

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force										Date: March 2014		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0603430F I Advanced EHF MILSATCOM (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	6,756.258	211.632	-	-	-	-	-	-	-	-	-	6,967.890
644050: Advanced MILSATCOM	6,654.762	138.183	-	-	-	-	-	-	-	-	-	6,792.945
64A030: Evolved AEHF MILSATCOM	101.496	73.449	-	-	-	-	-	-	-	-	-	174.945
MDAP/MAIS Code: 261												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY2014, Project 644050, Advanced MILSATCOM, and Project 64A030, Evolved AEHF MILSATCOM, efforts transferred to PE 0605431F, Advanced EHF MILSATCOM (Space), Project 657103, Advanced MILSATCOM, and Project 657104, Evolved AEHF MILSATCOM, in order to transition to Budget Activity 5.												
A. Mission Description and Budget Item Justification												
Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighters. AEHF satellites will replenish the existing EHF system (Milstar) providing much higher capacity and data rate (5x increase over Milstar II) capabilities. AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and the Kingdom of the Netherlands).												
Space Vehicle-1 (SV-1) launched on 14 August 2010. SV-1 experienced a propulsion anomaly and was raised to its geostationary orbit using alternative orbit raising techniques. SV-1 completed on-orbit test and transitioned to operations in March 2012. SV-2 launched on 4 May 2012, successfully completed on-orbit testing in October 2012, and is under operational control as of 7 Nov 2012.												
With SV-1 and SV-2 launched, the AEHF program has nearly completed its development phase and is now addressing obsolescence, production continuity, supplier stability and industrial base issues. AEHF SV 5-6 are being procured using the Department of Defense (DoD) Efficient Space Procurement (ESP) concept. The ESP concept is a procurement approach which seeks stable production and efficient sub-contractor product management through the block buy of two space vehicles at one time (as described in Advanced EHF MILSATCOM P-40 Exhibit).												
In addition, the ESP concept includes use of RDT&E funding for a MILSATCOM Space Modernization Initiative (SMI) to fund engineering activities to reduce future production costs through manufacturing and producibility enhancements, improve capabilities through insertion of new technologies, and replace obsolete parts, crypto and materials. The SMI efforts will provide opportunities for competition to develop potential technology upgrades at the component and system level for future satellites of the current or any follow-on system. SMI efforts will include obsolescence management and mitigation, technology maturation, new components' qualification, subsystem and component prototyping, architecture and system concept studies (to include hosted payloads), and pathfinder efforts to address MILSATCOM capability gaps identified in the Joint Space Communications Layer (JSCL) Initial Capabilities Document (ICD) and the "Resilient Basis for SATCOM in Joint Operations" study.												

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Air Force	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603430F / <i>Advanced EHF MILSATCOM (SPACE)</i>
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The Protected Satellite Communications Services (PSCS) Analysis of Alternatives (AoA), using FY13 SMI funds, was initiated in Sep 2013. The purpose of the PSCS AoA is to evaluate space and control segment architectures, along with the associated user segment, to address the required protected satellite communications capabilities in the nuclear, contested, and benign operating environments.

In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605431F, Projects 657103 and 657104.

This program is in Budget Activity 4, Advanced Component Development and Prototypes, because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	229.171	-	-	-	-
Current President's Budget	211.632	-	-	-	-
Total Adjustments	-17.539	-	-	-	-
• Congressional General Reductions	-0.305	-			
• Congressional Directed Reductions	-23.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	25.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	5.000	-			
• SBIR/STTR Transfer	-5.218	-			
• Other Adjustments	-19.016	-	-	-	-

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 64A030: *Evolved AEHF MILSATCOM*

Congressional Add: *SMI Plus-up*

	<b>FY 2013</b>	<b>FY 2014</b>
	22.967	-
Congressional Add Subtotals for Project: 64A030	22.967	-
Congressional Add Totals for all Projects	22.967	-

**Change Summary Explanation**

FY13: Other Adjustment row: -\$19.016M, due to sequestration. Congressional Directed Reductions: -\$3.000M for program management services excess to need; -\$20.000M for satellite and MCS ICS excess to need. Reprogramming: +\$5.000M for the Protected Satellite Communications Analysis of Alternatives

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force										Date: March 2014		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)				Project (Number/Name) 644050 / Advanced MILSATCOM			
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
644050: Advanced MILSATCOM	6,654.762	138.183	-	-	-	-	-	-	-	-	-	6,792.945
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY2014, Project 644050, Advanced MILSATCOM, efforts transferred to PE 0605431F, Advanced EHF MILSATCOM (Space), Project 657103, Advanced MILSATCOM, in order to transition to Budget Activity 5.												
A. Mission Description and Budget Item Justification												
Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighters. AEHF satellites will replenish the existing EHF system (Milstar) providing much higher capacity and data rate (5x increase over Milstar II) capabilities.												
AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and the Kingdom of the Netherlands).												
Space Vehicle-1 (SV-1) launched on 14 August 2010. SV-1 experienced a propulsion anomaly and was raised to its geostationary orbit using alternative orbit raising techniques. SV-1 completed on-orbit test and transitioned to operations in March 2012. SV-2 launched on 4 May 2012, successfully completed on-orbit testing in October 2012, and is under operational control as of 7 Nov 2012.												
In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605431F, Project 657103.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: AEHF SVs 1-2, MCS									15.945	-	-	
Description: Develop and acquire AEHF MILSATCOM satellites, mission control segment, and cryptography												
FY 2013 Accomplishments:												
In FY 2013, completed SV-2 on-orbit test. Continued program office support and related activities, and conducted studies/analyses, as required.												
FY 2014 Plans:												
In FY14, funds transfer to PE 0605431F, Project 657103.												
FY 2015 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force									Date: March 2014		
Appropriation/Budget Activity 3600 / 4				R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)				Project (Number/Name) 644050 / Advanced MILSATCOM			
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015
N/A											
<b>Title:</b> AEHF Interim Contractor Support (ICS)									108.129	-	-
<b>Description:</b> Funds ICS for AEHF satellites, Mission Control Segment (MCS), Cryptography, and AEHF Calibration Facility (ACF), until Initial Operational Capability (IOC) declaration											
<b>FY 2013 Accomplishments:</b> In FY 2013, continued ICS for SV-1 and SV-2 on-orbit support, MCS sustainment, including Increment 7 delivery, and AEHF KMA sustainment. Began planning for Multiservice Operational Test and Evaluation. Continued ICS for the ACF.											
<b>FY 2014 Plans:</b> In FY14, funds transfer to PE 0605431F, Project 657103.											
<b>FY 2015 Plans:</b> N/A											
<b>Title:</b> AEHF Key Management Infrastructure (KMI) transition									14.109	-	-
<b>Description:</b> Transition of the AEHF Key Management Architecture (KMA) from Electronic Key Management System (EKMS) to KMI											
<b>FY 2013 Accomplishments:</b> Funded preliminary design for transition of AEHF Crypto KMA from EKMS to KMI.											
<b>FY 2014 Plans:</b> FY 2014, funds transfer to PE 0605431F, Project 657103.											
<b>FY 2015 Plans:</b> N/A											
Accomplishments/Planned Programs Subtotals									138.183	-	-
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 Cos
• RDT&E: BA05: PE 0605431F: Advanced EHF MILSATCOM (Space)	-	183.134	192.038	-	192.038	63.861	21.485	-	-	-	460.518

# UNCLASSIFIED

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Appropriation/Budget Activity 3600 / 4				R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)				Project (Number/Name) 644050 / Advanced MILSATCOM			
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
• MPAF: BA05: Line Item # ADV555: Advanced EHF	476.575	328.350	298.890	-	298.890	335.786	656.455	57.794	29.784	47.650	2,231.284
• RDT&E: BA04: PE 0603854F: Wideband Global SATCOM RDT&E (Space)	10.438	-	-	-	-	-	-	-	-	-	10.438
Remarks											
Wideband Global SATCOM RDT&E (Space) funding is within the Command and Control System - Consolidated (CCS-C) project.											
D. Acquisition Strategy											
The Advanced MILSATCOM, also known as Advanced EHF (AEHF), program is a sole source acquisition to a contractor team comprised of Lockheed Martin (prime/integrator) and Northrop-Grumman (provider of the satellite payload). This team will perform the Advanced Component Development and Prototypes (ACD&P) and Systems Development and Demonstration (SDD) of two RDT&E-funded satellites and associated mission command and control ground capabilities under Cost Plus Award Fee line items on the contract. AEHF will incorporate lessons learned and improvements from Milstar and commercial SATCOM practices into the next generation EHF secure, anti-jam military communications satellite system.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force												Date: March 2014			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)				Project (Number/Name) 644050 / Advanced MILSATCOM					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cryptographic Development	MIPR	NSA : Camden, NJ	252.730	-		-		-		-		-	-	252.730	252.730
Crypto Interim Contractor Support	MIPR	CPSG : San Antonio, TX	21.080	10.942	Mar 2013	-		-		-		-	-	32.022	-
AEHF Key Management Infrastructure transition	Various	Not specified. : ,	0.000	14.109	May 2013	-		-		-		-	-	14.109	-
Terminals Engineering	C/CPFF	JTEO : San Diego, CA	15.491	-		-		-		-		-	-	15.491	15.491
MILSATCOM Technology Validation SE&I	SS/CPAF	MIT/LL : Lexington, MA	21.538	-		-		-		-		-	-	21.538	21.538
AEHF Capabilities Insertion Program	Various	Various : Various,	39.700	-		-		-		-		-	-	39.700	-
Technical Support	SS/CPAF	MITRE : Bedford, MA	0.779	-		-		-		-		-	-	0.779	0.779
Processing Subsystem Engineering Model	Various	Hughes : El Segundo, CA	67.175	-		-		-		-		-	-	67.175	67.175
Processing Subsystem Engineering Model (2)	Various	TRW : Redondo Beach, CA	62.083	-		-		-		-		-	-	62.083	62.083
Technical Projects	Various	Various : Various,	66.659	-		-		-		-		-	-	66.659	66.659
Pre-Engineering Manufacturing and Development	Various	Lockheed Martin : Sunnyvale, CA	225.011	-		-		-		-		-	-	225.011	225.011
System Development and Demonstration	Various	Lockheed Martin : Sunnyvale, CA	5,008.522	-		-		-		-		-	-	5,008.522	4,979.010
AEHF Interim Contractor Support	SS/CPIF	Lockheed Martin : Sunnyvale, CA	224.654	94.941	Dec 2012	-		-		-		-	-	319.595	-
GFP	Various	Various : Various,	71.379	2.246	Dec 2012	-		-		-		-	-	73.625	-
Command and Control System - Consolidated	SS/CPAF	Kratos : San Diego, CA	2.342	-		-		-		-		-	-	2.342	-
Radiation Hardened parts developers	Various	Various : Various	117.480	-		-		-		-		-	-	117.480	-
Subtotal			6,196.623	122.238		-		-		-		-	-	6,318.861	-

**UNCLASSIFIED**

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force												Date: March 2014			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)				Project (Number/Name) 644050 / Advanced MILSATCOM					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks															
FY14 funds transferred to PE 0605431F, Project 657103.															
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Various : Various,	123.696	-		-		-		-		-	-	123.696	123.696
Enterprise Systems Engineering & Integration (SE&I)	C/FFP	Linqest : Los Angeles, CA	78.054	5.421	Apr 2013	-		-		-		-	-	83.475	-
Advanced Concepts Directorate technology needs forecasting FFRDC (PMA)	Various	Various : Various,	9.698	-		-		-		-		-	-	9.698	-
Advanced Concepts Directorate technology needs forecasting Program Office Support (PMA)	Various	Various : Various,	13.727	-		-		-		-		-	-	13.727	-
Subtotal			225.175	5.421		-		-		-		-	-	230.596	-
Remarks															
FY14 funds transferred to PE 0605431F, Project 657103.															
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test and Evaluation support	Various	Various : Various,	27.652	2.567	Dec 2012	-		-		-		-	-	30.219	30.219
Subtotal			27.652	2.567		-		-		-		-	-	30.219	30.219

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Air Force</b>													<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 3600 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0603430F / <i>Advanced EHF MILSATCOM (SPACE)</i>				<b>Project (Number/Name)</b> 644050 / <i>Advanced MILSATCOM</i>					
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Remarks</b> FY14 funds transferred to PE 0605431F, Project 657103.															
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
AEHF FFRDC (PMA)	Various	Various : Various,	131.566	1.000	Dec 2012	-		-		-		-	-	132.566	-
AEHF Program Office Support (PMA)	Various	Various : Various,	73.746	4.300	Dec 2012	-		-		-		-	-	78.046	-
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various : Various,	0.000	2.657	Dec 2012	-		-		-		-	-	2.657	4.000
<b>Subtotal</b>			205.312	7.957		-		-		-		-	-	213.269	-
<b>Remarks</b> FY14 funds transferred to PE 0605431F, Project 657103. .															
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			6,654.762	138.183		-		-		-		-	-	6,792.945	-
<b>Remarks</b> FY14 funds transferred to PE 0605431F, Project 657103.															



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

Date: March 2014

Appropriation/Budget Activity

3600 / 4

R-1 Program Element (Number/Name)

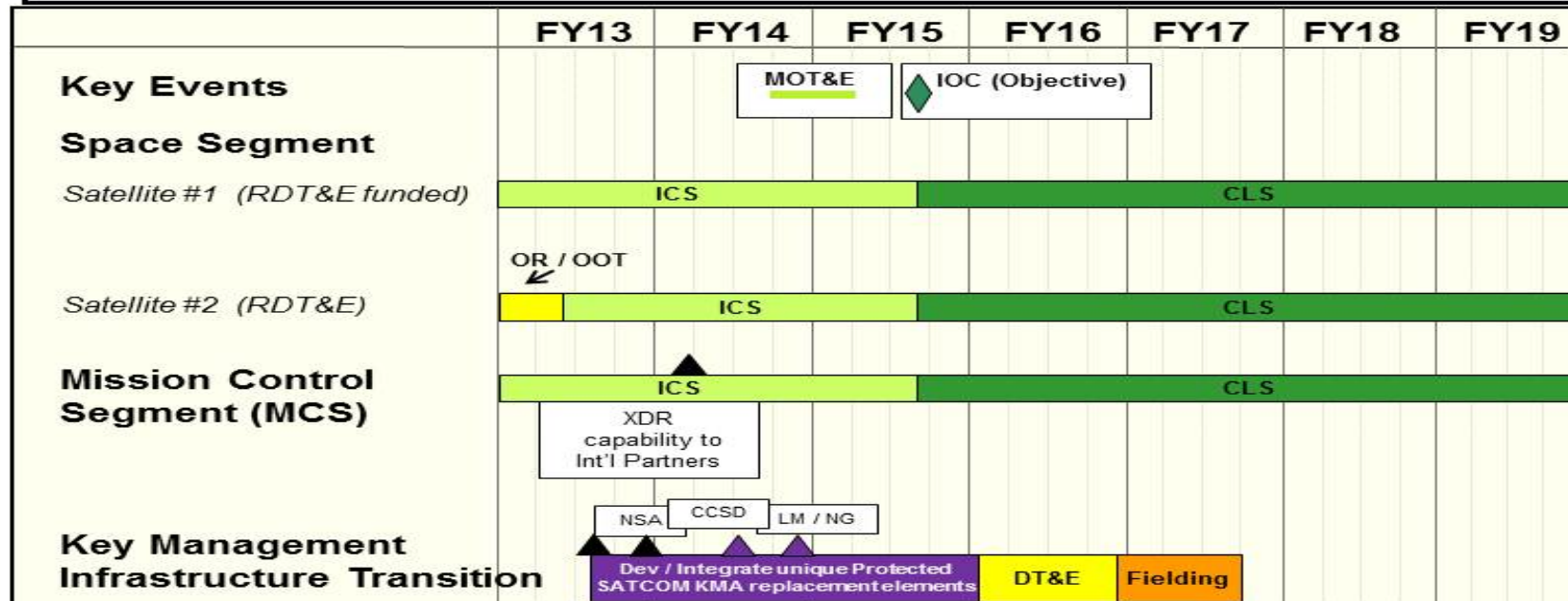
PE 0603430F / Advanced EHF

MILSATCOM (SPACE)

Project (Number/Name)

644050 / Advanced MILSATCOM

These efforts are funded in Project 644050 through FY13. Beginning FY14 these efforts are funded in BA05 PE 0605431F Project 657103.



CCSD: Cryptologic & Cyber Systems Division  
ICS: Interim Contractor Support  
LM: Lockheed Martin  
NSA: National Security Agency  
XDR: eXtended Data Rate

CLS: Contractor Logistics Support  
IOC: Initial Operational Capability  
MOT&E: Multiservice Operational Test & Evaluation  
OR/OOT: Orbit Raising /On-orbit Test

DT&E: Developmental Test & Evaluation  
KMA: Key Management Architecture  
NG: Northrop Grumman  
SATCOM: Satellite Communications

△◇ Key events

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)	Project (Number/Name) 644050 / Advanced MILSATCOM	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Award NSA PKMA contract	4	2013	4	2013

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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
64A030: Evolved AEHF MILSATCOM	101.496	73.449	-	-	-	-	-	-	-	-	-	174.945
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY2014, Project 64A030, Evolved AEHF MILSATCOM, efforts transferred to PE 0605431F, Advanced EHF MILSATCOM (Space), Project 657104, Evolved AEHF MILSATCOM, in order to transition to Budget Activity 5.												
A. Mission Description and Budget Item Justification												
This project funds a MILSATCOM Space Modernization Initiative (SMI) which includes engineering activities that assess promising new components and systems to confirm their suitability (capable, affordable, and producible) for the MILSATCOM mission across the payload, terminal and network segments. SMI is a near-term investment plan to invest in more affordable alternatives to evolve current MILSATCOM technologies, concepts, and capabilities to reduce obsolescence risks and improve affordability, resiliency, and responsiveness of replenishment programs, and identifies relevant commercial opportunities for potential hosted payload developments to demonstrate proof of concept for operations and future distributed architectures. In addition, SMI begins acquisition capabilities supporting concept definitions and demos for protected tactical communications services, anti-jam enhanced theater antennas, and increased military wideband coverage and capacity.												
In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605431F, Project 657104.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: AEHF SV-6 Flight Crypto & Future AEHF Parts Obsolescence Mitigation									15.000	-	-	
Description: AEHF SV-6 flight cryptographic equipment redesign effort and future AEHF parts obsolescence mitigation effort												
FY 2013 Accomplishments: Funded efforts such as SV-6 flight crypto redevelopment and mitigation of identified parts obsolescence that may affect the future stability of the AEHF product line, particularly the payload.												
FY 2014 Plans: In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 65104.												
FY 2015 Plans: N/A												
Title: Protected MILSATCOM "Design for Affordability"									13.837	-	-	

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2013	FY 2014	FY 2015
<p><b>Description:</b> Perform design for affordability studies, demonstrations, and technology risk reduction on critical technology elements for the space payload, terminals and networking segments, and anti-jam enhanced theater antennas to significantly reduce the cost of protected SATCOM.</p> <p><b>FY 2013 Accomplishments:</b> Completed Phase 1 efforts. Four of the 17 contracts awarded late 2012 had Phase 2 options. These options were awarded to further efforts from FY12 that increase fidelity of architecture design, demonstrate critical components, and lower the risk on next generation protected MILSATCOM systems.</p> <p><b>FY 2014 Plans:</b> In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 657104.</p> <p><b>FY 2015 Plans:</b> N/A</p>					
<p><b>Title:</b> Protected SATCOM Services (PSCS) AoA</p> <p><b>Description:</b> The Joint Requirements Oversight Council (JROC)-approved release of the 28 Sept 2010 Joint Space Communications Layer (JSCL) Initial Capabilities Document (ICD) drove the FY2011 Resilient Basis for Satellite Communications in Joint Operations Study (RBS). Results of the RBS Study, briefed to the Defense Space Council (DSC), revealed that current protected satellite communications services did not meet all of the JSCL ICD requirements, to include the North Polar region. With capability gaps identified, lack of a post Enhanced Polar System (EPS) plan, and a need to determine how best to provision for protected MILSATCOM beyond the sixth AEHF satellite, the DSC recommended this Analysis of Alternatives (AoA) effort.</p> <p><b>FY 2013 Accomplishments:</b> The PSCS AoA will determine the preferred protected SATCOM services architecture post AEHF SV-6 and EPS SV-2. The allocated funds were executed in accordance with the approved AoA Study Guidance and Work Plan.</p>			5.000	-	-
<p><b>Title:</b> MILSATCOM Architecture and support</p> <p><b>Description:</b> Conduct System Engineering and Program Management to include Program Office support such as Federally Funded Research and Development Center (FFRDC) analyses, System Engineering Technical Assistance (SETA), Systems Engineering and Integration (SE&amp;I) and other related activities.</p> <p><b>FY 2013 Accomplishments:</b> Funded efforts such as refining the ongoing MILSATCOM architectures including affordable Information Assurance approaches, PSCS AoA support, and commercial product contributions. Funded the development of the Government Protected MILSATCOM</p>			16.645	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Air Force								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 3600 / 4				<b>R-1 Program Element (Number/Name)</b> PE 0603430F / <i>Advanced EHF MILSATCOM (SPACE)</i>				<b>Project (Number/Name)</b> 64A030 / <i>Evolved AEHF MILSATCOM</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>								<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
testbed which will provide consistent protected tactical waveform (PTW) interoperability testing across multiple Protected "Design for Affordability" (DFA) BAA contractors. Developed functional and interoperable PTW requirements, construct testbed hardware/software and build modeling and verification test. Funded MIT/LL AEHF Terminal Adaptive Coding Accelerator effort that will build upon previous study results to develop prototype boxes that interface with both the Navy NMT and the Army SMART-T terminals to increase terminal data rates by up to 800%. Funded Program Management to include program office support, FFRDC analyses, SETA, and SE&I to support and execute the MILSATCOM SMI efforts (i.e., Protected DFA Phases 1 & 2 risk reduction).  <b>FY 2014 Plans:</b> In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 657104.											
<b>Accomplishments/Planned Programs Subtotals</b>								50.482	-	-	
								<b>FY 2013</b>	<b>FY 2014</b>		
<b>Congressional Add:</b> SMI Plus-up								22.967	-		
<b>FY 2013 Accomplishments:</b> These additional SMI funds were appropriated by congress and per a Congressional Reporting Requirement a detailed spend plan has been submitted.											
<b>Congressional Adds Subtotals</b>								22.967	-		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• RDT&E: BA05: PE 0605431F: <i>Advanced EHF MILSATCOM (Space)</i>	-	82.500	122.340	-	122.340	194.517	225.430	226.868	668.545	Continuing	Continuing
• MPAF: BA05: Line Item # ADV555: <i>Advanced EHF</i>	476.575	328.350	298.890	-	298.890	335.786	656.455	57.794	29.784	47.650	2,231.284
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
MILSATCOM SMI will include parts obsolescence redesign and incremental capability upgrades for potential future block buys contracted with current Prime contractor team. Architecture studies, system design for affordability, and risk reduction efforts for next generation capabilities will include full and open competition efforts.											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603430F / <i>Advanced EHF MILSATCOM (SPACE)</i>	Project (Number/Name) 64A030 / <i>Evolved AEHF MILSATCOM</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force												Date: March 2014			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)				Project (Number/Name) 64A030 / Evolved AEHF MILSATCOM					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AEHF SV-6 Flight Crypto and Future Parts Obsolescence Mitigation	Various	Various : Various,	0.000	15.000	Dec 2012	-		-		-		-	-	15.000	-
AEHF Capabilities Insertion Program (CIP)	SS/ Various	Lockheed Martin : Sunnyvale, CA	5.000	-		-		-		-		-	-	5.000	-
Radiation Hardened Parts developers	Various	Various : Various,	19.908	-		-		-		-		-	-	19.908	-
Remotely Piloted Aircraft Concept Definition	Various	Various : Various,	2.700	-		-		-		-		-	-	2.700	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #1	C/FFP	The Boeing Company : El Segundo, CA	11.675	-		-		-		-		-	-	11.675	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #2	C/FFP	Loral : Palo Alto, CA	10.125	-		-		-		-		-	-	10.125	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #3	C/FFP	Raytheon : Marlborough, MA	8.733	-		-		-		-		-	-	8.733	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #4	C/FFP	L3 COM - West : Salt Lake City, UT	7.896	-		-		-		-		-	-	7.896	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #5	C/FFP	Hughes Network : Germantown, MD	1.776	-		-		-		-		-	-	1.776	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #6	C/FFP	L3 COM - East : Camden, NJ	1.200	-		-		-		-		-	-	1.200	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #7	C/FFP	Northrop-Grumman Aerospace Systems : Redondo Beach, CA	11.036	-		-		-		-		-	-	11.036	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #8	C/FFP	Viasat : Germantown, MD	1.444	-		-		-		-		-	-	1.444	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force												Date: March 2014			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)				Project (Number/Name) 64A030 / Evolved AEHF MILSATCOM					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #9-17	C/FFP	Various : Various,	2.286	-		-		-		-		-	-	2.286	-
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #1	C/FFP	The Boeing Company : El Segundo, CA	0.000	3.241	Aug 2013	-		-		-		-	-	3.241	-
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #2	C/FFP	Loral : Palo Alto, CA	0.000	4.897	Aug 2013	-		-		-		-	-	4.897	-
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #3	C/FFP	Raytheon : Marlborough, MA	0.000	3.167	Aug 2013	-		-		-		-	-	3.167	-
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #4	C/FFP	L3 COM - West : Salt Lake City, UT	0.000	2.532	Aug 2013	-		-		-		-	-	2.532	-
Hosted Payload Concept Definition	C/Various	Various : Various,	0.000	-		-		-		-		-	-	-	-
SMI Plus Up #1	C/FFP	Army Research Laboratory : Adelphi, MD	0.000	12.854	Nov 2013	-		-		-		-	-	12.854	-
SMI Plus Up #2	C/FFP	MIT/LL : Boston, MA	0.000	1.800	Nov 2013	-		-		-		-	-	1.800	-
SMI Plus Up #3	C/FFP	NSA : Various,	0.000	1.000	Nov 2013	-		-		-		-	-	1.000	-
SMI Plus Up #4	C/FFP	HNA : Boston, MA	0.000	3.100	Nov 2013	-		-		-		-	-	3.100	-
SMI Plus Up #5	C/FFP	DISA : Various,	0.000	1.090	Nov 2013	-		-		-		-	-	1.090	-
SMI Plus Up #6	C/FFP	Aerospace : El Segundo, CA	0.000	0.257	Nov 2013	-		-		-		-	-	0.257	-
SMI Plus Up #7	C/FFP	Lockheed Martin : Sunnyvale, CA	0.000	1.500	Nov 2013	-		-		-		-	-	1.500	-
SMI Plus Up #8	C/TBD	TBD : TBD,	0.000	1.366	Nov 2013	-		-		-		-	-	1.366	-
PSCS AoA	C/Various	Various : Various,	0.000	5.000	Oct 2013	-		-		-		-	-	5.000	-
Subtotal			83.779	56.804		-		-		-		-	-	140.583	-



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force												Date: March 2014			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)				Project (Number/Name) 64A030 / Evolved AEHF MILSATCOM					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks FY14 funds transferred to PE 0605431F, Project 657104.															
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Enterprise Systems Engineering & Integration	C/FFP	Linquest : Los Angeles, CA	1.723	3.925	Jan 2013	-		-		-		-	-	5.648	-
Subtotal			1.723	3.925		-		-		-		-	-	5.648	-
Remarks FY14 funds transferred to PE 0605431F, Project 657104.															
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC to support MILSATCOM Architecture studies and Protected MILSATCOM Testbed (PMA)	Various	Various : Various,	15.013	11.492	Dec 2012	-		-		-		-	-	26.505	-
Program Office Support & Other Related Activities (PMA)	Various	Various : Various,	0.981	0.328	Dec 2012	-		-		-		-	-	1.309	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force												Date: March 2014			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0603430F / Advanced EHF MILSATCOM (SPACE)						Project (Number/Name) 64A030 / Evolved AEHF MILSATCOM			
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various : Various,	0.000	0.900	Dec 2012	-		-		-		-	-	0.900	-
Subtotal			15.994	12.720		-		-		-		-	-	28.714	-
Remarks FY14 funds transferred to PE 0605431F, Project 657104.															
			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			101.496	73.449		-		-		-		-	-	174.945	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

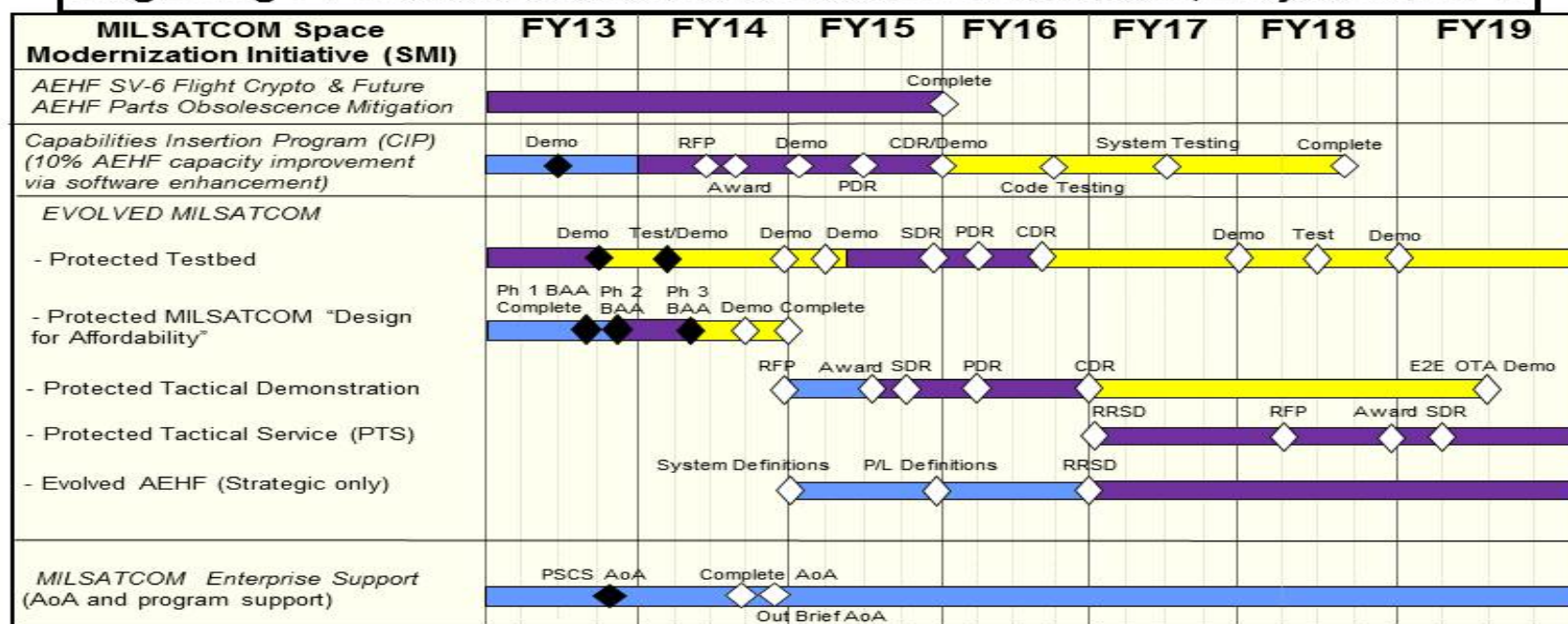
Date: March 2014

Appropriation/Budget Activity  
3600 / 4

R-1 Program Element (Number/Name)  
PE 0603430F / Advanced EHF  
MILSATCOM (SPACE)

Project (Number/Name)  
64A030 / Evolved AEHF MILSATCOM

**These efforts are funded in PE 0603430F, Project 64A030 through FY13.  
Beginning FY14 these efforts are funded in PE 0605431F, Project 657104.**



BAA: Broad Agency Announcement  
PDR: Preliminary Design Review  
SDR: System Design Review

CDR: Critical Design Review  
PSCS: Protected SATCOM Services

E2E: End To End  
RFP: Request for Proposal

OTA: Over The Air  
RRSD: Risk Reduction & System Definition

Concept activities

Design / development

Integration / test

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Air Force			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603430F / <i>Advanced EHF MILSATCOM (SPACE)</i>	<b>Project (Number/Name)</b> 64A030 / <i>Evolved AEHF MILSATCOM</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Initiated PSCS AoA	4	2013	4	2013
Awarded Phase 2 options on selected Protected MILSATCOM "Design for Affordability" contracts	4	2013	4	2013