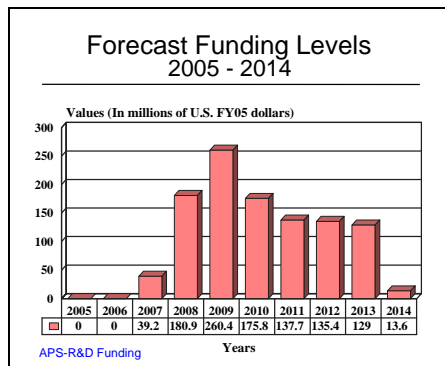


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Advanced Polar System (APS) Archived 10/2006



Outlook

- Possible budget delays
- New start date 2007 or even 2008
- Satellite launch rescheduled for 2013

Orientation

Description. The Advanced Polar System (APS) will provide next-generation protected extremely high frequency (EHF) satellite communications capability (especially for submarines) in the north polar Arctic region starting in year 2013.

Sponsor

U.S. Air Force
Air Force Materiel Command
SMC-Space & Missiles System Center
2420 Vela Way, Suite 2420
El Segundo, CA 90245-4569

Status. Initial program development start date delayed until 2007 or possibly 2008.

Total Produced. The APS program will acquire three satellites (two funded with R&D and one fully funded with missile procurement) and survivable ground gateways.

Application. Extremely high frequency satellite communications.

Price Range. Undisclosed at this time.

Contractors

To be selected.

Technical Data

Design Features. The APS will be compatible and will have seamless connectivity with the military satellite communications (MILSATCOM) Advanced

Extremely High Frequency (AEHF) system. It will also support tactical users who require anti-jam and low probability of detection EHF satellite communications.



The system's need date and requirements for nuclear hardening make it a stand-alone requirement rather than just a follow-on to the Interim Polar capability effort.

APS is part of the U.S. Air Force's Transformational Communications Architecture.



Submarine breaking through Arctic polar ice

Source: U.S. Navy

Variants/Upgrades

None at this time.

Program Review

Background. The Advanced Polar System (APS) program was originally scheduled to start in FY04; however, the program was restructured as part of the Transformational Communications Architecture and acquisition strategy, which realigned the first APS launch from FY09 to FY13. As a result, funding has not been requested until FY07. The U.S. Air Force will request Congressional approval to reprogram remaining APS to another program for funding an enhanced wide field view, multi-access laser communications technology.

The APS will be a competitive acquisition, as hosting an EHF package (such as was done with the Interim Polar effort) did not meet requirements. It will be the successor program to the Interim Polar satellite system, which placed its first satellite in orbit in 1997 to meet

critical strategic and nuclear requirements, primarily the submarine forces.

The second and third Interim Polar satellites were scheduled for launch in late 2003 and 2004 but now other Air Force priorities moved the launch of the second satellite to FY13. The satellites will provide 24-hour coverage on the North Pole region. However, Interim Polar is only a temporary effort, as it does not fully meet U.S. Department of Defense (DoD) requirements. Additionally, because of the Transformational Communications Architecture, the APS program changed from a two-satellite constellation with ground gateways to a three-satellite system with laser crosslinks with the Transformation SATCOM (TSAT) constellation.

Funding

U.S. FUNDING								
	FY05		FY06		FY07		FY08	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
RDT&E (U.S. Air Force)								
PE#0604435F								
Advanced Polar								
System	-	0	-	0	-	32.9	-	180.9
	FY09		FY10		FY11		FY12	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
RDT&E (U.S. Air Force)								
PE#0604435F								
Advanced Polar								
System	-	260.4	-	N/A	-	N/A	-	N/A

All US\$ are in millions.

Source: U.S. Department of the Air Force FY2005 RDT&E Budget Item Justification Sheet (R-2)

NOTE: This effort was not listed in the FY2006 Budget documents. It appears the program may be delayed for another year and start in FY2008.

Recent Contracts

No contracts have been awarded at this time.

Timetable

<u>Year</u>	<u>Major Development</u>
2004	Program restructured
2006	Space segment developer contractor to be selected
2007	New program start date
2013	First launch scheduled

Worldwide Distribution

The APS is a U.S. Department of Defense Air Force-lead program.

Forecast Rationale

Possible budget delays and other issues appear to be holding up the start of the U.S. Advanced Polar System (APS) program to provide next-generation Extremely High Frequency satellite communications (EHF SATCOM) capability in the north polar region of the Arctic where communications to submarines is difficult because of the extremely thick ice. According to

experts within the SATCOM industry, the APS is seen as very important to the operation of U.S. Navy submarines in polar ice regions. The program was originally scheduled to start in 2004; however, other priorities such as the war with Iraq and the continued war on terrorism postponed the program's start date until 2007 or even possibly 2008, if not later.

As the APS will work in conjunction with the new Advanced Extremely High Frequency (AEHF) system, this program will likely receive required funding through completion once it gets underway.

Additionally, nuclear hardening requirements make APS a stand-alone satellite rather than just a follow-on to the Interim Polar capability now being used.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR FUNDING (\$ in millions)													
Designation	Application	Thru 04	<u>High Confidence Level</u>				<u>Good Confidence Level</u>				<u>Speculative</u>		Total 05-14
			05	06	07	08	09	10	11	12	13	14	
ADVANCED POLAR SYSTEM	EHF SATCOM (U.S. DOD)	0.000	0.000	0.000	39.200	180.900	260.400	175.800	137.700	135.400	129.000	13.600	1072.000