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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 0603432F I Polar 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	1,208.134	77.202	-	-	-	-	-	-	-	-	-	1,285.336
644052: Polar Satellite Communications	1,208.134	77.202	-	-	-	-	-	-	-	-	-	1,285.336
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 121												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY2014, Project 644052, Polar Satellite Communications, efforts transferred to PE 0605432F, Polar MILSATCOM (Space), Project 657105, Polar Satellite Communications, in order to transition to Budget Activity 5.												
A. Mission Description and Budget Item Justification												
This program element acquires the Polar Military Satellite Communications (MILSATCOM) system that provides protected communications (anti-jam and low probability of intercept and detection) for users in the north polar region.												
Through FY05, Polar Satellite Communications funded three low data rate (LDR) Milstar payloads on three classified host satellites as an expedited, interim solution for protected connectivity requirements in the north polar region (i.e., Interim Polar System (IPS)). Two satellites with hosted payloads are required to provide the necessary 24-hour coverage. The third payload went into operations in November 2008 to sustain the 24-hour coverage.												
In FY06, the DoD began funding the next generation Polar Satellite Communications capability with two more polar payloads via the same host vehicle type (i.e., Enhanced Polar System (EPS)). The host spacecraft and the polar communications payloads required design modifications that replaced obsolete components and took advantage of the more capable Advanced Extremely High Frequency (AEHF) technology including the eXtended Data Rate (XDR) waveform. The EPS Capability Development Document (CDD), approved by the Joint Requirements Oversight Council in September 2006, is based on a two-payload, hosted XDR program with operational availability in CY15 and CY17. The EPS system is comprised of four segments: Payload, Ground Control, Gateway, and Terminal (acquired by each Service's Terminal Program Office).												
In FY11, the EPS CDD was updated to provide a stand-alone ground capability that was no longer fully integrated with AEHF. The restructured program will deliver "IPS-like" capability with the XDR waveform, and a connection to the defense network. The ground Control and Planning Segment (CAPS) contract was awarded late November 2012. The program office conducted a CAPS Preliminary Design Review (PDR) in June FY13 and a Gateway Segment Critical Design Review September FY13. An EPS system-level PDR was held 27-28 August 2013.												
In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605432F, Project 657105.												

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The Polar MILSATCOM program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.						
B. Program Change Summary (\$ in Millions)		FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		120.676	-	-	-	-
Current President's Budget		77.202	-	-	-	-
Total Adjustments		-43.474	-	-	-	-
• Congressional General Reductions		-0.160	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-29.905	-			
• SBIR/STTR Transfer		-3.621	-			
• Other Adjustments		-9.788	-	-	-	-
Change Summary Explanation						
FY13: Other Adjustment row: -\$9.788M, due to sequestration. -\$29.906M reprogrammed for higher AF priorities.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2013	FY 2014	FY 2015
Title: EPS				77.202	-	-
Description: Develop and acquire EPS MILSATCOM						
FY 2013 Accomplishments: In FY2013: Continued integration of the two EPS payloads onto the host satellites. Awarded CAPS contract. Conducted the Preliminary Design Review and the Gateway segment Critical Design Review. Also conducted an EPS system-level Preliminary Design Review.						
FY 2014 Plans: In FY2014, funds transfer to PE 0605432F, Project 657105.						
Accomplishments/Planned Programs Subtotals				77.202	-	-

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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>					R-1 Program Element (Number/Name) PE 0603432F I <i>Polar MILSATCOM (SPACE)</i>						
D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDT&E: BA05: PE 0605432F: <i>Polar MILSATCOM (Space)</i>	-	104.582	103.552	-	103.552	72.563	51.727	24.930	-	-	357.354
Remarks The Navy has used its own PE(s) to modify control systems and terminals to work with the Interim Polar System.											
E. Acquisition Strategy The Enhanced Polar System (EPS) is the follow-on to the currently operational Interim Polar System (IPS) and is a component of the Extremely High Frequency SATCOM architecture, providing secure, protected communications to worldwide users. The EPS acquisition consists of four segments (Payload, Ground Control, Gateway, and Terminal) acquired by separate procurement actions. The EPS payloads will be hosted on a classified satellite and acquired by the organization hosting the EPS payloads. The MILSATCOM System Directorate will procure the Ground Control and Gateway segments. The MILSATCOM System Directorate is the prime systems integrator for the EPS payload, ground control, and gateway segments. The Terminals which will use EPS will be acquired by each Service's Terminal Program Office.											
F. 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 0603432F / Polar MILSATCOM (SPACE)				Project (Number/Name) 644052 / Polar Satellite Communications					
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
Classified	TBD	TBD : TBD,	299.594	-		-		-		-		-	-	299.594	-
EPS Requirement Analyses and Design Trade Studies	Various	Various : Various,	76.187	-		-		-		-		-	-	76.187	-
Mission Control Segment Design Trade Studies	SS/CPAF	Lockheed Martin : Sunnyvale, CA	29.509	-		-		-		-		-	-	29.509	-
Ground study and Emulator development	MIPR	Johns Hopkins University/Applied Physics Lab : Columbia, MD	11.146	-		-		-		-		-	-	11.146	-
Control and Planning Segment	C/CPIF	Northrop Grumman Information Systems : Redondo Beach, CA,	0.000	40.411	Nov 2012	-		-		-		-	-	40.411	-
Gateway architecture development	MIPR	Space and Naval Warfare Systems Command (SPAWAR) Systems Center - Pacific : San Diego, CA	17.796	7.795	Dec 2012	-		-		-		-	-	25.591	-
EPS Payload Design/ Development Contract	SS/CPAF	NGAS : Redondo Beach, CA	586.542	0.500	Dec 2012	-		-		-		-	-	587.042	-
Cryptographic Modifications	MIPR	NSA : Camden, NJ	7.974	0.080	Dec 2012	-		-		-		-	-	8.054	-
MIT-Lincoln Laboratory	MIPR	MIT-Lincoln Laboratory : Lexington, MA	24.654	1.100	Dec 2012	-		-		-		-	-	25.754	-
Subtotal			1,053.402	49.886		-		-		-		-	-	1,103.288	-
Remarks															
Classified Contract Method/Type/Activity and Location are classified															
FY14 funds transferred to PE 0605432F, Project 657015.															

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Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0603432F / Polar MILSATCOM (SPACE)				Project (Number/Name) 644052 / Polar Satellite Communications					
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
Systems Engineering & Integration	Various	Linquest : Los Angeles, CA	8.263	7.989	Dec 2012	-		-		-		-	-	16.252	-
Govt Furnished Property	Various	Various : Various,	10.957	0.420	Dec 2012	-		-		-		-	-	11.377	-
Systems Integration/ Ground Software Support	MIPR	Johns Hopkins University/Applied Physics Lab : Columbia, MD	1.179	1.629	May 2013	-		-		-		-	-	2.808	-
Ground Control Software Support	MIPR	Software Engineering Institute, Carnegie Mellon Univ. FFRDC : Pittsburgh, PA	0.218	0.472	Feb 2013	-		-		-		-	-	0.690	-
Subtotal			20.617	10.510		-		-		-		-	-	31.127	-
Remarks FY14 funds transferred to PE 0605432F, Project 657105.															
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
Planning/Management Support for T&E	MIPR	Space and Naval Warfare Systems Center - Pacific : San Diego, CA	0.557	0.696	Dec 2012	-		-		-		-	-	1.253	-
Subtotal			0.557	0.696		-		-		-		-	-	1.253	-
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
Program Office FFRDC engineering (PMA)	Various	Various : Various,	56.455	7.622	Dec 2012	-		-		-		-	-	64.077	-

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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 0603432F / <i>Polar MILSATCOM (SPACE)</i>				Project (Number/Name) 644052 / <i>Polar Satellite Communications</i>					

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
Program Office Support	Various	Various : Various,	13.728	0.176	Dec 2012	-		-		-		-	-	13.904	-
Travel/Business Ops Support Services/ Acquisition Mission Support (PMA)	Various	Various : Various,	63.375	8.312	Dec 2012	-		-		-		-	-	71.687	-
Subtotal			133.558	16.110		-		-		-		-	-	149.668	-

Remarks FY14 funds transferred to PE 0605432F, Project 657105.															
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	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	1,208.134	77.202	-	-	-	-	-	1,285.336	-

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

Date: March 2014

Appropriation/Budget Activity

3600 / 4

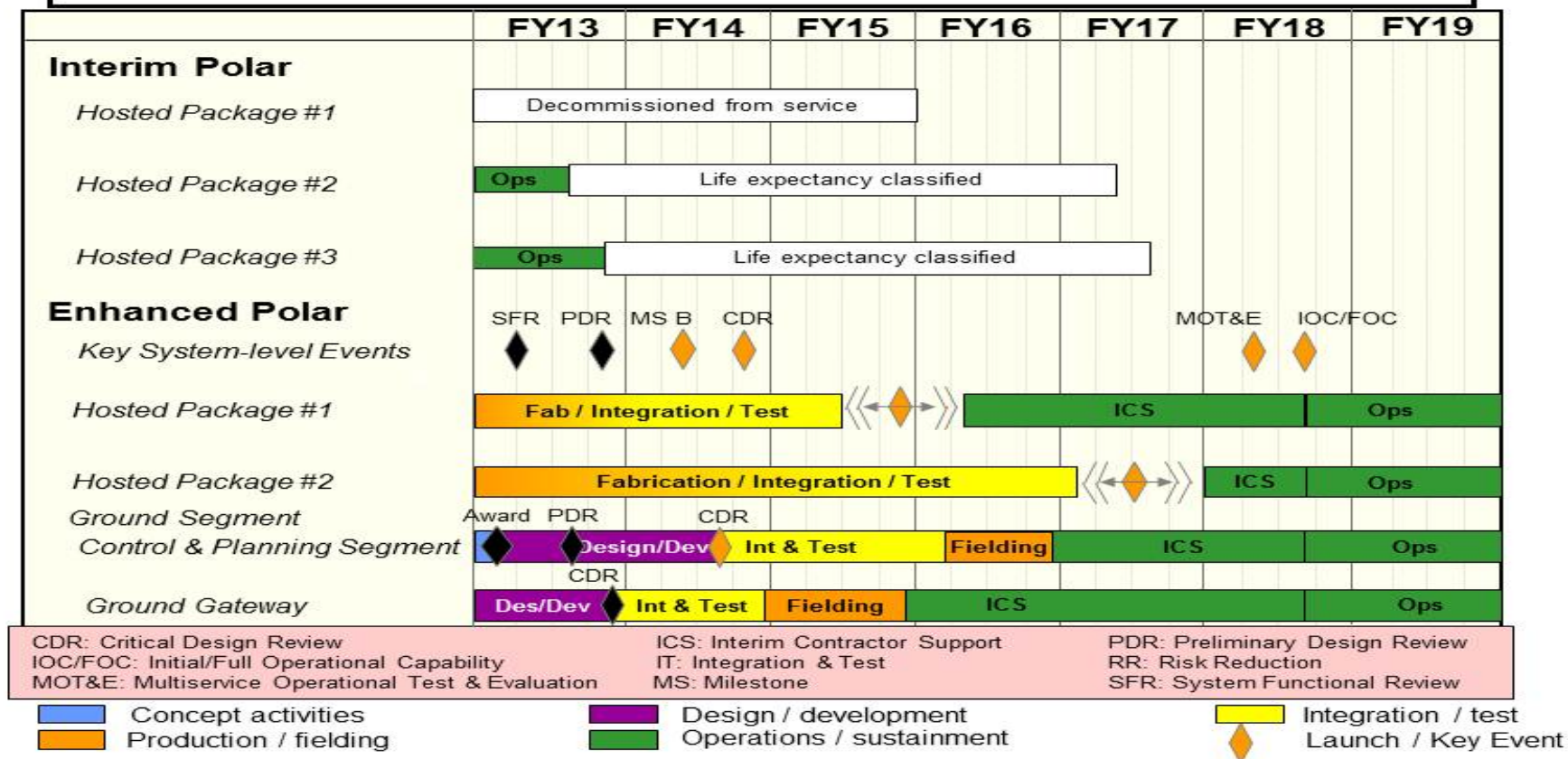
R-1 Program Element (Number/Name)

PE 0603432F / Polar MILSATCOM (SPACE)

Project (Number/Name)

644052 / Polar Satellite Communications

These efforts are funded in PE 0603432F, Project 644052 through FY13. Beginning FY14 these efforts are funded in PE 0605432F, Project 657105.



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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 0603432F / <i>Polar MILSATCOM (SPACE)</i>	Project (Number/Name) 644052 / <i>Polar Satellite Communications</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Deliver payload #2 and begin integration onto host satellite	2	2013	2	2013
Award the Control and Planning Segment (CAPS) contract	1	2013	1	2013
CAPS Preliminary Design Review	3	2013	3	2013
Ground Gateway Critical Design Review	4	2013	4	2013
Enhanced Polar System system-level Preliminary Design Review	4	2013	4	2013