

UNCLASSIFIED

PE NUMBER: 0305114F

PE TITLE: Air Traffic Control/Approach/Landing System (ATCALs)

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0305114F Air Traffic Control/Approach/Landing System (ATCALs)

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	11.516	9.783	0.000	0.000	0.000	2.608	3.901	3.427	Continuing	TBD
3587 Air Traffic Control Systems	11.516	9.783	0.000	0.000	0.000	2.608	3.901	3.427	Continuing	TBD

(U) **A. Mission Description and Budget Item Justification**

This program funds research, development, and management of new air traffic control surveillance, positioning, and precision approach capabilities. This project includes the Mobile Approach Control System (MACS) which will replace non-standard, unsupportable, large footprint mobile radar approach systems with a common, easily-transportable system for use by both the Air National Guard and active duty AF. This project also funds the advance of Global Procedures Designer (GDP) formerly known as Air Force Terminal Instrument Procedures - Replacement (AFTERPS-R), which provides automated development of terminal flight instrument procedures. These procedures are specifically designed to accurately and precisely measure critical information necessary for pilots to fly designated flight paths that safely avoid obstacles and other hazards during a final approach to landing. This project is also key to ensuring Air Force Air Traffic Systems work collaboratively to safely and efficiently provide ATC services within the National Airspace System (NAS) and in host nations overseas. For example, over the next 15 years, the FAA plans to implement new or improved capabilities into the NAS in an evolutionary manner. This program will participate in the development, testing, and implementation of international standards (to include North Atlantic Treaty Organization (NATO) standardization agreements) to ensure joint, Allied, and coalition interoperability.

FY 2009 and beyond will see additional capabilities being planned to enable the concept of Free Flight throughout the NAS. Since the Air Force must provide the same level of air traffic service to the military and flying public, funds are required to conduct interoperability and architecture studies and analyses on a wide range of aviation concepts. This effort complements similar activities associated with other safety of flight and airspace access programs such as Communication, Navigation and Surveillance/Air Traffic Management (CNS/ATM) that predominantly focus on aircraft issues.

FY06-08 funding was realigned to other ATCALs priorities within the portfolio limits. Beginning in FY09 we will be starting modifications to add Mode S upgrades to the Digital Airport Surveillance Radar (DASR) and to upgrade the DoD Advanced Automation System to interface with host nation air traffic control systems. The FY09 and beyond modifications are required to allow AF to continue operations in the civil airspace in the Continental United States (CONUS) and at selected overseas locations.

This program is in budget activity 7, Operational System Development, because it upgrades currently fielded systems.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	10.622	7.371	5.221	5.314
(U) Current PBR/President's Budget	11.516	9.783	0.000	0.000
(U) Total Adjustments	0.894	2.412		
(U) Congressional Program Reductions	-0.110			
Congressional Rescissions	-0.091			
Congressional Increases		2.500		
Reprogrammings	1.405	-0.088		
SBIR/STTR Transfer	-0.310			

(U) Significant Program Changes:

- FY04 Reprogram of +\$1.405M for Global Procedures Design (GPD) Release C Development.
- FY06/07/08 funds for ATCALs Pre-Planned Product Improvements (P3I) activities realigned based on higher Air Force priorities (FY06-08). Activities planned to re-commence in FY09.

UNCLASSIFIED

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07 Operational System Development

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0305114F Air Traffic
Control/Approach/Landing System
(ATCALS)

PROJECT NUMBER AND TITLE

3587 Air Traffic Control Systems

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
3587 Air Traffic Control Systems	11.516	9.783	0.000	0.000	0.000	2.608	3.901	3.427	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) **A. Mission Description and Budget Item Justification**

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continue MACS Air Surveillance Radar (ASR) and Ops Shelter Development	3.921			
(U) Continue MACS Precision Approach Radar (PAR) development	0.965			
(U) Continue Global Procured Designer (GPD) Release C Study	2.324			
(U) Continue ATCALS pre-planned product improvement (P3I)	2.210			
(U) Continue Engineering Support for all ATCALS projects	1.244			

UNCLASSIFIED

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07 Operational System Development				0305114F Air Traffic Control/Approach/Landing System (ATCALs)				3587 Air Traffic Control Systems				
(U)	Begin MACS Test & Evaluation Support			0.852								
(U)	Complete MACS ASR and Ops Shelter Development							0.400				
(U)	Complete MACS Precision Approach Radar (PAR) development							0.400				
(U)	Complete GPD Release C Study							1.520				
(U)	Complete Engineering Support for all ATCALs projects							1.340				
(U)	Complete MACS Test & Evaluation Support							1.165				
(U)	Continue ATCALs P3I support							2.458				
(U)	Begin and Complete Transportable Transponder Landing System (TTLS)							2.500				
(U)	Total Cost			11.516				9.783		0.000 0.000		
(U)	C. Other Program Funding Summary (\$ in Millions)											
		<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>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U)	AF RDT&E											
(U)	Other APPN											
	APAF - BA 5 (PE 35114F)											
(U)	Weapon System Code		15.710	3.816								0.000 19.526
	CO2900											
(U)	OPAF - BA 3 (PE 0305114F)		32.029	4.431	16.795	6.238	0.987	0.991	1.016	1.030	Continuing TBD	
	Weapon System Code 833010											
(U)	OPAF, BA 3, (PE 0305137F)		26.895	40.361	51.919	55.675	57.043	58.238	60.477	61.139	Continuing TBD	
	Weapon System Code 833020											
	OPAF, BA 5, (PE 0305137F)											
(U)	Weapon System Code		3.085	3.285	4.748	5.413	5.430	5.544	5.784	5.866	Continuing TBD	
	86190A Initial Spares											
(U)	D. Acquisition Strategy											
	Award multiple, competitive contract vehicles emphasizing off-the-shelf technology and maximizing the use of non-developmental items (NDIs).											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis												DATE February 2005		
BUDGET ACTIVITY 07 Operational System Development						PE NUMBER AND TITLE 0305114F Air Traffic Control/Approach/Landing System (ATCALs)						PROJECT NUMBER AND TITLE 3587 Air Traffic Control Systems		
(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 Prior to FY 2004 Cost</u>	<u>FY 2004 Cost</u>	<u>FY 2004 Award Date</u>	<u>FY 2005 Cost</u>	<u>FY 2005 Award Date</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> Global Procedures Designer (GPD)	C/FFP	MacDonald Dettwiler; Vancouver, BC	2.450	2.324	Dec-03	1.520	Oct-04					0.000	6.294	4.101
MACS Airport Surveillance Radar (ASR) and Operational Shelter Development	C/FFP	ITT Gilfillan; Van Nuys, CA	30.360	3.921	Nov-03	0.400	Apr-05					0.000	34.681	34.138
Engineering Support	C/FFP	Mitre Corp; Bedford, MA	2.557	1.244	Oct-03	1.340	Nov-04					0.000	5.141	4.829
Various	Multiple	Multiple	3.003									0.000	3.003	3.353
MACS Precision Approach Radar (PAR) Development	C/FFP	ITT Gilfillan; Van Nuys, CA	2.427	0.965	Feb-04	0.400	Apr-05					0.000	3.792	7.230
Transportable Transponder Landing System (TTLS)	TBD	TBD				2.412	Jun-05						2.412	
Subtotal Product Development			40.797	8.454		6.072		0.000		0.000		0.000	55.323	53.651
Remarks:														
(U) <u>Support</u> Various	C/FFP/T&M	Multiple	2.205	1.033	May-04	0.786	Nov-04					0.000	4.024	5.423
Subtotal Support			2.205	1.033		0.786		0.000		0.000		0.000	4.024	5.423
Remarks:														
(U) <u>Test & Evaluation</u> Test & Evaluation for MACS & GDP	MIPR	46th Test Wing, Eglin AFB FL	2.297	0.400	Feb-04	1.165	Jan-05					0.000	3.862	3.058
Other Test Requirements		Multiple		0.452	Oct-03								0.452	
Subtotal Test & Evaluation			2.297	0.852		1.165		0.000		0.000		0.000	4.314	3.058
Remarks:														
(U) <u>Management</u> Cost Estimating Support	C/T&M	MCR Federal Inc; MacLean, VA	0.632	0.118	May-04	0.080	Jan-05					0.000	0.830	0.832
Program Management Support	C/T&M	ManTech Inc; Bedford, MA	1.515	1.059	May-04	1.680	Jan-05					0.000	4.254	3.515
Project 3587	R-1 Shopping List - Item No. 182-6 of 182-9											Exhibit R-3 (PE 0305114F)		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

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07 Operational System Development

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Subtotal Management	2.147	1.177	1.760	0.000	0.000	0.000	5.084	4.347
Remarks:								
(U) Total Cost	47.446	11.516	9.783	0.000	0.000	0.000	68.745	66.479

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY

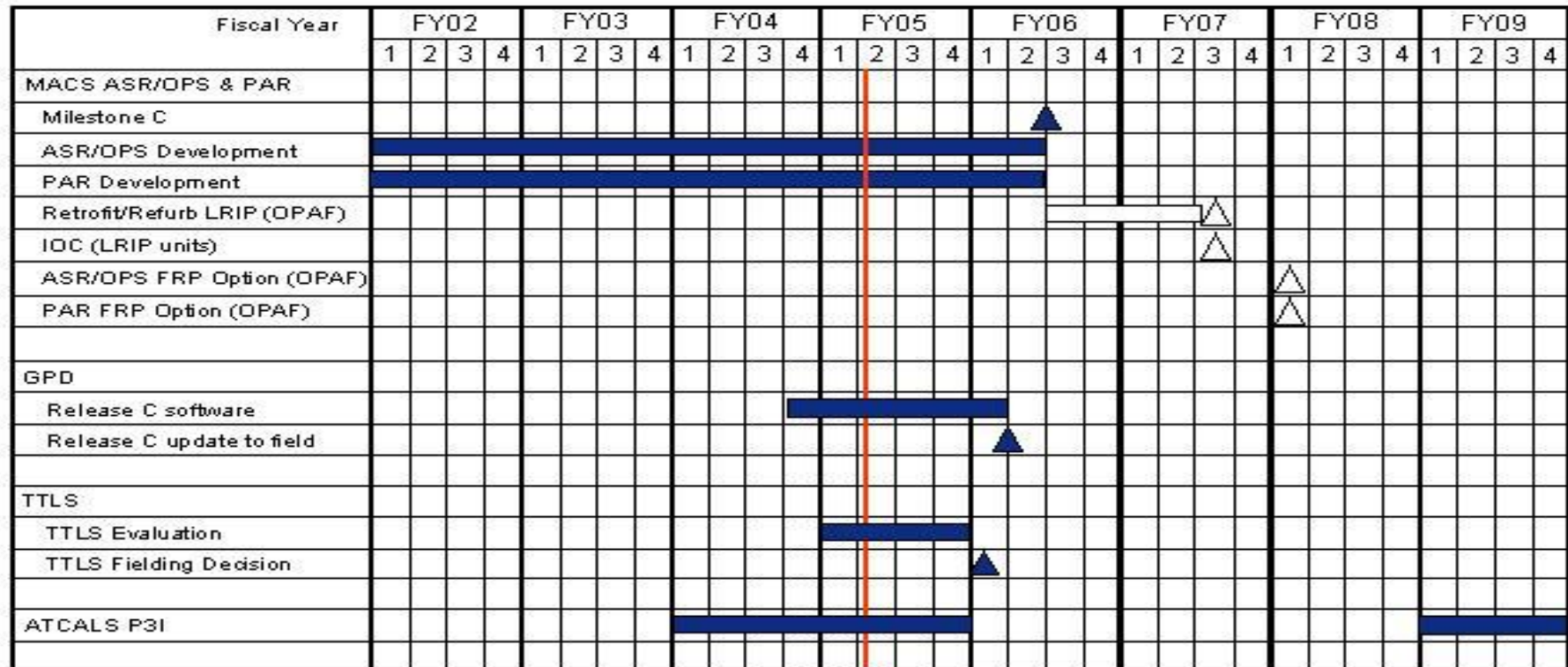
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3587 Air Traffic Control Systems

ATCALs
Schedule

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