PE NUMBER: 0603854F
PE TITLE: Wideband MILSATCOM (Space)

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2006

BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE: 0603854F Wideband MILSATCOM (Space)

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	54.413	92.287	37.672	5.186	5.728	5.809	6.286	Continuing	TBD
4811	Wideband Gapfiller	31.863	88.660	31.013	0.000	0.000	0.000	0.000	0.000	314.976
4870	Command & Control System Consolidated (CCSC)	22.550	3.627	6.659	5.186	5.728	5.809	6.286	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The Wideband Gapfiller Satellites (WGS) will provide the DoD with high data rate military satellite communication (MILSATCOM) services in accordance with the Joint Space Management Board-approved MILSATCOM architecture (Aug 96), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (Oct 97), and JROC-approved WGS Operational Requirements Document (May 00). This program was originally conceived to augment the near term 'bandwidth gap' in warfighter communications needs. These dual-frequency Wideband Gapfiller Satellites will augment the DoD's Defense Satellite Communications Systems X-Band service and one-way Global Broadcast Service Ka-band capabilities. In addition, WGS will provide a new high capacity two-way Ka-band service.

Due to incorrect installation of rivet nut fasteners and subsequent quality assurance and inspection concerns, the first WGS launch is currently re-scheduled for Jun 07, second satellite launch is Dec 07, and third satellite launch is May 08.

Satellites 4 and 5 will have slight modifications to better support the Airborne Intelligence, Surveillance and Reconnaissance mission. Based on lessons learned from the delays associated with satellites one through three and historic estimates for similar satellite manufacture and test; the production, assembly, integration, and test (AI&T) period for satellites four and five has been extended 15 months. Launches for satellites 4-5 are now scheduled for FY11 and FY12, respectively.

The MILSATCOM Command and Control System-Consolidated (CCS-C) system is being acquired to provide integrated launch and on-orbit command and control (C-2) functionality for MILSATCOM satellites as the current capability provided by the Air Force Satellite Control Network (PE0305110F) for MILSATCOM satellites phases out according to plan. CCS-C will use modified commercial off the shelf hardware/software to control all emerging and legacy MILSATCOM systems to include Milstar, Defense Satellite Communications System (DSCS), WGS, and Advanced Extremely High Frequency (AEHF), at reduced operating and maintenance costs.

(U) Funding is in Budget Activity 4, Advanced Component Development and Prototypes to support:

WGS: Leveraging commercial technology and practices by modifying commercial satellites to better support unique military requirements

CCS-C: Development phase

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2006
BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603854F Wideband MILSATCOM (Space)

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

		FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	69.386	93.858	37.672
(U)	Current PBR/President's Budget	54.413	92.287	37.672
(U)	Total Adjustments	-14.973	-1.571	
(U)	Congressional Program Reductions	-0.055	-0.234	
	Congressional Rescissions		-1.337	
	Congressional Increases			
	Reprogrammings	-12.924		
	SBIR/STTR Transfer	-1.994		
(U)	Significant Program Changes:			
	N/A			

Exhibit R-2a, RDT&E Project Justification

DATE: February 2006

BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE: 0603854F Wideband MILSATCOM (Space)

PROJECT NUMBER AND TITLE: 4811 Wideband Gapfiller

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
4811 Wideband Gapfiller	31.863	88.660	31.013	0.000	0.000	0.000	0.000	0.000	314.976
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Wideband Gapfiller Satellites (WGS) will provide the DoD with high data rate military satellite communication (MILSATCOM) services in accordance with the Joint Space Management Board-approved MILSATCOM architecture (Aug 96), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (Oct 97), and JROC-approved WGS Operational Requirements Document (May 00). This program was originally conceived to augment the near term 'bandwidth gap' in warfighter communications needs. These dual-frequency Wideband Gapfiller Satellites will augment the DoD's Defense Satellite Communications Systems X-Band service and one-way Global Broadcast Service Ka-band capabilities. In addition, WGS will provide a new high capacity two-way Ka-band service.

Due to incorrect installation of rivet nut fasteners and subsequent quality assurance and inspection concerns, the first WGS launch is currently re-scheduled for Jun 07, second satellite launch is Dec 07, and third satellite launch is May 08.

Satellites 4 and 5 will have slight modifications to better support the Airborne Intelligence, Surveillance and Reconnaissance mission. Based on lessons learned from the delays associated with satellites one through three and historic estimates for similar satellite manufacture and test; the production, assembly, integration, and test (AI&T) period for satellites four and five has been extended 15 months. Launches for satellites 4-5 are now scheduled for FY11 and FY12, respectively.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Support Unmanned Aerial Vehicle (UAV) Bypass (Airborne Intelligence, Surveillance and Reconnaissance support) non-recurring engineering for satellites 4 and 5	14.000	0.000	0.000
(U) Perform efforts such as payload/production studies (e.g., related to parts obsolescence), integration, tests, and support development of WGS control system	17.195	11.300	2.442
(U) Provide Program Office Support	0.668	0.860	0.629
(U) Perform parts obsolescence redesign for satellites 4 and 5, non-recurring engineering and other related activities		76.500	27.942
(U) Total Cost	31.863	88.660	31.013

(U) C. Other Program Funding Summary ($ 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 Cost
(U) MPAF, PE 0303600F, WGS, P-19,20	35.370	72.026	414.351	323.670	22.629	36.222	41.595	61.400	1,600.190
(U) OPAF, PE 0303600F, WGS PIPs	0.000	0.000	0.000	21.528	7.172			0.000	55.464

Exhibit R-2a, RDT&E Project Justification		DATE February 2006
BUDGET ACTIVITY **04 Advanced Component Development and Prototypes (ACD&P)**	PE NUMBER AND TITLE **0603854F Wideband MILSATCOM (Space)**	PROJECT NUMBER AND TITLE **4811 Wideband Gapfiller**

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

(U) OPAF, PE 030600F, CCS-C BA-11 Line-66	3.328	0.286	0.000			0.000	17.137

(U) D. Acquisition Strategy

The WGS program has made maximum use of commercial practices and technology in its FAR Part 12, Firm Fixed Price (FFP) acquisition for satellites 1-3. The WGS received MS II/III approval in Nov 00 and awarded a FFP contract in Jan 01 (three satellites and options for an additional three). Options for satellites 4-6 were not exercised prior to the 31 Dec 03 expiration date.

Since WGS-type capabilities are no longer being offered commercially, it is no longer appropriate to use a Firm Fixed Price contract. A Fixed Price Incentive Fee contract, which balances uncertainty of parts obsolescence/production gap with experience gained from WGS 1-3 production, has been proposed. Contract award for satellites 4 and 5 (with option for 6th satellite) is expected in 2nd Qtr FY06.

All five satellites will be purchased with Procurement funds, and the Non-Recurring Engineering (NRE) is funded with RDT&E.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY: **04 Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603854F Wideband MILSATCOM (Space)**

PROJECT NUMBER AND TITLE: **4811 Wideband Gapfiller**

(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) Product Development												
Parts Obsolescence Redesign	FPIF					76.500	Jan-06	27.942	Dec-06		104.442	
WGS Satellite EMD (satellites 1-3)	FFP		143.013								143.013	
UAV Bypass NRE	FFP			14.000	Jan-05						14.000	
Payload/Production Studies	Various			17.195	Dec-04	11.300	Dec-05	2.442	Dec-06		30.937	
Subtotal Product Development			143.013	31.195		87.800		30.384		0.000	292.392	0.000
Remarks:												
(U) Support												
JTEO	PR		6.618								6.618	
Pre-EMD	Form 277		5.579								5.579	
Program Support	Various		8.235	0.668	Jan-05	0.860	Jan-06	0.629	Jan-07		10.392	
Subtotal Support			20.432	0.668		0.860		0.629		0.000	22.589	0.000
Remarks:												
(U) Test & Evaluation												
											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			163.445	31.863		88.660		31.013		0.000	314.981	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2006
BUDGET ACTIVITY **04 Advanced Component Development and Prototypes (ACD&P)**	PE NUMBER AND TITLE **0603854F Wideband MILSATCOM (Space)**	PROJECT NUMBER AND TITLE **4811 Wideband Gapfiller**

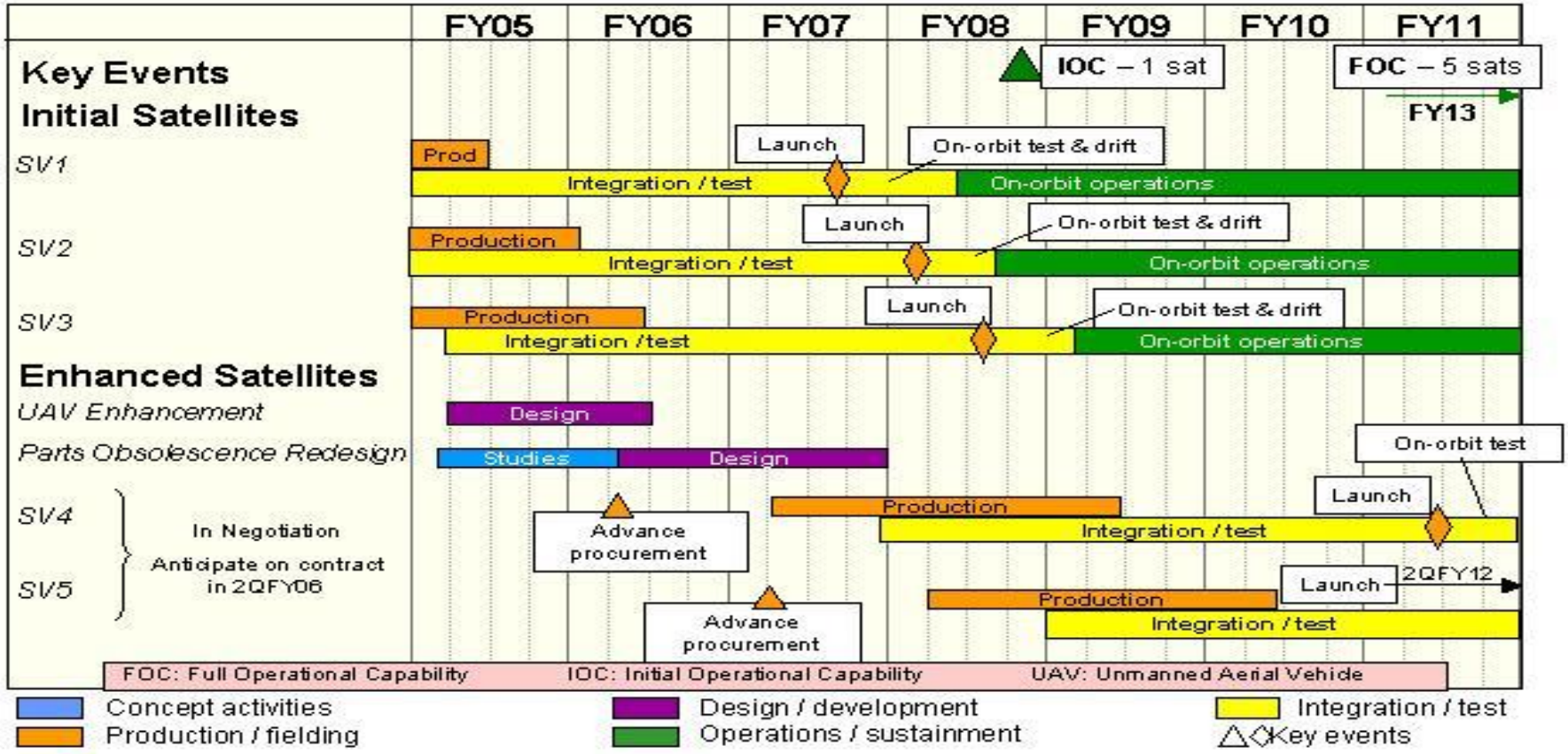

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **04 Advanced Component Development and Prototypes (ACD&P)**	PE NUMBER AND TITLE **0603854F Wideband MILSATCOM (Space)**	PROJECT NUMBER AND TITLE **4811 Wideband Gapfiller**

(U) Schedule Profile	FY 2005	FY 2006	FY 2007
(U) Initiated Unmanned Aerial Vehicle (UAV) Bypass (AISR support) for Sats 4 and 5	2Q		
(U) Initiate parts obsolescence redesign		2Q	
(U) Launch satellite 1			3Q

Exhibit R-2a, RDT&E Project Justification		DATE: February 2006
BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE: 0603854F Wideband MILSATCOM (Space)	PROJECT NUMBER AND TITLE: 4870 Command & Control System Consolidated (CCSC)

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
4870	Command & Control System Consolidated (CCSC)	22.550	3.627	6.659	5.186	5.728	5.809	6.286	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Military Satellite Communications (MILSATCOM) Command and Control System -Consolidated (CCS-C) system is being acquired to provide integrated launch and on-orbit command and control (C2) functionality, and backup operations at Vandenberg AFB, for MILSATCOM satellites as the current capability provided by the Air Force Satellite Control Network (PE 0305110F) phases out according to plan. CCS-C will use modified commercial off the shelf hardware/software to control all emerging and legacy MILSATCOM systems including Milstar, Defense Satellite Communications System (DSCS), Wideband Gapfiller System (WGS), and Advanced Extremely High Frequency (AEHF), at reduced operating and maintenance costs.

Funding is in Budget Activity 4, ACD&P to support software development and activation of the CCS-C installation and test facility.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Continue development of command and control functionality for WGS and AEHF satellites. Complete command and control functionality Milstar.	19.175	2.548	4.415
(U) Continue Program Office and other related support activities	3.375	1.079	2.244
(U) Total Cost	22.550	3.627	6.659

(U) C. Other Program Funding Summary ($ 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 Cost
(U) Other APPN									
(U) OPAF, PE 030600F, CCS-C BA-11 Line-66	3.328	0.286	0.000	0.000	0.000	0.000	0.000	0.000	17.137

(U) D. Acquisition Strategy

Competitive contracts with cost plus award fee options, were awarded in Feb 01 to two teams to demonstrate capabilities - the concept demonstration phase. A downselect to a single team was awarded in Mar 02 to develop the system for the development phase.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY: **04 Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603854F Wideband MILSATCOM (Space)**

PROJECT NUMBER AND TITLE: **4870 Command & Control System Consolidated (CCSC)**

(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) Product Development												
Demonstration Contractors	FFP		6.800							0.000	6.800	
Development Contractor: Integral Systems, Inc.	CPAF	Lanham, MD	50.107	19.175	Oct-04	2.548	Oct-05	4.415	Oct-06	Continuing	TBD	
Subtotal Product Development			56.907	19.175		2.548		4.415		Continuing	TBD	0.000
Remarks:												
(U) Support												
CCSC Program Support Cost			13.605	3.375	Oct-04	1.079	Oct-05	2.244	Oct-06	Continuing	TBD	
Subtotal Support			13.605	3.375		1.079		2.244		Continuing	TBD	0.000
Remarks:												
(U) Test & Evaluation												
None											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
None											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			70.512	22.550		3.627		6.659		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE: February 2006
BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE: 0603854F Wideband MILSATCOM (Space)	PROJECT NUMBER AND TITLE: 4870 Command & Control System Consolidated (CCSC)

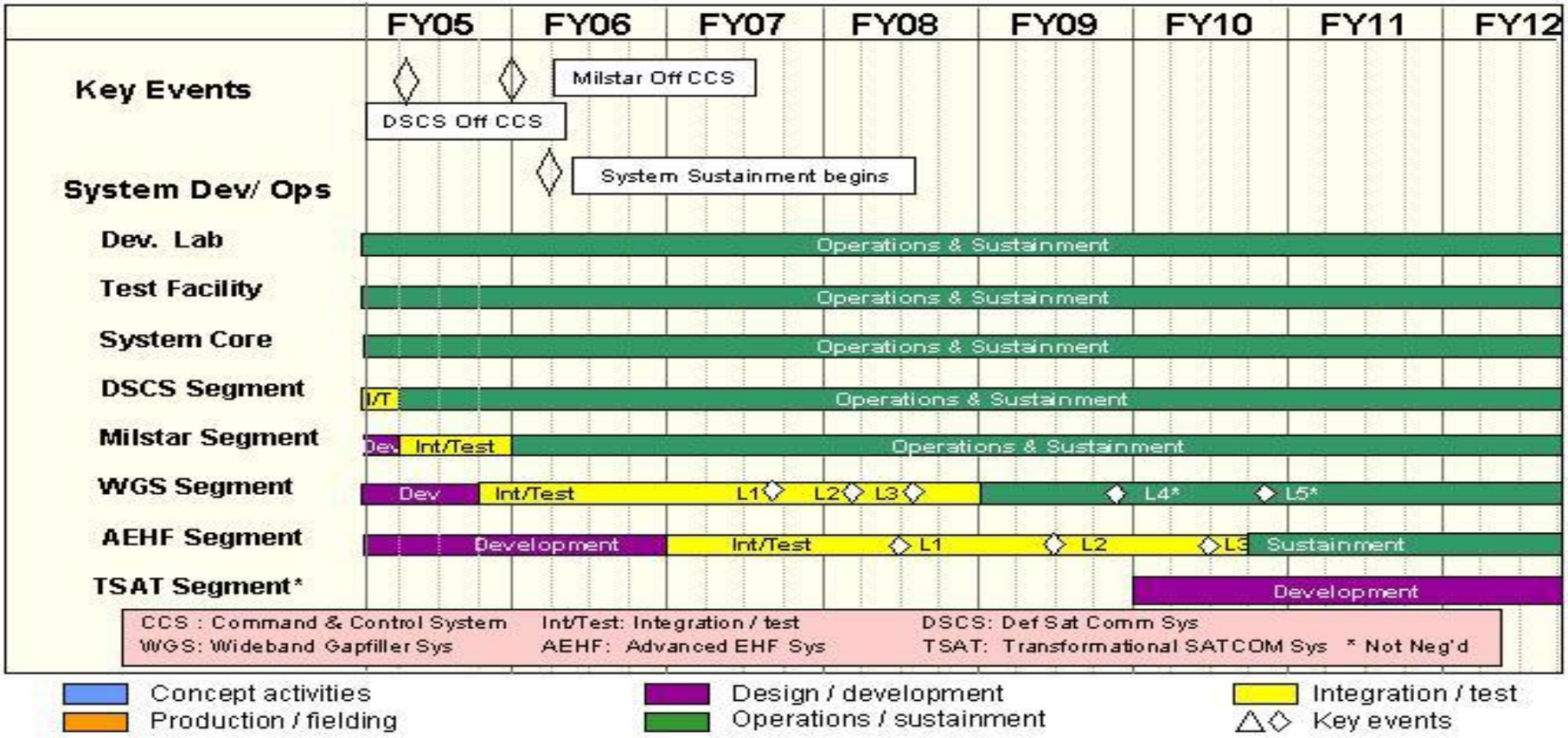

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **04 Advanced Component Development and Prototypes (ACD&P)**	PE NUMBER AND TITLE **0603854F Wideband MILSATCOM (Space)**	PROJECT NUMBER AND TITLE **4870 Command & Control System Consolidated (CCSC)**

(U)	**Schedule Profile**	FY 2005	FY 2006	FY 2007
(U)	Completed Defense Satellite Communications System (DSCS) command and control functionality	1Q		
(U)	Began Wideband Gapfiller System (WGS) Integration & Test	4Q		
(U)	Completed Milstar command and control functionality		1Q	
(U)	Transitioned MILSATCOM legacy systems (DSCS and Milstar) to CCS-C		1Q	
(U)	Began System Sustainment		1Q	
(U)	Begin AEHF Integration & Test			1Q