PE NUMBER: 0305114F
PE TITLE: Air Traffic Control/Approach/Landing System (ATCALS)

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2004

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305114F Air Traffic Control/Approach/Landing System (ATCALS)

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	9.141	10.421	7.371	5.221	5.314	5.418	5.488	Continuing	TBD
3587 Air Traffic Control Systems	9.141	10.421	7.371	5.221	5.314	5.418	5.488	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

This project funds research and 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 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.

FY 2004-2009 will concentrate on deployment of the next generation of communications, navigation, and surveillance (CNS) technologies and the automation upgrades necessary to accommodate them. FY 2010-2015 will see additional capabilities being added 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 Global Air Traffic Management that predominantly focus on aircraft issues. This program is in budget activity 7, Operational System Development, because it upgrades currently fielded systems.

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

		FY 2003	FY 2004	FY 2005
(U)	Previous President's Budget	9.865	10.622	5.886
(U)	Current PBR/President's Budget	9.141	10.421	7.371
(U)	Total Adjustments	-0.724	-0.201	
(U)	Congressional Program Reductions	-0.050	-0.110	
	Congressional Rescissions	-0.104	-0.091	
	Congressional Increases			
	Reprogrammings	-0.183		
	SBIR/STTR Transfer	-0.387		

(U) Significant Program Changes:

$1.485M was transferred to complete MACS development.

Exhibit R-2a, RDT&E Project Justification		DATE: February 2004
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

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
3587 Air Traffic Control Systems	9.141	10.421	7.371	5.221	5.314	5.418	5.488	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This project funds research and 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 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.

FY 2004-2009 will concentrate on deployment of the next generation of communications, navigation, and surveillance (CNS) technologies and the automation upgrades necessary to accommodate them. FY 2010-2015 will see additional capabilities being added 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 Global Air Traffic Management that predominantly focus on aircraft issues. This program is in budget activity 7, Operational System Development, because it upgrades currently fielded systems.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2003	FY 2004	FY 2005
(U) Accomplishments/Planned Programs			
(U) Continue MACS Air Surveillance Radar (ASR) and Ops Shelter Development	1.080		
(U) Complete MACS ASR and Ops Shelter Development		1.986	
(U) Continue MACS Precision Approach Radar (PAR) development	4.869		
(U) Complete MACS PAR development		5.546	
(U) Complete AFTERPS-R Release C Study		0.410	
(U) Continue support for all ATCALS projects	3.192	2.479	1.500
(U) Begin ATCALS pre-planned product improvement (P3I)			5.871
(U) Total Cost	9.141	10.421	7.371

Exhibit R-2a, RDT&E Project Justification		DATE February 2004
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) C. Other Program Funding Summary ($ in Millions)

(U) D. Acquisition Strategy

Award multiple, competitive contract vehicles. Emphasize off-the-shelf technology, and maximize use of non-developmental items (NDIs).

Exhibit R-3, RDT&E Project Cost Analysis

DATE: February 2004

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) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2003 Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
AFTERPS-R	C/FPAF	MacDonald Dettwiler; Vancouver, BC	2.450			0.410	Dec-03			0.000	2.860	
MACS Airport Surveillace Radar (ASR) and Operational Shelter Development	C/FPAF	ITT Gilfillan; Van Nuys, CA	29.823	0.537	Nov-03	1.264	Nov-03			Continuing	TBD	
Engineering Support	C/FFP	Mitre Corp; Bedford, MA	1.407	1.150	Oct-02	1.272	Oct-03	1.000	Oct-04	Continuing	TBD	
Various	Multiple	Multiple	2.765	0.238	Mar-03	0.350	Mar-04			Continuing	TBD	
MACS Precision Approach Radar (PAR) Development	C/FFP	ITT Gilfillan; Van Nuys, CA		2.427	Dec-02	3.546	Feb-04			Continuing	TBD	
ATCALS P3I	TBD	TBD						3.771	Jan-05		3.771	
Subtotal Product Development			36.445	4.352		6.842		4.771		Continuing	TBD	0.000
Remarks:												
(U) Support												
Various	C/FFP/T&M	Multiple	0.523	1.682	May-03	1.718	May-04	1.500	May-05	Continuing	TBD	
Subtotal Support			0.523	1.682		1.718		1.500		Continuing	TBD	0.000
Remarks:												
(U) Test & Evaluation												
Test & Evaluation for MACS & AFTERPS-R	MIPR	46th Test Wing, Eglin AFB FL	0.787	1.510	Dec-02	0.761	Feb-04			Continuing	TBD	
Subtotal Test & Evaluation			0.787	1.510		0.761		0.000		Continuing	TBD	0.000
Remarks:												
(U) Management												
Cost Estimating Support	C/T&M	MCR Federal Inc; MacLean, VA	0.550	0.082	May-03	0.100	May-04	0.100	May-05	Continuing	TBD	
Program Management Support	C/T&M	ACS Inc; Bedford, MA	0.000	1.515	May-03	1.000	May-04	1.000	May-05	Continuing	TBD	
Subtotal Management			0.550	1.597		1.100		1.100		Continuing	TBD	0.000
Remarks:												

Exhibit R-3, RDT&E Project Cost Analysis								DATE: February 2004
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) Total Cost	38.305	9.141	10.421	7.371	Continuing	TBD	0.000	

Exhibit R-4, RDT&E Schedule Profile		DATE **February 2004**
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**

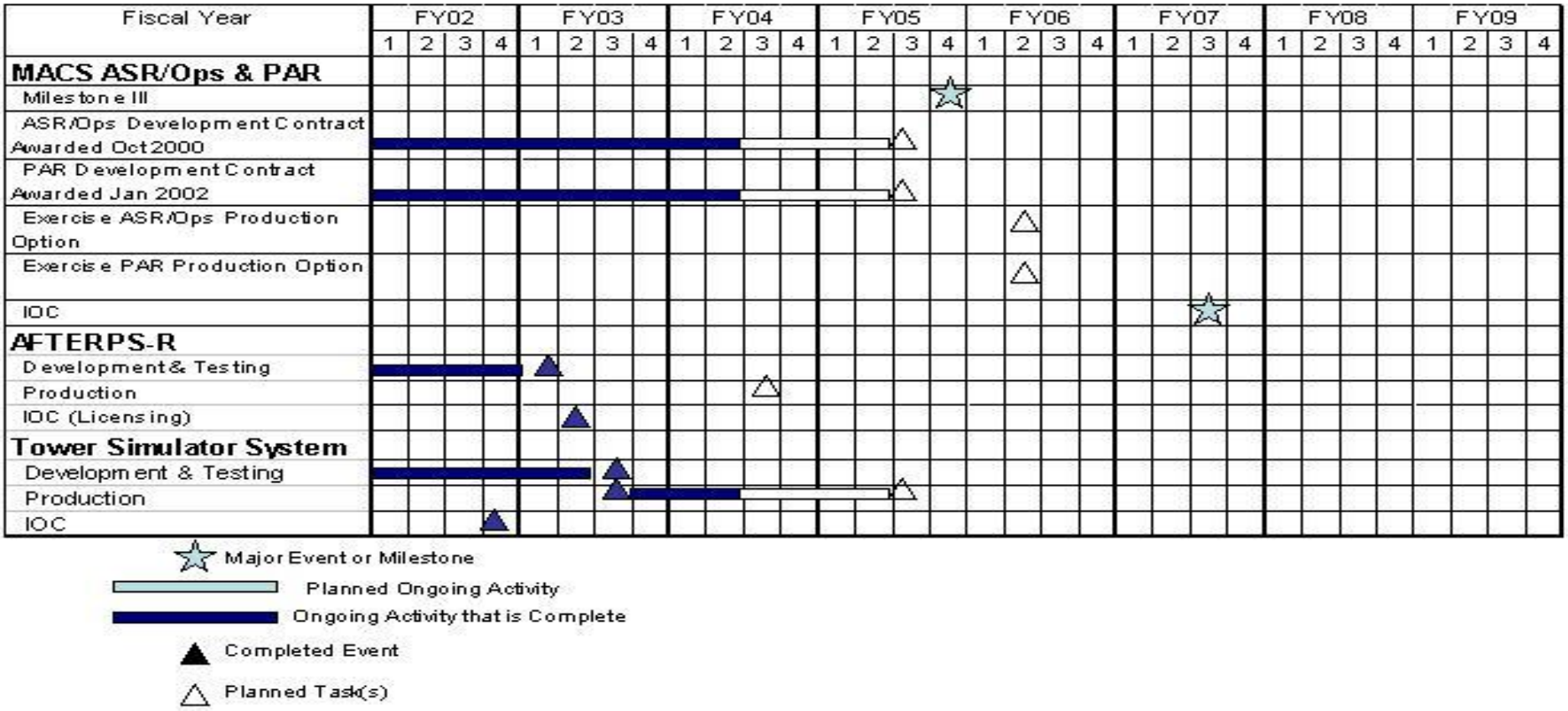

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2004
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305114F Air Traffic Control/Approach/Landing System (ATCALS)**	PROJECT NUMBER AND TITLE **3587 Air Traffic Control Systems**

(U) **Schedule Profile**	FY 2003	FY 2004	FY 2005
(U) Complete development of AFTERPS-R	1Q		
(U) Complete MACS ASR operations shelter development			3Q
(U) Complete MACS PAR development		3Q	
(U) Begin ATCALS P3I			4Q
(U) ASR/OPS operational testing	2Q		
(U) PAR operational testing	3Q		
(U) ATCALS P3I contract award		2Q	