

**UNCLASSIFIED**

PE NUMBER: 0305099F

PE TITLE: Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM)

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>								DATE <b>February 2006</b>	
<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>					<b>PE NUMBER AND TITLE</b> <b>0305099F Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM)</b>				
Cost (\$ in Millions)	FY 2005 Actual	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	6.727	6.943	6.620	6.616	6.250	6.091	5.845	Continuing	TBD
4689 Global Access Architecture	6.727	6.943	6.620	6.616	6.250	6.091	5.845	Continuing	TBD

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

Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM): is the Air Force program designed to meet the evolving International Civil Aviation authority mandates and ensure unfettered access to worldwide airspace. CNS/ATM and Navigation Warfare (NAVWAR) are major components of the DoD's Global Access, Navigation, and Safety (GANS) management effort. The Global Air Traffic Systems Group (GATSG) supports CNS/ATM as the AF's central focal point for analyzing and evaluating operational requirements, developing aircraft system architectures, and test capabilities acquiring aviation equipment, and certifying weapon system implementation. Per AFD 63-13, GATSG support funds engineering services, acquisition support, and supports certification of platform integration. The system architectures identify necessary equipment and aircraft capability shortfalls across the Air Force inventory, for mobility, information dominance, bombers, fighters, trainers, helicopters, and unmanned aerial vehicles. For those capabilities where no current solution exists, development activities are undertaken in conjunction with existing DoD communications, navigation, surveillance, and safety program offices. Dual-use capabilities of avionics to satisfy both military and civilian CNS/ATM requirements of the Air Force fleet will be explored as well as net-centricity operations. GATSG will continue projections of studies and prototype efforts necessary to ensure AF aviation weapon systems are postured to meet civil standards and future changes to the civil standards leading to free flight. GATSG supports the definition of requirements for ACAT III projects across multiple weapon systems. No existing program satisfies the requirements of the CNS/ATM initiatives. GATSG upgrades avionics to add CNS/ATM capabilities to currently fielded weapon systems and is assigned Budget Activity 7, Operational Systems Development.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	6.974	7.139	7.679
(U) Current PBR/President's Budget	6.727	6.943	6.620
(U) Total Adjustments	-0.247	-0.196	
(U) Congressional Program Reductions	-0.247	-0.196	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			

(U) **Significant Program Changes:**

FY07: Global Air Traffic Management (GATM) name changed to Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM). FY06/07: Reductions due to reprogramming to higher DoD priorities.

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## Exhibit R-2a, RDT&amp;E Project Justification

DATE

February 2006

BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0305099F Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM)</b>			PROJECT NUMBER AND TITLE <b>4689 Global Access Architecture</b>		
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4689 Global Access Architecture	6.727	6.943	6.620	6.616	6.250	6.091	5.845	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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

Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM): is the Air Force program designed to meet the evolving International Civil Aviation authority mandates and ensure unfettered access to worldwide airspace. CNS/ATM and Navigation Warfare (NAVWAR) are major components of the DoD's Global Access, Navigation, and Safety (GANS) management effort. The Global Air Traffic Systems Group (GATSG) supports CNS/ATM as the AF's central focal point for analyzing and evaluating operational requirements, developing aircraft system architectures, and test capabilities acquiring aviation equipment, and certifying weapon system implementation. Per AFD 63-13, GATSG support funds engineering services, acquisition support, and supports certification of platform integration. The system architectures identify necessary equipment and aircraft capability shortfalls across the Air Force inventory, for mobility, information dominance, bombers, fighters, trainers, helicopters, and unmanned aerial vehicles. For those capabilities where no current solution exists, development activities are undertaken in conjunction with existing DoD communications, navigation, surveillance, and safety program offices. Dual-use capabilities of avionics to satisfy both military and civilian CNS/ATM requirements of the Air Force fleet will be explored as well as net-centricity operations. GATSG will continue projections of studies and prototype efforts necessary to ensure AF aviation weapon systems are postured to meet civil standards and future changes to the civil standards leading to free flight. GATSG supports the definition of requirements for ACAT III projects across multiple weapon systems. No existing program satisfies the requirements of the CNS/ATM initiatives. GATSG upgrades avionics to add CNS/ATM capabilities to currently fielded weapon systems and is assigned Budget Activity 7, Operational Systems Development.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continue operational requirements analysis, demonstration, and evaluation	1.195	1.187	1.122
(U) Continue development of common avionics and technologies	1.938	2.027	1.937
(U) Continue acquisition of ID/IQ aviation equipment	0.912	0.964	0.840
(U) Continue Nav/Safety and GPS/NAVWAR integration and interoperability evaluations	0.629	0.593	0.510
(U) Continue system architecture definitions, development, and certification	2.053	2.172	2.211
(U) Total Cost	6.727	6.943	6.620

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

	<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>Complete</u>	
(U) The methodology used to attain CNS/ATM capabilities as required by the MAJCOMs for									

Project 4689

R-1 Shopping List - Item No. 181-3 of 181-8

Exhibit R-2a (PE 0305099F)

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

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BUDGET ACTIVITY

**07 Operational System Development**

PE NUMBER AND TITLE

**0305099F Communication,  
Navigation, Surveillance/Air Traffic  
Management (CNS/ATM)**

PROJECT NUMBER AND TITLE

**4689 Global Access Architecture****(U) C. Other Program Funding Summary (\$ in Millions)**

each platform varies widely - the estimating and tracking of these costs varies even more from program to program. Funding summary information can only be provided by analyzing the specific platform's budget/PE. Please refer to each particular PE affected by CNS/ATM for funding data.

**(U) D. Acquisition Strategy**

The CNS/ATM Global Access Architecture acquisition strategy enables the GATSG to guide equipment acquisition supporting global air traffic management. The GATSG will ensure standardization and support certification of USAF platforms/systems that operate in the national and global air traffic environments. GATSG will provide performance assessment, technical expertise and interface with appropriate product/support centers, battle labs, and Department of Defense (DOD) research and development facilities in the execution of assigned tasks. Program Research and Development Agreements (PRDAs), Cooperative Research and Development Agreements (CRDAs), and Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts will be competitively awarded.

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## Exhibit R-3, RDT&amp;E Project Cost Analysis

DATE

February 2006

BUDGET ACTIVITY

07 Operational System Development

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4689 Global Access Architecture

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) <u>Product Development</u>												
MIT	FFP		5.406	0.650	Oct-04	0.534	Oct-05	0.673	Oct-06	Continuing	TBD	
Honeywell	FFP		2.745							Continuing	TBD	
Allied Signal	FFP		1.975							0.000	1.975	
Rockwell Collins	FFP		1.504							Continuing	TBD	
MITRE Corporation	CPAF		10.719	3.168	Oct-04	3.150	Oct-05	3.223	Oct-06	Continuing	TBD	
Horizons Technology Inc	FFP		3.974							Continuing	TBD	
TASC	CPFF		0.728							0.000	0.728	
Smiths Industries	FFP		0.194							Continuing	TBD	
SAIC	T&M		0.530							0.000	0.530	
ARINC Inc	FFP		0.946							Continuing	TBD	
Lockheed Martin	CPAF		0.159							0.000	0.159	
Bremmer Associates	FFP		0.729							0.000	0.729	
Northrop Grumman	CPAF		2.499							0.000	2.499	
MCR	IDIQ		1.526	0.422	May-04	0.336	May-05	0.348	May-06	Continuing	TBD	
Federal Tech Services	FFP		0.300							0.000	0.300	
DISA/DIT	FFP		0.000							Continuing	TBD	
ACS Defense			2.538	1.595	May-04	1.635	May-05	1.673	May-06		7.441	
Various	various		2.935	0.391		0.756		0.264		Continuing	TBD	
Subtotal Product Development			39.407	6.226		6.411		6.181		Continuing	TBD	0.000
Remarks:												
(U) <u>Support</u>												
MITRE Corporation			1.369							Continuing	TBD	
Various	Various		1.327	0.501		0.532		0.439		Continuing	TBD	
Subtotal Support			2.696	0.501		0.532		0.439		Continuing	TBD	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>												
412th FLTS (Edwards AFB)			0.111							Continuing	TBD	
Subtotal Test & Evaluation			0.111	0.000		0.000		0.000		Continuing	TBD	0.000
Remarks:												
(U) <u>Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			42.214	6.727		6.943		6.620		Continuing	TBD	0.000

Project 4689

R-1 Shopping List - Item No. 181-5 of 181-8

Exhibit R-3 (PE 0305099F)

## Exhibit R-4, RDT&amp;E Schedule Profile

DATE

February 2006

BUDGET ACTIVITY

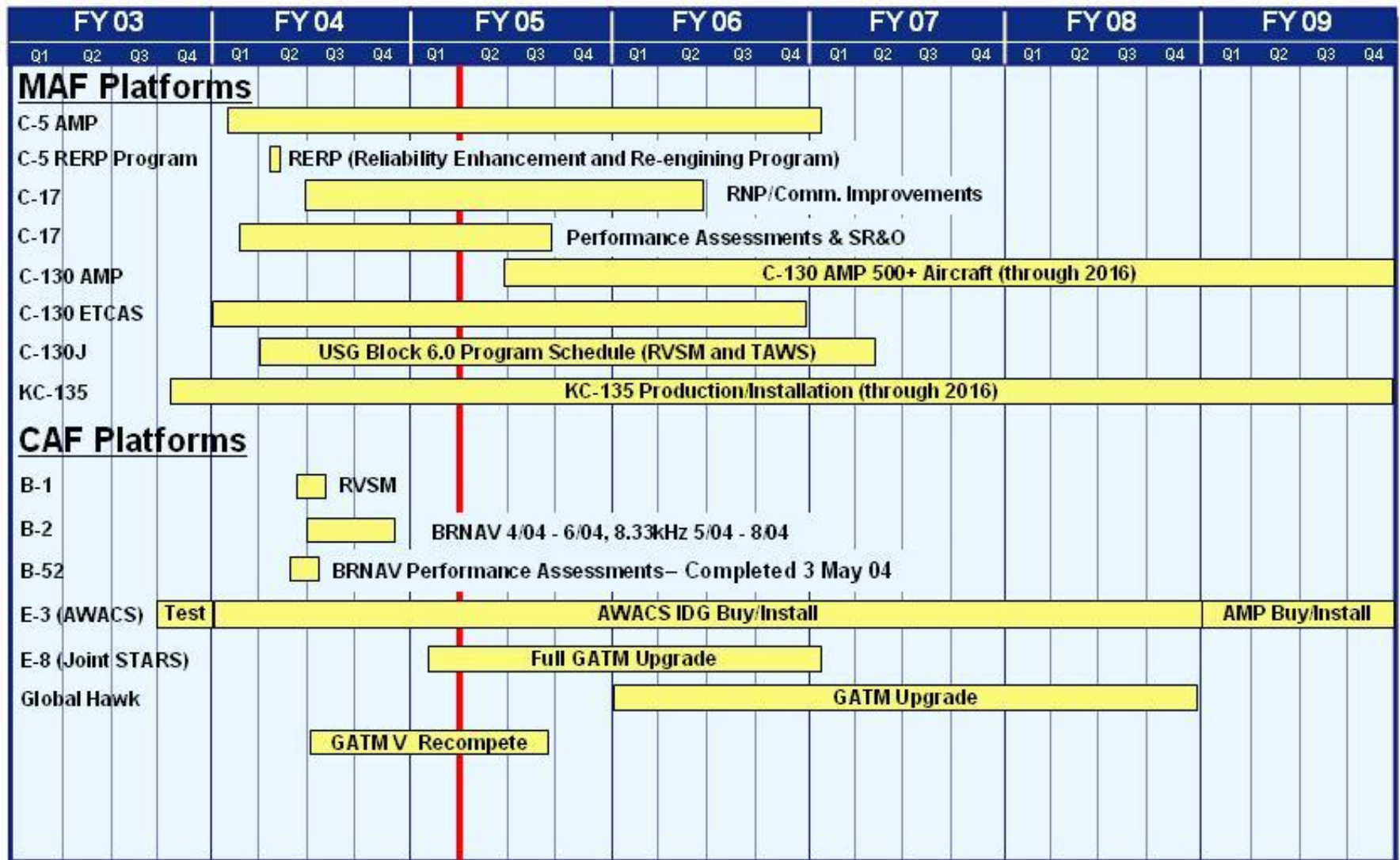
07 Operational System Development

PE NUMBER AND TITLE

0305099F Communication,  
Navigation, Surveillance/Air Traffic  
Management (CNS/ATM)

PROJECT NUMBER AND TITLE

4689 Global Access Architecture

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GATM

## Exhibit R-4, RDT&amp;E Schedule Profile

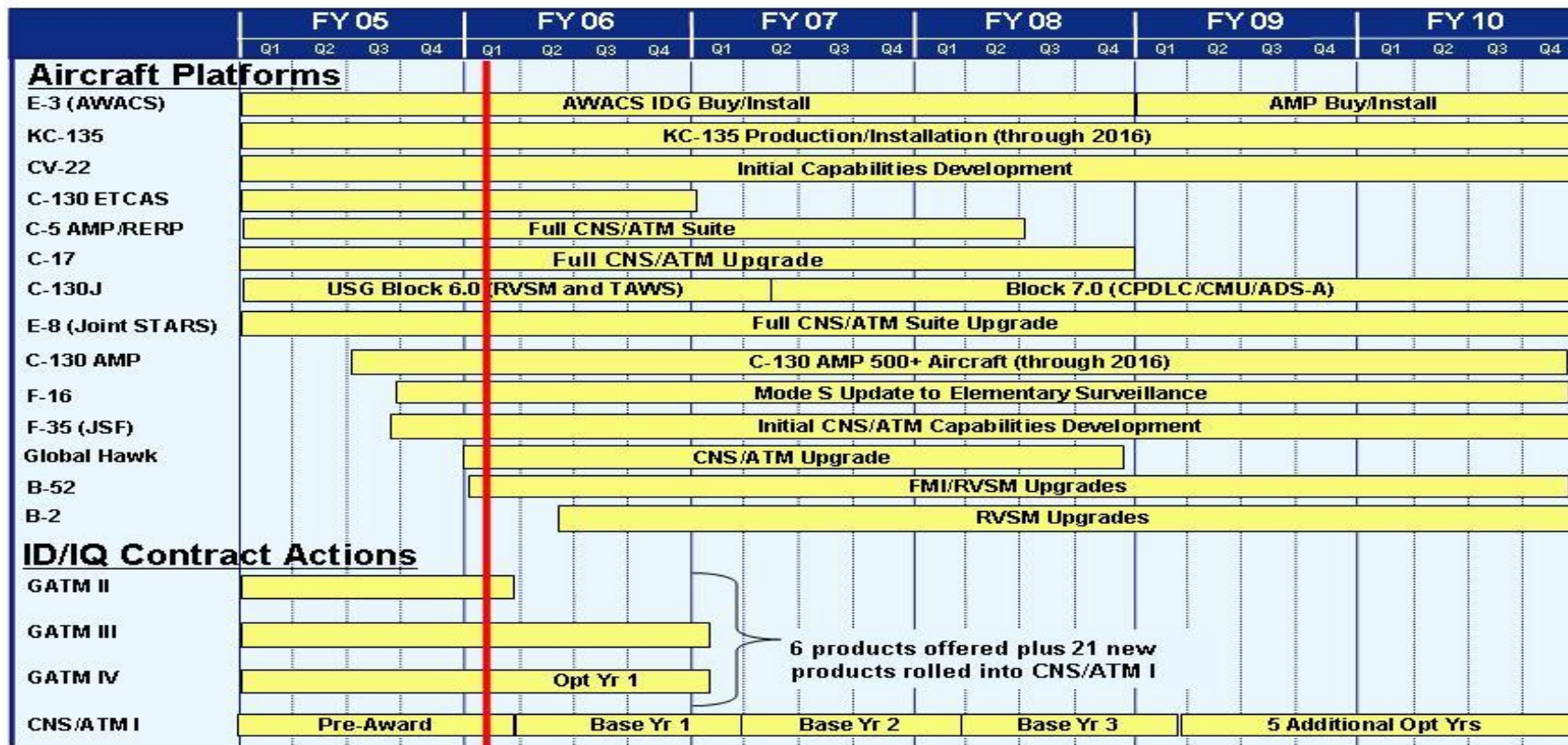
DATE

February 2006

BUDGET ACTIVITY  
07 Operational System DevelopmentPE NUMBER AND TITLE  
0305099F Communication,  
Navigation, Surveillance/Air Traffic  
Management (CNS/ATM)PROJECT NUMBER AND TITLE  
4689 Global Access Architecture

U.S. AIR FORCE

## Long Term Schedule



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30-Nov-2005

## UNCLASSIFIED

## Exhibit R-4a, RDT&amp;E Schedule Detail

DATE

February 2006

BUDGET ACTIVITY

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PE NUMBER AND TITLE

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Navigation, Surveillance/Air Traffic  
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**4689 Global Access Architecture**(U) **Schedule Profile**FY 2005FY 2006FY 2007

(U) System Architecture Definitions

1-4Q

1-4Q

1-4Q

(U) Operational Requirements Analysis

1-4Q

1-4Q

1-4Q

(U) Development of common avionics and technologies

1-4Q

1-4Q

1-4Q

(U) Acquisition of ID/IQ equipment

1-4Q

1-4Q

1-4Q

(U) GPS/NAVWAR Integration Activities

1-4Q

1-4Q

1-4Q