

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD)					PE 0605432F: Polar MILSATCOM (SPACE)							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO <sup>##</sup>	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	124.805	-	124.805	96.782	73.402	52.244	25.140	0.000	372.373
657105: Polar Satellite Communications	0.000	0.000	0.000	124.805	-	124.805	96.782	73.402	52.244	25.140	0.000	372.373
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 121												
<sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date												
Note												
In FY2014, Project 657105, Polar Satellite Communications, efforts were transferred from PE 0603432F, Polar MILSATCOM (Space), Project 644052, 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 packages 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 packages are required to provide the necessary 24-hour coverage. The third package 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 packages via the same host vehicle type (i.e., Enhanced Polar System (EPS)). The host spacecraft and the polar communications packages 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-package, 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).												
FY14 funds will continue integration of the two EPS packages (payloads) onto the host satellites. The program office will hold a Milestone B review in 2QFY14 and will conduct a Critical Design Review (CDR) of the Control and Planning Segment (CAPS) in 3QFY14. The program office will fund Navy SPAWAR to conduct integration and test of the Gateway. An EPS system-level CDR will be held 4QFY2014.												

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BA 5: System Development & Demonstration (SDD)						
The Polar MILSATCOM program is in Budget Activity 5, System Development and Demonstration (SDD) because the payloads have successfully completed Critical Design Review and the ground system is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to production.						
B. Program Change Summary (\$ in Millions)		FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget		0.000	0.000	0.000	-	0.000
Current President's Budget		0.000	0.000	124.805	-	124.805
Total Adjustments		0.000	0.000	124.805	-	124.805
• Congressional General Reductions		-	0.000			
• Congressional Directed Reductions		-	0.000			
• Congressional Rescissions		0.000	0.000			
• Congressional Adds		-	0.000			
• Congressional Directed Transfers		-	0.000			
• Reprogrammings		0.000	0.000			
• SBIR/STTR Transfer		0.000	0.000			
• Other Adjustments		0.000	0.000	124.805	-	124.805
Change Summary Explanation						
FY14: Other Adjustment row: +\$124.805M, due to a change in Budget Activity from 4 to 5, funds have been transferred from PE 0603432F, Project 644052.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2012	FY 2013	FY 2014
Title: EPS				0.000	0.000	124.805
Description: Develop and acquire EPS MILSATCOM which consists of 1) two Extremely High Frequency payloads, using AEHF's eXtended Data Rate (XDR) waveform, on hosted spacecraft, 2) a standalone Control and Planning Segment to provide command and control and XDR mission planning capability, and 3) one gateway to provide connectivity between polar and mid-latitude users through the Global Information Grid						
FY 2012 Accomplishments:						
Not applicable.						
FY 2013 Plans:						
Not applicable.						
FY 2014 Plans:						
In FY2014, will continue integration of the two EPS payloads onto the host satellites. Will complete the CAPS development and conduct the Critical Design Review (CDR). Will initiate the CAPS build and integration and test. Will continue integration and test						

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD)					<b>R-1 ITEM NOMENCLATURE</b> PE 0605432F: Polar MILSATCOM (SPACE)						

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>										<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>
of the ground Gateway segment and conduct site preparation planning. Will hold an EPS Milestone B review and conduct an EPS system-level CDR.												
<b>Accomplishments/Planned Programs Subtotals</b>										0.000	0.000	124.805

<b>D. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014 Base</b>	<b>FY 2014 OCO</b>	<b>FY 2014 Total</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• RDT&E: BA04: PE 0603432F: <i>Polar MILSATCOM (Space)</i>	99.598	120.676	0.000		0.000	0.000	0.000	0.000	0.000	0.000	222.024
<b>Remarks</b>											
<b>E. Acquisition Strategy</b> <p>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. Each EPS payload and its integration onto classified host satellites is funded by the EPS program while the development and integration is performed by the host organization. The EPS Program will procure the Ground Control and Planning Segment. The Ground Gateway segment, funded by the EPS program, will be organically developed by the Navy's Space and Naval Warfare Systems Center Pacific (SSC-Pacific). The Terminals that will use EPS will be acquired by each Service's Terminal Program Office.</p>											
<b>F. Performance Metrics</b> <p>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.</p>											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0605432F: Polar MILSATCOM (SPACE)				PROJECT 657105: Polar Satellite Communications					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Control and Planning Segment	C/CPIF	Northrop Grumman Information Systems:Redondo Beach, CA	0.000	0.000		0.000		65.725	Dec 2013	-		65.725	123.056	188.781	
Gateway architecture development	MIPR	Space and Naval Warfare Systems Command (SPAWAR) Systems Center - Pacific:San Diego, CA	0.000	0.000		0.000		16.880	Dec 2013	-		16.880	31.048	47.928	
EPS Design/Development Contract	SS/CPAF	NGAS:Redondo Beach, CA	0.000	0.000		0.000		17.192	Dec 2013	-		17.192	29.823	47.015	
Subtotal			0.000	0.000		0.000		99.797		0.000		99.797	183.927	283.724	
Remarks FY14 funds transferred from PE 0603432F, Project 644052.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	0.000	0.000		0.000		6.884	Dec 2013	-		6.884	15.269	22.153	
Subtotal			0.000	0.000		0.000		6.884		0.000		6.884	15.269	22.153	
Remarks FY14 funds transferred from PE 0603432F, Project 644052.															

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: System Development & Demonstration (SDD)								R-1 ITEM NOMENCLATURE PE 0605432F: Polar MILSATCOM (SPACE)				PROJECT 657105: Polar Satellite Communications			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	0.000	0.000		0.000		0.239	Dec 2013	-		0.239	0.000	0.239	
Subtotal			0.000	0.000		0.000		0.239		0.000		0.239	0.000	0.239	
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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,	0.000	0.000		0.000		9.745	Dec 2013	-		9.745	29.216	38.961	
Program Office Support	Various	Various:Various,	0.000	0.000		0.000		1.814	Dec 2013	-		1.814	6.559	8.373	
Travel/Business Ops Support Services/ Acquisition Mission Support (PMA)	Various	Various:Various,	0.000	0.000		0.000		6.326	Dec 2013	-		6.326	12.597	18.923	
Subtotal			0.000	0.000		0.000		17.885		0.000		17.885	48.372	66.257	
Remarks FY14 funds transferred from PE 0603432F, Project 644052.															
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.000		0.000		124.805		0.000		124.805	247.568	372.373	
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

## APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force  
BA 5: System Development & Demonstration (SDD)

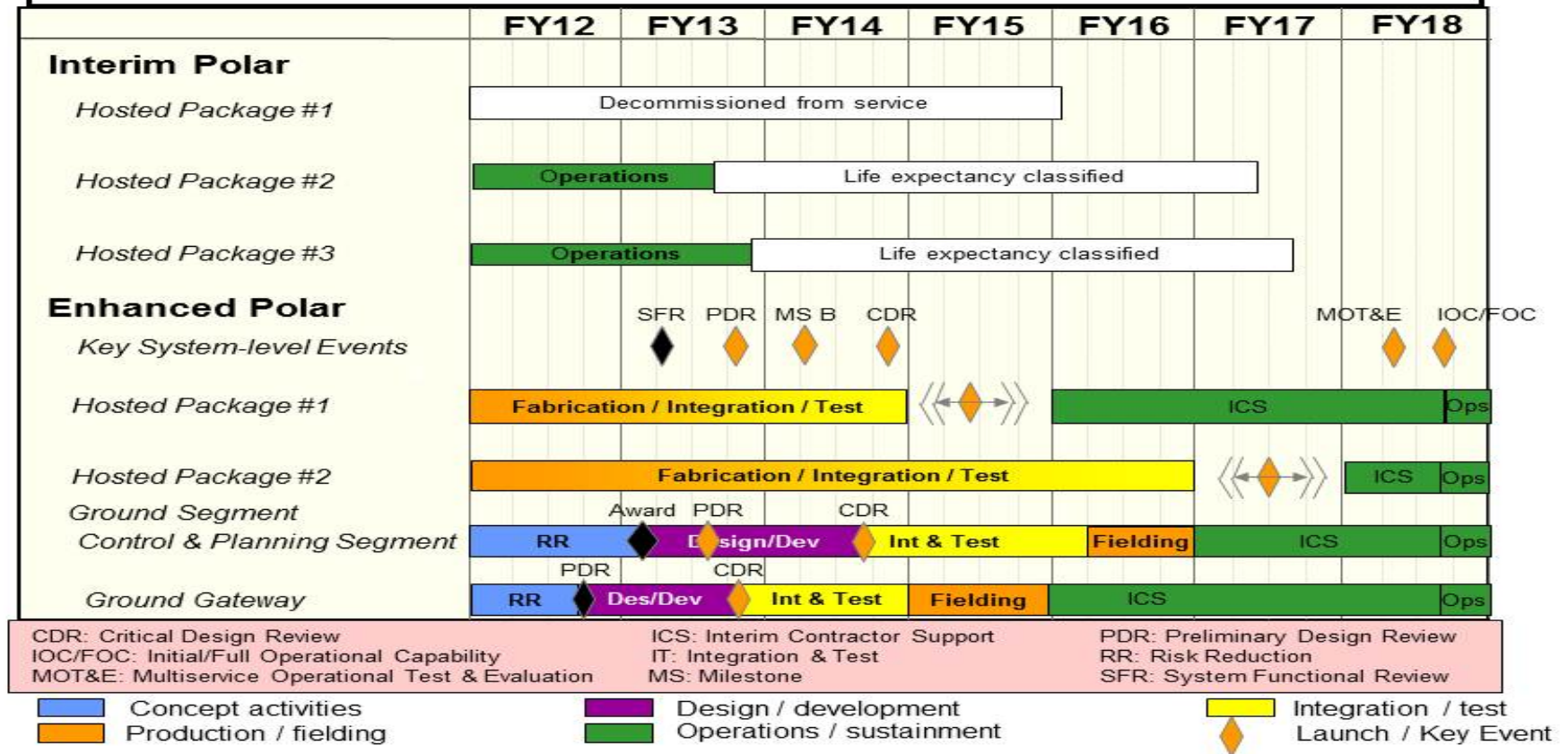
## R-1 ITEM NOMENCLATURE

PE 0605432F: Polar MILSATCOM (SPACE)

## PROJECT

657105: Polar Satellite Communications

**These efforts are funded in PE 0605432F, Project 657105 beginning FY14. Prior to FY14 these efforts are funded in PE 0603432F, Project 644052.**



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2014 Air Force		<b>DATE:</b> April 2013
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>System Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605432F: <i>Polar MILSATCOM (SPACE)</i>	<b>PROJECT</b> 657105: <i>Polar Satellite Communications</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Enhanced Polar System (EPS) Milestone B Review	2	2014	2	2014
Control and Planning Segment (CAPS) Critical Design Review	3	2014	3	2014
EPS system-level Critical Design Review	4	2014	4	2014