diego, CA	22.088	-		-		-		-		-	-	22.088	-
Systems Engineering	WR	NUWC : Newport, RI	28.856	1.548	Nov 2012	1.033	Nov 2013	0.975	Nov 2014	-		0.975	Continuing	Continuing	Continuing
Systems Engineering	C/CPAF	Linquest : San Diego, CA	34.905	-		-		-		-		-	-	34.905	-
Systems Engineering	C/CPAF	Systech : San Diego, CA	1.784	2.200	Nov 2012	1.454	Nov 2013	1.365	Nov 2014	-		1.365	Continuing	Continuing	Continuing
Software Development	C/CPFF	COMTECH : Tempe, AZ	0.000	12.600	Apr 2013	8.179	Mar 2014	3.011	Dec 2014	-		3.011	Continuing	Continuing	Continuing
		Subtotal	534.816	24.116		17.586		22.361		-		22.361	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	SSC PAC : San Diego, CA	11.412	-		-		-		-		-	-	11.412	-
Logistics Support	WR	SSC PAC : San Diego, CA	3.555	-		-		-		-		-	-	3.555	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analysis	WR	NUWC : Newport, RI	6.869	-		-		-		-		-	-	6.869	-
Information Assurance	WR	SSC PAC : San Diego, CA	3.886	-		-		-		-		-	-	3.886	-
		Subtotal	25.722	-		-		-		-		-	-	25.722	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	18.809	1.481	Nov 2012	0.990	Nov 2013	0.917	Nov 2014	-		0.917	Continuing	Continuing	Continuing
Operational Test & Evaluation 1	WR	COMOPTEVFOR : Norfolk, VA	4.066	0.500	Nov 2012	1.000	Nov 2013	0.200	Nov 2014	-		0.200	Continuing	Continuing	Continuing
Developmental Test & Evaluation	C/CPAF	Raytheon : Marlborough, MA	0.898	1.340	Nov 2012	0.890	Nov 2013	0.819	Nov 2014	-		0.819	Continuing	Continuing	Continuing
		Subtotal	23.773	3.321		2.880		1.936		-		1.936	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Management	C/CPFF	BAH : San Diego	8.441	0.300	Nov 2012	0.250	Nov 2013	0.234	Nov 2014	-		0.234	Continuing	Continuing	Continuing
Program Management	C/CPFF	BAH : San Diego	8.461	0.300	Nov 2012	0.250	Nov 2013	0.234	Nov 2014	-		0.234	Continuing	Continuing	Continuing
Acquisition Management	WR	NCCA : Various	0.653	-		-		-		-		-	-	0.653	-
Travel	Reqn	SPAWAR : Various	1.687	0.094	Nov 2012	0.090	Nov 2013	0.040	Nov 2014	-		0.040	Continuing	Continuing	Continuing
		Subtotal	19.242	0.694		0.590		0.508		-		0.508	-	-	-

	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	603.553	28.131		21.056		24.805		-		24.805	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0728 / *EHF SATCOM Terminals*	

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

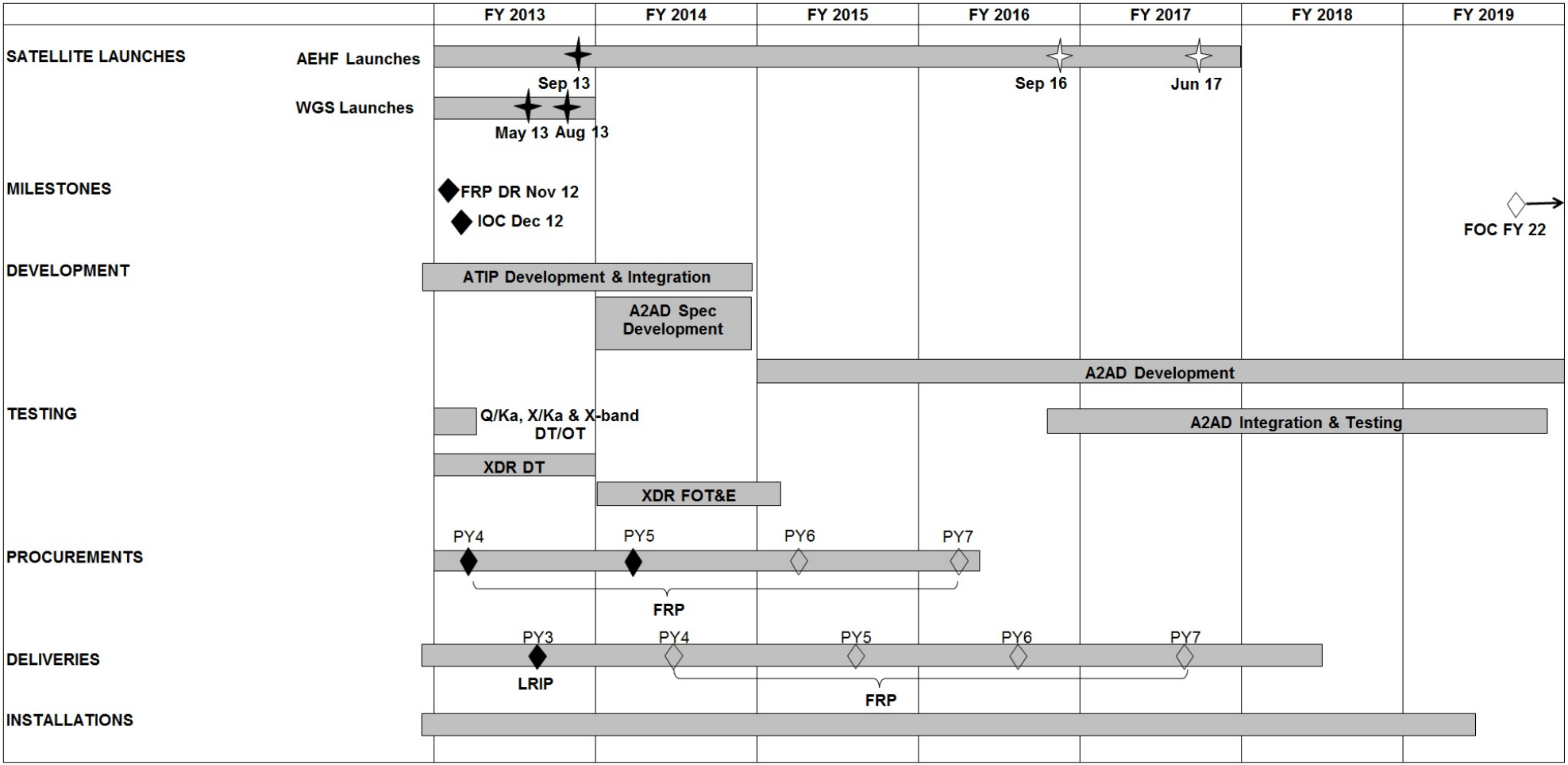

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0728				
Q/Ka, X/Ka & X-band DT/OT	1	2013	1	2013
FRP DR	1	2013	1	2013
Initial Operational Capability (IOC)	1	2013	1	2013
Procurement Year 4 (PY4)	1	2013	1	2013
XDR DT	1	2013	4	2013
ATIP Development & Integration	1	2013	4	2014
WGS Launch #6	3	2013	3	2013
LRIP PY3 Delivery	3	2013	3	2013
WGS Launch #7	4	2013	4	2013
AEHF Launch SV-3	4	2013	4	2013
XDR FOT&E	1	2014	1	2015
A2AD Spec Development	1	2014	4	2014
Procurement Year 5 (PY5)	2	2014	2	2014
FRP PY4 Delivery	2	2014	2	2014
Procurement Year 6 (PY6)	2	2015	2	2015
FRP PY5 Delivery	3	2015	3	2015
Procurement Year 7 (PY7)	2	2016	2	2016
FRP PY6 Delivery	3	2016	3	2016
AEHF Launch SV-4	4	2016	4	2016
FRP PY7 Delivery	3	2017	3	2017
AEHF Launch SV-5	3	2017	3	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
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 Development	1	2015	3	2019
A2AD DT/OT Integration & Testing	4	2016	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0731: *FLTSATCOM*	19.364	9.706	9.202	4.752	-	4.752	3.101	-	-	-	-	46.125
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 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 systems.

(U) Maritime Integrated Broadcast Service (MIBS) (formerly Tactical Data Information Exchange Subsystem Broadcast (TADIXS-B)) program charter is to deliver Integrated Broadcast Service (IBS) data to operational and tactical decision makers aboard United States Navy ships, shore headquarters, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other tactical, operational, and strategic users in theater. MIBS provides the Navy a capability to deliver near real time data, enhancing the Common Operational Picture (COP), to support operations in all warfare areas, including: Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompasses Navy IBS systems (Joint Tactical Terminal - Maritime (JTT-M)). These systems will provide the Navy and other joint platforms with a coherent approach to fielding maritime IBS systems that takes advantage of all available pathways and services.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Maritime Integrated Broadcast Service (MIBS)	0.059	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Completed Navy support for the Common Integrated Broadcast (CIB) waveform Multiservice Operational Test and Evaluation (MOT&E) including analysis and final reporting.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Title: JMINI CS	9.647	9.202	4.752
Articles:	-	-	1.000
FY 2013 Accomplishments: Continued concept development and product improvement framework for a cost effective refresh, to extend the planned life cycle of the legacy JMINI program. Commenced architecture design and analysis of software and hardware for possible reuse. ***FY 2014 Plans:*** Complete software analysis and assessments, as well as cost-benefit analyses and market research of system design elements to determine the most cost effective and technically appropriate hardware and software solutions. Commence prototype development and software integration efforts. ***FY 2015 Plans:*** Finalize prototype design, develop test plans and begin implementation of a comprehensive test strategy. Continue software development and integration.			
Accomplishments/Planned Programs Subtotals	9.706	9.202	4.752

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2900: *Maritime Integrated Broadcast Service (MIBS)*	13.680	11.646	1.991	-	1.991	-	-	-	-	Continuing	Continuing
• OPN/3215: *JMINI*	-	-	6.947	-	6.947	5.691	-	-	-	Continuing	Continuing

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 to 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.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

MIBS: The Joint Tactical Terminal (JTT) AN/USC-62 (JTT) will be upgraded, enhancing existing terminal capability to support the Common Integrated Broadcast (CIB), Common Message Format (CMF), and the National Security Agency (NSA) mandated Crypto Modernization Initiative (CMI). The upgrade requires integration testing to be completed by Space and Naval Warfare (SPAWAR) System Center Pacific personnel. Participation in the CIB Multiservice Operational Test and Evaluation (MOT&E) prior to installation.

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 lengthen the JMINI CS system life span in order to minimize loss of service to the Fleet.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

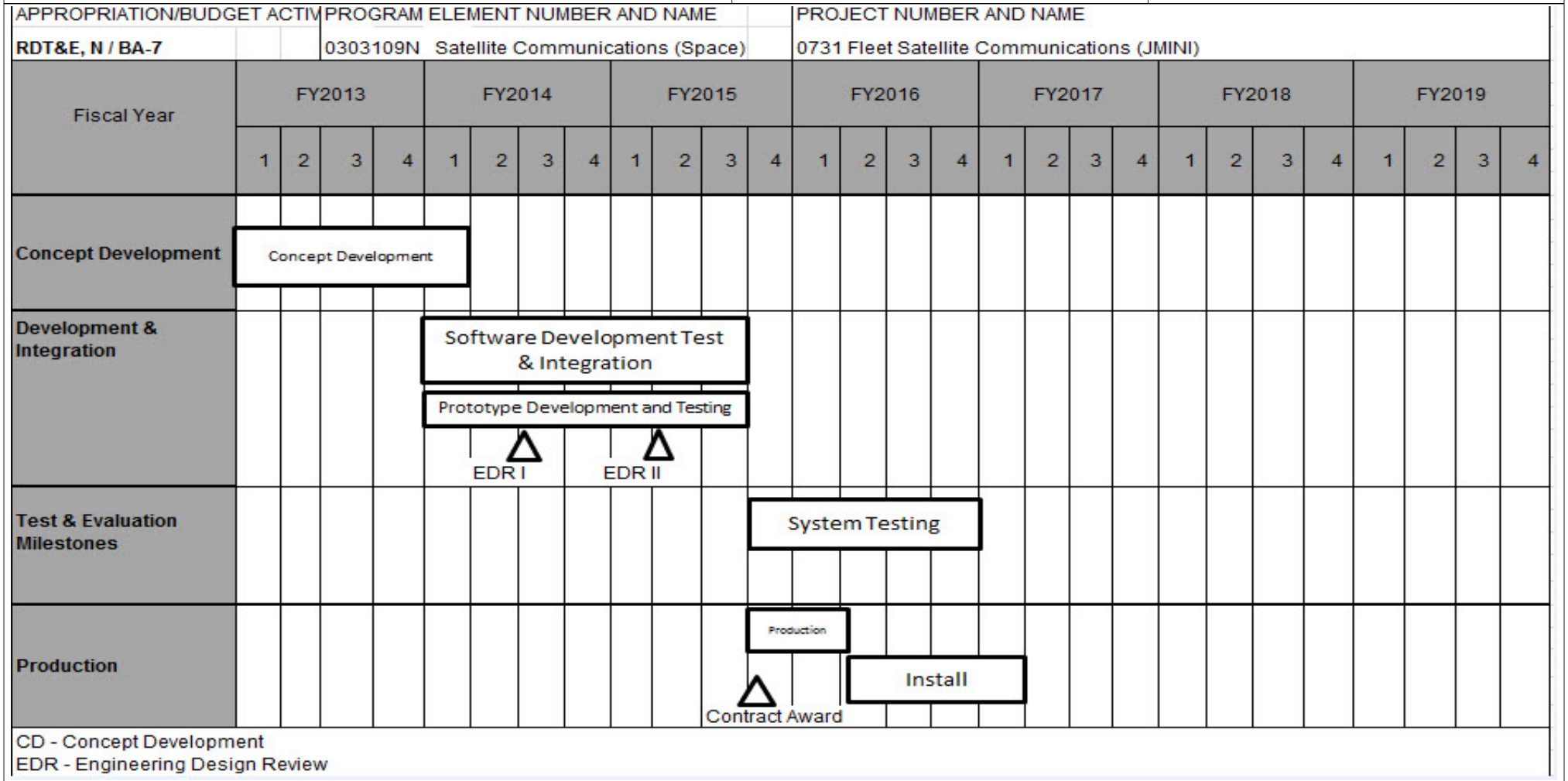

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*				Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2472: *Mobile User Objective Sys (MUOS)*	3,797.397	141.192	35.938	12.272	-	12.272	10.740	11.690	12.470	12.776	249.835	4,284.310
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 345

The FY 2015 OCO Request will be submitted at a later date.

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 2014.

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

FY15: Conduct follow-on Information Assurance Control & Validation (IACV) at each ground site to obtain IATO extensions. Continue Information Assurance (IA) vulnerability fixes identified during the IACVs at all sites. Continue research for emerging IA issues, maintain security accreditations, regression test (acceptance test) and implement mandated security changes to ensure system readiness/availability. Conduct terminal integration, testing, and certification of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Mobile User Objective Sys (MUOS)	141.192	35.938	12.272
Articles:	-	-	-
FY 2013 Accomplishments: Completed factory testing and launch site preparations, shipped to launch site, conducted launch site testing, performed launch vehicle mate operations, launch of satellite 2 and performed on-orbit testing. Completed installation of hardware at Northwest. Completed installation and testing of software updates at Wahiawa, Geraldton, Northwest, and Niscemi in support of launch 2. Completed acceptance testing of the MUOS follow-on waveform. Conducted Information Assurance (IA) waveform assessment and remediation of findings. Implemented Engineering Change Proposals (ECPs) requiring Ground software changes.			
FY 2014 Plans: Complete on-orbit testing phase for Satellite 2, conduct End to End (E2E) risk reduction testing, conduct Technical Evaluation 2 (TECHEVAL 2), perform Operational Test Readiness Review (OTRR), initiate and complete the Multiservice Operational Test and Evaluation #2 (MOT&E) effort. Provide fixes to ground software resulting from system testing, and information assurance			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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 2013	FY 2014	FY 2015
vulnerability alerts. Implement ECPs requiring ground software changes. Complete the accreditation effort to obtain the initial Interim Authority to Operate (IATO) for Niscemi. Continue fixing IA vulnerabilities identified during the Information Assurance Control & Validation (IACV) effort for Geraldton, Wahiawa, and Northwest. Conduct new IACVs at all sites to obtain IATO extensions. ***FY 2015 Plans:*** Conduct follow-on IACVs at each ground site to obtain IATO extensions. Continue 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. Conduct terminal integration, testing, and certification of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground systems.			
Accomplishments/Planned Programs Subtotals	141.192	35.938	12.272

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• WPN/2433: *Mobile User Objective System (MUOS)*	21.426	16.914	208.700	-	208.700	40.133	10.303	10.393	10.836	828.272	2,933.002

Remarks

D. Acquisition Strategy

Research Development Test & Evaluation, Navy (RDT&E,N) funds in FY13 and out planned for the continuation of the Risk Reduction & Design Development (RRDD) contract for the first 2 MUOS satellites, ground infrastructure, waveform development and associated system engineering and integration, test and evaluation.

Weapons Procurement, Navy (WPN) funds in FY13 and beyond used for production of the remaining four satellites and launch services for all six satellites.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	C/CPAF	Lockheed Martin (LM) : Sunnyvale, CA	3,370.993	134.529	Nov 2012	24.915	Mar 2014	9.689	Nov 2014	-		9.689	259.953	3,800.079	Continuing
CE Contracts & Demos	C/FFP	LM / Raytheon / Spec Astro / Boeing : VAR	21.320	-		-		-		-		-	-	21.320	Continuing
CAD Contracts	C/FFP	LM / Raytheon : VAR	105.154	-		-		-		-		-	-	105.154	Continuing
AoA for MUOS	MIPR	Aerospace : El Segundo, CA	2.782	-		-		-		-		-	-	2.782	Continuing
Government Studies	MIPR	Aerospace : El Segundo, CA	0.711	-		-		-		-		-	-	0.711	Continuing
Crypto Procurement	MIPR	NSA : Fort Meade, MD	3.703	-		-		-		-		-	-	3.703	Continuing
UHF Augmentation	C/CPAF	Lockheed Martin (LM) : Sunnyvale, CA	0.491	-		-		-		-		-	-	0.491	Continuing
		Subtotal	3,505.154	134.529		24.915		9.689		-		9.689	259.953	3,934.240	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UFO TT&C Terminal Upgrades	WR	SSC PAC : San Diego, CA	10.691	-		-		-		-		-	-	10.691	Continuing
Facilities Modifications	WR	SSC LANT : Norfolk, VA	2.733	0.039	Oct 2012	-		-		-		-	-	2.772	Continuing
Australian Site Prep	C/FFP	Boeing : Brisbane, AUS	24.870	-		-		-		-		-	-	24.870	Continuing
Studies & Analyses (EELV)	MIPR	SMC/FMAIC : El Segundo, CA	0.825	-		-		-		-		-	-	0.825	Continuing
ISCS Integration	WR	NAVSOC : Point Mugu, CA	7.419	-		-		-		-		-	-	7.419	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Narrowband SATCOM SE Group (NSSEG) - MUOS E2E	WR	SSC LANT : Charleston, SC	2.492	-		-		-		-		-	-	2.492	Continuing
		Subtotal	49.030	0.039		-		-		-		-	-	49.069	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	15.321	3.407	Dec 2012	3.990	Feb 2014	0.728	Nov 2014	-		0.728	3.088	26.534	Continuing
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	4.171	0.231	May 2013	1.501	Nov 2013	-		-		-	-	5.903	Continuing
		Subtotal	19.492	3.638		5.491		0.728		-		0.728	3.088	32.437	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	Accenture : San Diego, CA	134.249	-		-		-		-		-	-	134.249	Continuing
Contractor Engineering Support	C/CPFF	Vector Planning and Services, Inc. : San Diego, CA	7.705	0.865	Aug 2013	3.519	Aug 2014	1.202	Aug 2015	-		1.202	13.755	27.046	Continuing
Government Engineering	WR	SSC PAC : San Diego, CA	32.261	0.771	Dec 2012	0.788	Feb 2014	0.269	Dec 2014	-		0.269	10.134	44.223	Continuing
Program Mgmt Support	C/CPAF	Booz Allen Hamilton : McLean, VA	41.862	-		-		-		-		-	-	41.862	Continuing
Program Management Support	C/CPFF	Booz Allen Hamilton : McLean, VA	1.466	1.264	Dec 2012	1.125	Dec 2013	0.384	Dec 2014	-		0.384	10.581	14.820	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	PMW 146 : San Diego, CA	2.479	0.086	Oct 2012	0.100	Oct 2013	-		-		-	-	2.665	Continuing
Frequency Filing	C/FFP	ITU : Geneva, CH	0.855	-		-		-		-		-	-	0.855	Continuing
IPA/ICAT	WR	Aerospace : El Segundo, CA	0.390	-		-		-		-		-	-	0.390	Continuing
Acquisition Workforce Fund	C/FP	Not Specified : Not Specified	2.454	-		-		-		-		-	-	2.454	Continuing
		Subtotal	223.721	2.986		5.532		1.855		-		1.855	34.470	268.564	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3,797.397	141.192		35.938		12.272		-		12.272	297.511	4,284.310	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

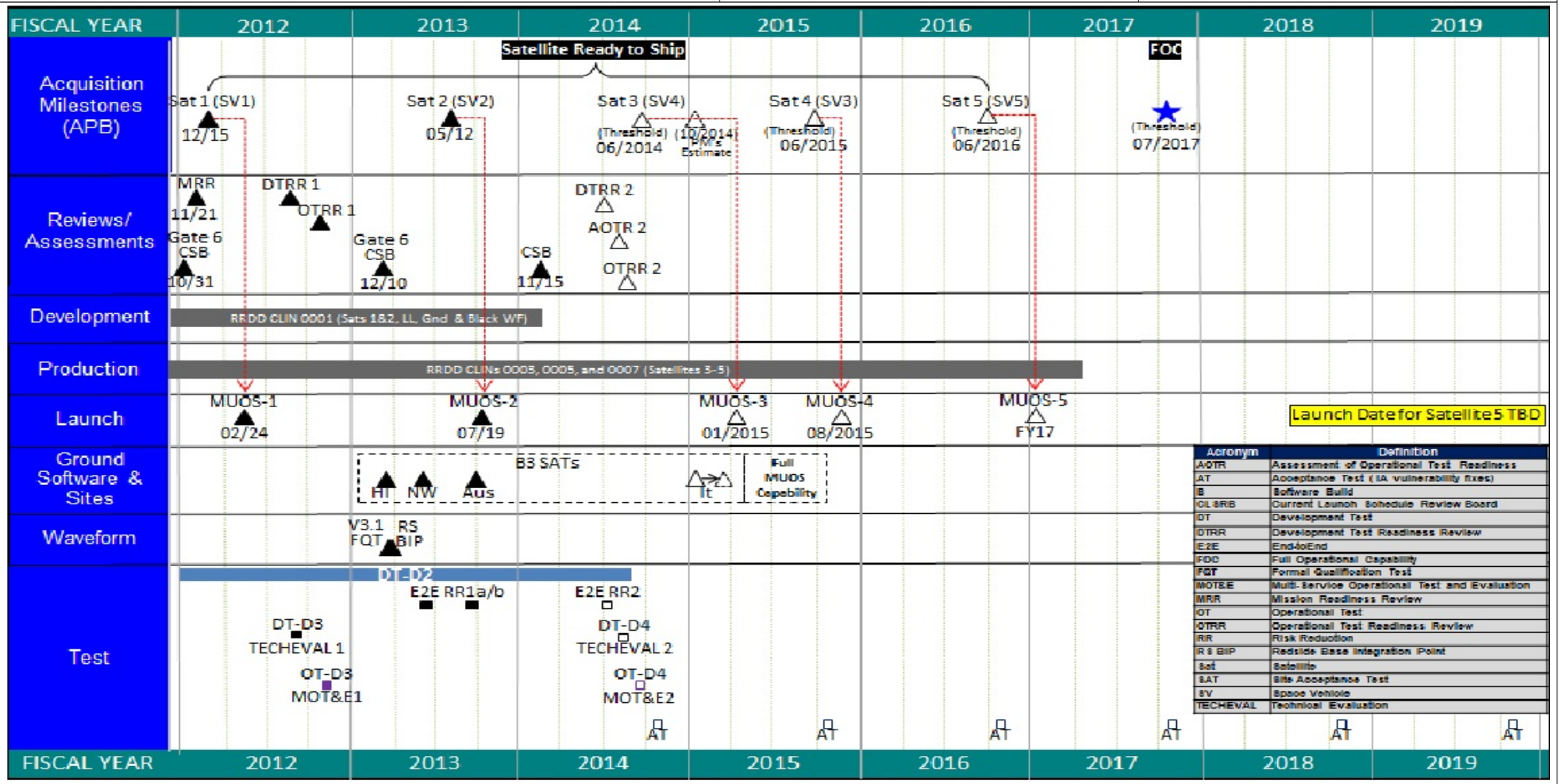

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2472				
Wahiawa Build 3.1 (B3 SAT)	1	2013	1	2013
Redside Waveform V3.1 FQT	1	2013	1	2013
Redside Waveform V3.1 BIP (RS BIP)	1	2013	1	2013
Gate 6/Configuration Steering Board (CSB) 2	1	2013	1	2013
Northwest Build 3.1 (B3 SAT)	2	2013	2	2013
End-to-End Risk Reduction #1 (E2E RR-1a)	2	2013	2	2013
Ready to Ship date #2	3	2013	3	2013
End-to-End Risk Reduction #1 (E2E RR-1b)	3	2013	4	2013
Australia Build 3.1 (B3 SAT)	3	2013	4	2013
Launch of Satellite #2 (MUOS 2)	4	2013	4	2013
End-to-End Risk Reduction #2 (E2E RR-2)	2	2014	3	2014
Development Test Readiness Review (DTRR) 2	3	2014	3	2014
DT-D4 Tech Eval 2	3	2014	3	2014
Operational Test Readiness Review (OTRR) #2	3	2014	3	2014
Assessment of Operational Test Readiness (AOTR)	3	2014	3	2014
OT-D4 Multi-Service Operational Testing & Evaluation (MOT&E 2)	3	2014	3	2014
Acceptance Test FY14 (AT)	4	2014	4	2014
Italy Build 3.1	1	2015	1	2015
Ready to Ship date #3	1	2015	1	2015
Launch of Satellite #3 (MUOS 3)	2	2015	2	2015
Ready to Ship date #4	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
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 FY15 (AT)	4	2015	4	2015
Launch of Satellite #4 (MUOS 4)	4	2015	4	2015
Ready to Ship date #5	4	2016	4	2016
Acceptance Test FY16 (AT)	4	2016	4	2016
Launch of Satellite #5 (MUOS 5)	1	2017	1	2017
Full Operational Capability (FOC)	2	2017	2	2017
Acceptance Test FY17 (AT)	4	2017	4	2017
Acceptance Test FY18 (AT)	4	2018	4	2018
Acceptance Test FY19 (AT)	4	2019	4	2019