

UNCLASSIFIED

PE NUMBER: 0604435F
 PE TITLE: Advanced Polar MILSATCOM

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2004
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BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0604435F Advanced Polar MILSATCOM
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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	13.584	0.000	0.000	32.937	180.936	260.415	Continuing	TBD
A010 Advanced Polar System	0.000	13.584	0.000	0.000	32.937	180.936	260.415	Continuing	TBD

PE 0604435F has been renamed Advanced Polar MILSATCOM. Although this program was submitted as a FY04 new start effort, the program was restructured as part of the Transformational Communications Architecture. As a result, funds are not required until FY07. DoD reprogramming action (which includes \$3.1M FY04 Advanced Polar MILSATCOM RDT&E funds) for Force Protection is awaiting Congressional approval. The Air Force will request Congressional approval to reprogram remaining Advanced Polar MILSATCOM FY04 funds to PE 0603845F, TSAT, BPAC 644944 for the purpose of funding an enhanced (wide field view) multi-access laser communications technology.

(U) A. Mission Description and Budget Item Justification

The Advanced Polar System (APS) will provide next generation protected Extremely High Frequency Satellite Communications (EHF SATCOM) capability in the north polar region. APS will also support tactical users who require anti-jam and low probability of detection EHF SATCOM. Nuclear hardening requirements make APS a stand alone satellite rather than just a follow-on to the Interim Polar capability. The Transformational Communications Architecture (TCA) effort in FY03 described a program of three satellites (two funded with RDT&E and one fully funded with missile procurement) in highly inclined orbits (HIO) with laser crosslinks with the Transformational SATCOM (TSAT) satellite constellation. Together, APS and TSAT programs make up the Transformational Communications for MILSATCOM (TCM) program. The APS satellites will have many of the TSAT features permitting synergy with TSAT technology. However, the Air Force is currently revisiting Concept of Operations (CONOPS) and Combatant Commanders are reviewing Operations Plans (OPLANs) requirements for polar communications in support of trade and feasibility studies. The program funded herein supports a FY13 launch.

This program is in Budget Activity 04 - Advanced Component Development and Prototypes (ACD&P) because it supports concept definition of a communications system.

(U) B. Program Change Summary (\$ in Millions)

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	0.000	13.740	82.345
(U) Current PBR/President's Budget	0.000	13.584	0.000
(U) Total Adjustments	0.000	-0.156	
(U) Congressional Program Reductions		-0.156	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			

(U) Significant Program Changes:

The Transformational Communications Architecture (TCA) and the acquisition strategy of Jun 03 realigned the first APS launch from FY09 to FY12. Other Air Force

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priorities further moved first launch to FY13. The program start moved from FY04 to FY07.

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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
A010 Advanced Polar System	0.000	13.584	0.000	0.000	32.937	180.936	260.415	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

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This program is in Budget Activity 04 - Advanced Component Development and Prototypes (ACD&P) because it supports concept definition of a communications system.

(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program			
(U) Concept definition and Analysis of Alternatives		0.000	
(U) Program Office and other related support activities		0.000	
(U) Total Cost	0.000	0.000	0.000

(U) C. Other Program Funding Summary (\$ in Millions)

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to Complete</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>		
(U) AF RDT&E									
(U) PE 0603845F, TSAT	111.485	335.430	774.836	1192.437	1346.687	1830.137	1038.550	Continuing	TBD
(U) Other APPN									
(U) MPAF, PE 0303602, TSAT					187.627	899.442	920.963	Continuing	TBD

(U) D. Acquisition Strategy

As a result of the Transformational Communications Architecture the APS program has changed from a two satellite constellation with ground gateways to three orbital satellites with laser crosslinks with the TSAT constellation. The Jun 03 approved Acquisition Strategy presented APS, TSAT and associated ground infrastructure as the two DoD Transformational Communications space systems being acquired as TCM. The TCM space segment contract for system definition and risk reduction (Phase B) will be awarded to two contractors in FY04 for the TSAT satellite. In FY06, after a full and open competition, the final TSAT space segment development contractor will

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be selected. Modification to that future contract adding the APS satellite will be considered at that time.

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Exhibit R-3, RDT&E Project Cost Analysis										DATE February 2004		
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<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
<u>(U) Product Development</u>												
Risk Reduction & System Def Ktr A	CPFF	TBD				0.000					0.000	
Risk Reduction & System Def Ktr B	CPFF	TBD				0.000					0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Support</u>												
FFRDC	Various	Various				0.000				Continuing	TBD	
Subtotal Support			0.000	0.000		0.000		0.000		Continuing	TBD	0.000
Remarks:												
<u>(U) Test & Evaluation</u>												
None											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Management</u>												
None											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Total Cost</u>			0.000	0.000		0.000		0.000		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

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Exhibit R-4a, RDT&E Schedule Detail

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(U) Schedule Profile

FY 2003

FY 2004

FY 2005

(U) No activity