

UNCLASSIFIED

PE NUMBER: 0305099F

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

Exhibit R-2, RDT&E Budget Item Justification									DATE February 2007	
BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0305099F Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM)					
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	6.760	6.595	6.681	6.328	6.179	5.921	6.035	6.159	Continuing	TBD
4689 Global Access Architecture	6.760	6.595	6.681	6.328	6.179	5.921	6.035	6.159	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM): the Air Force (AF) program is designed to ensure that all AF acquisitions and modifications conform to appropriate CNS/ATM and Navigation Safety performance requirements to enable access to worldwide civil managed airspace. CNS/ATM and Navigation Warfare (NAVWAR) are major components of the DoD's Global Access, Navigation, and Safety (GANS) management effort. The 853rd Electronic Systems Group (ELSG) supports CNS/ATM as the AF's central focal point for identifying, analyzing, and evaluating civil operational airspace requirements, as well as identifying, analyzing, and evaluating the technical performance requirements of the CNS capabilities necessary to enable access to civil managed airspace. Additionally, 853 ELSG supports AF aircraft Single Managers in verifying the system's end-to-end performance for each CNS capability integrated into AF aircraft. Per AFPD 63-13, 853 ELSG will develop and maintain CNS/ATM performance matrices used to identify specific CNS/ATM requirements for each AF aircraft. The Group will provide acquisition and engineering support services through the entire acquisition framework to include development of technical architectures, program management reviews and test planning. Additionally, the Group will develop and award Indefinite Delivery/Indefinite Quantity contracts for centralized procurement and sustainment of CNS/ATM and Nav Safety products and promote commonality of CNS equipment and architectures between aircraft. The Group will also participate in the development of Operational Safety, Suitability and Effectiveness assurance and Airworthiness Certification Plans. Dual-use capabilities of avionics to satisfy both civil and military CNS/ATM requirements will be explored as well as enhancements to net-centric concepts. 853 ELSG will continue projections of studies and prototyping efforts necessary to ensure AF aircraft are postured to meet current civil standards and future changes to civil standards leading to the concept of free flight. No other program satisfies civil CNS/ATM initiatives. This program is assigned Budget Activity 7, Operational Systems Development.

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	7.139	7.679	7.869	7.978
(U) Current PBR/President's Budget	6.760	6.620	6.609	6.244
(U) Total Adjustments	-0.379			
(U) Congressional Program Reductions	-0.196			
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer	-0.183			
(U) <u>Significant Program Changes:</u>				

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2007

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

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

FY06: Global Air Traffic Management (GATM) name changed to Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM). FY06/09: Reductions due to reprogramming to higher DoD priorities.

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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		
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4689 Global Access Architecture	6.760	6.595	6.681	6.328	6.179	5.921	6.035	6.159	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM): the Air Force (AF) program is designed to ensure that all AF acquisitions and modifications conform to appropriate CNS/ATM and Navigation Safety performance requirements to enable access to worldwide civil managed airspace. CNS/ATM and Navigation Warfare (NAVWAR) are major components of the DoD's Global Access, Navigation, and Safety (GANS) management effort. The 853rd Electronic Systems Group (ELSG) supports CNS/ATM as the AF's central focal point for identifying, analyzing, and evaluating civil operational airspace requirements, as well as identifying, analyzing, and evaluating the technical performance requirements of the CNS capabilities necessary to enable access to civil managed airspace. Additionally, 853 ELSG supports AF aircraft Single Managers in verifying the system's end-to-end performance for each CNS capability integrated into AF aircraft. Per AFPD 63-13, 853 ELSG will develop and maintain CNS/ATM performance matrices used to identify specific CNS/ATM requirements for each AF aircraft. The Group will provide acquisition and engineering support services through the entire acquisition framework to include development of technical architectures, program management reviews and test planning. Additionally, the Group will develop and award Indefinite Delivery/Indefinite Quantity contracts for centralized procurement and sustainment of CNS/ATM and Nav Safety products and promote commonality of CNS equipment and architectures between aircraft. The Group will also participate in the development of Operational Safety, Suitability and Effectiveness assurance and Airworthiness Certification Plans. Dual-use capabilities of avionics to satisfy both civil and military CNS/ATM requirements will be explored as well as enhancements to net-centric concepts. 853 ELSG will continue projections of studies and prototyping efforts necessary to ensure AF aircraft are postured to meet current civil standards and future changes to civil standards leading to the concept of free flight. No other program satisfies civil CNS/ATM initiatives. This program is assigned Budget Activity 7, Operational Systems Development.

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue operational requirements analysis, demonstration, and evaluation	1.104	1.122	1.122	1.122
(U) Continue development of common avionics and technologies	2.027	1.937	1.937	1.754
(U) Continue acquisition of ID/IQ aviation equipment	0.964	0.840	0.840	0.840
(U) Continue Nav/Safety and GPS/NAVWAR integration and interoperability evaluations	0.593	0.510	0.506	0.506
(U) Continue system architecture definitions, development, and certification	2.072	2.211	2.204	2.022
(U) Total Cost	6.760	6.620	6.609	6.244

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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

	<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>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							

(U) The methodology used to attain CNS/ATM capabilities as required by the MAJCOMs for 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**

CNS/ATM acquisition strategy enables 853 ELSG to guide CNS/ATM and Nav Safety equipment procurements for AF aircraft Single Managers. 853 ELSG will ensure standardization and support airworthiness certification of AF platforms/systems that operate in the national and global air traffic environments. The Group will collaborate on performance assessment efforts, provide technical expertise and interface with appropriate product/support centers, battle labs, and Department of Defense research and development facilities in the execution of assigned tasks. Program Research and Development Agreements (PDRAs), Cooperative Research and Development Agreements (CDRAs), and Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts will be competitively awarded.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE
February 2007

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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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2006</u> <u>Cost</u>	<u>FY 2006</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2009</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
				<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			
					<u>Date</u>		<u>Date</u>		<u>Date</u>		<u>Date</u>			
(U) <u>Product Development</u>														
MIT	FFP		6.056	0.800	Oct-05	0.287	Oct-06	0.286	Oct-07	0.270	Oct-07	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		13.887	3.150	Oct-05	3.099	Oct-06	3.097	Oct-07	2.926	Oct-07	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		1.948	0.206	May-05	0.216	May-06	0.217	May-07	0.200	May-08	Continuing	TBD	
Federal Tech Services	FFP		0.300									0.000	0.300	
DISA/DIT	FFP											Continuing	TBD	
ACS Defense			4.133	1.719	May-05	1.663	May-06	1.661	May-07	1.574	May-08		10.750	
Various	various		3.326	0.565		0.916		0.909		0.860		Continuing	TBD	
Subtotal Product Development			45.633	6.440		6.181		6.170		5.830		Continuing	TBD	0.000
Remarks:														
(U) <u>Support</u>														
MITRE Corporation			1.369									Continuing	TBD	
Various	Various		1.828	0.320		0.439		0.439		0.414		Continuing	TBD	
Subtotal Support			3.197	0.320		0.439		0.439		0.414		Continuing	TBD	0.000
Remarks:														
(U) <u>Test & Evaluation</u>														
412th FLTS (Edwards AFB)			0.111									Continuing	TBD	
Subtotal Test & Evaluation			0.111	0.000		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	0.000
Remarks:														
(U) Total Cost			48.941	6.760		6.620		6.609		6.244		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE
February 2007

BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
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PROJECT NUMBER AND TITLE
4689 Global Access Architecture



853d ELSG Master Schedule NT



As of 1 July 06

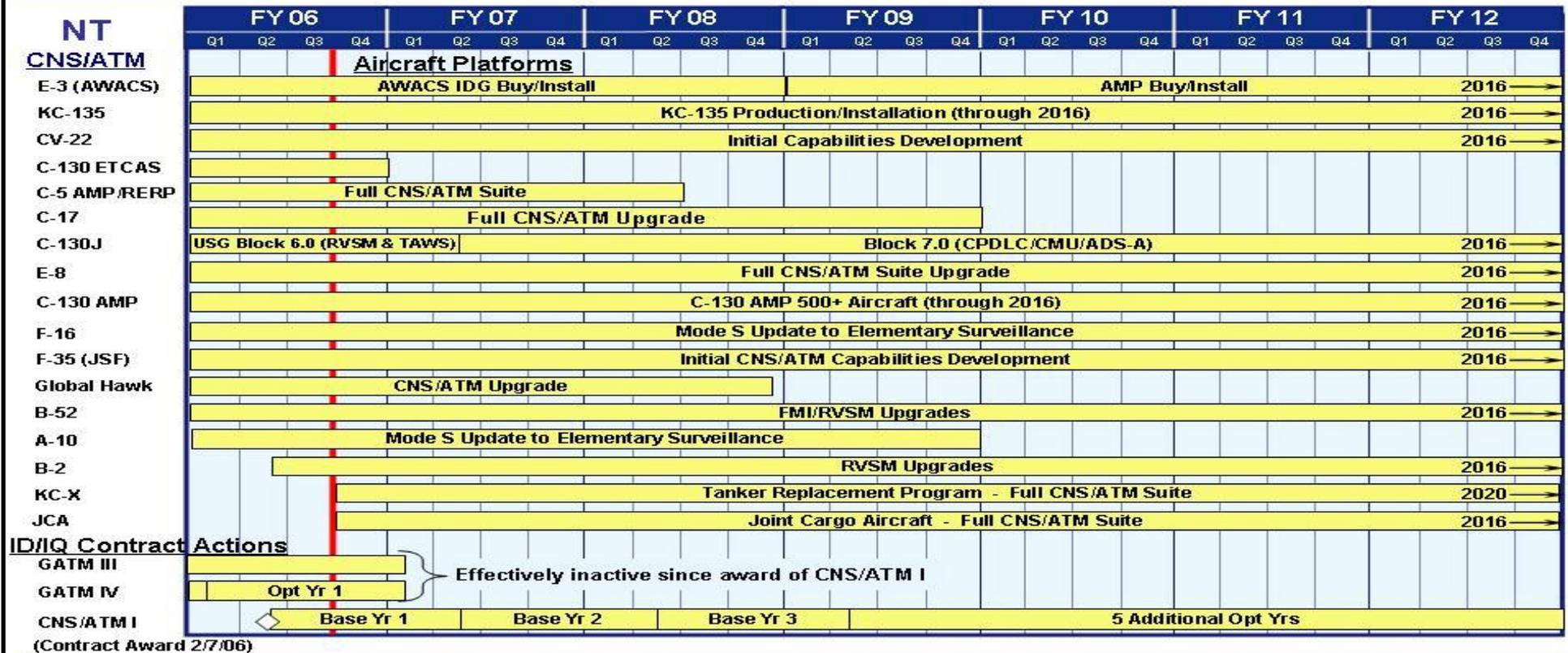


Exhibit R-4, RDT&E Schedule Profile

DATE

February 2007

BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0305099F Communication,
Navigation, Surveillance/Air Traffic
Management (CNS/ATM)

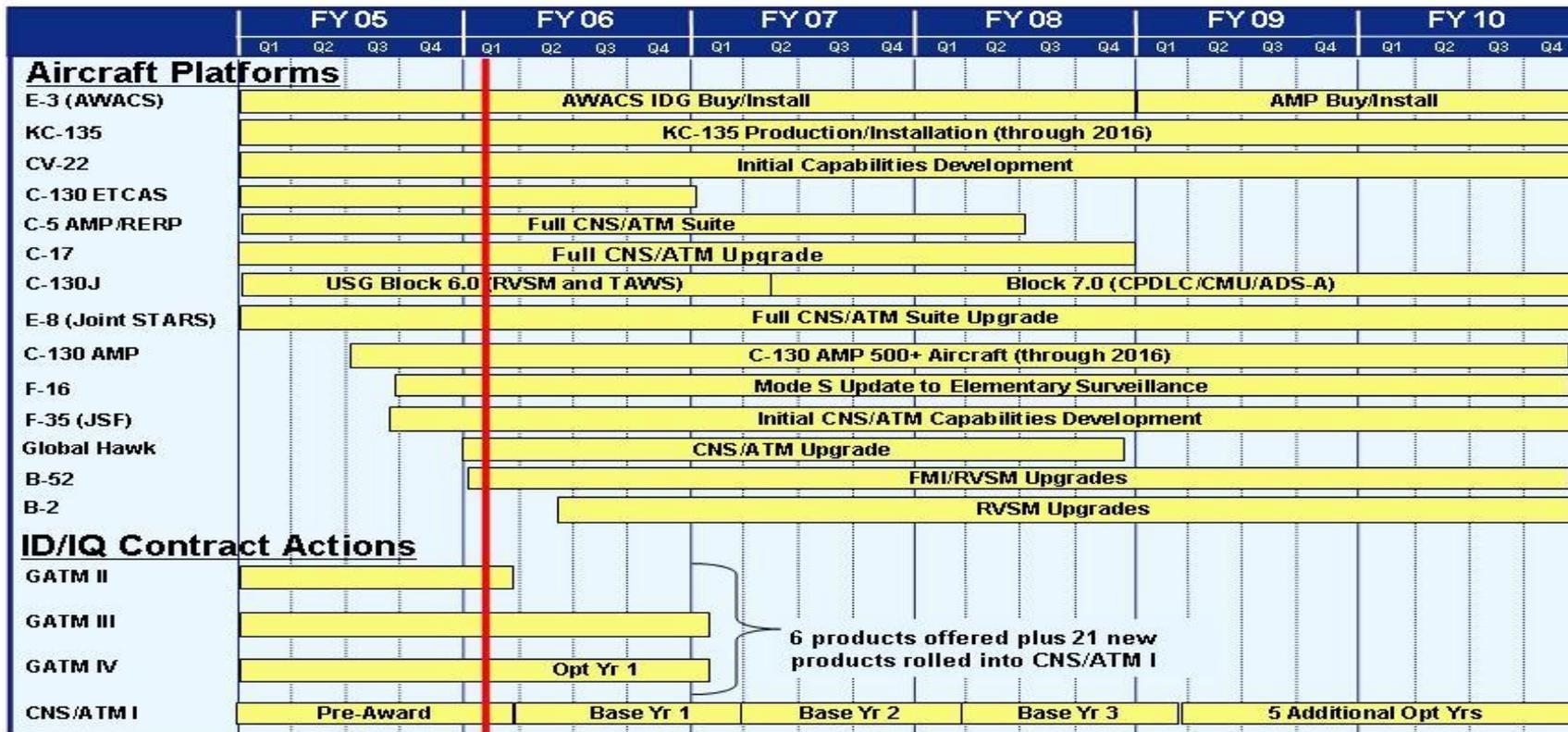
PROJECT NUMBER AND TITLE
4689 Global Access Architecture



U.S. AIR FORCE



Long Term Schedule



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30-Nov-2005

R-1 Line Item No. 183

Page-7 of 9

Project 4689

Exhibit R-4 (PE 0305099F)

1835

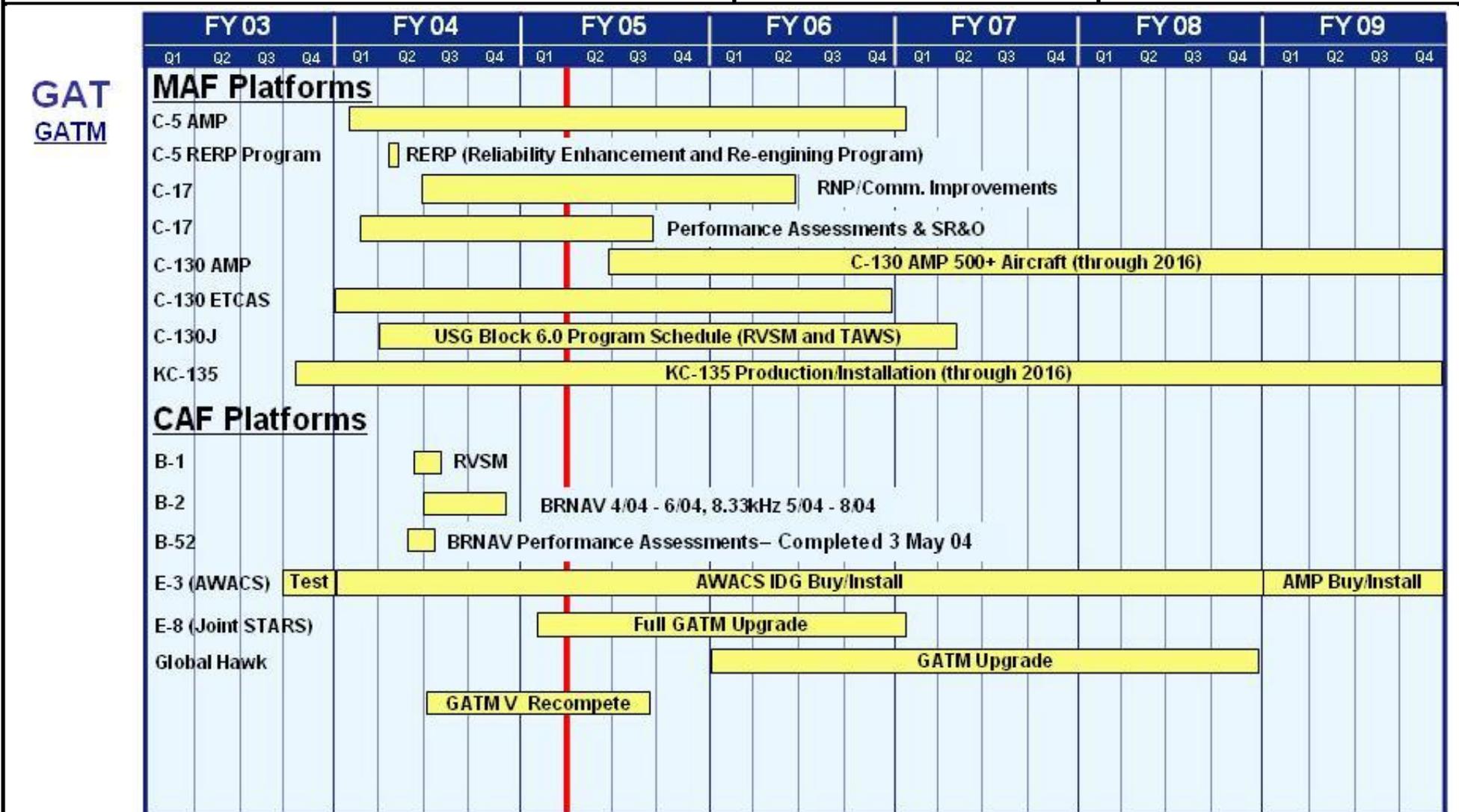
Exhibit R-4, RDT&E Schedule Profile

DATE
February 2007

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



R-1 Line Item No. 183

Page-8 of 9

Exhibit R-4 (PE 0305099F)

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2007

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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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) System Architecture Definitions	1-4Q	1-4Q	1-4Q	1-4Q
(U) Operational Requirements Analysis	1-4Q	1-4Q	1-4Q	1-4Q
(U) Development of common avionics and technologies	1-4Q	1-4Q	1-4Q	1-4Q
(U) Acquisition of ID/IQ equipment	1-4Q	1-4Q	1-4Q	1-4Q
(U) GPS/NAVWAR Integration Activities	1-4Q	1-4Q	1-4Q	1-4Q