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

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2008

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

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

	Cost ($ in Millions)	FY 2007 Actual	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	43.998	19.091	12.422	13.201	12.096	11.255	6.532	Continuing	TBD
4811	Wideband Gapfiller	28.466	0.000	0.000	0.000	0.000	0.000	0.000	0.000	314.976
4870	Command & Control System Consolidated (CCSC)	15.532	19.091	12.422	13.201	12.096	11.255	6.532	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The Wideband Global SATCOM (WGS) System, previously known as Wideband Gapfiller Satellites, 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 the 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 WGS satellites will augment the DoD's Defense Satellite Communications Systems (DSCS) 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.

The first WGS successfuly launched on 10 Oct 07, the second satellite launch is scheduled for Jul 08, and the third satellite launch is scheduled for Nov 08.

Satellites 4 and 5 will have slight modifications to better support the Airborne Intelligence, Surveillance and Reconnaissance mission. Launches for satellites 4-5 are scheduled for FY12, Oct 11 and Apr 12 respectively. Satellite 4 launch has been delayed from FY11 to FY12 due to the FY09 WGS 4 booster buy being reprogrammed to FY10.

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, as well as technology needs forecasting, to control all emerging and legacy MILSATCOM systems to include Milstar, 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, because it supports component development and prototyping for Wideband MILSATCOM

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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 2007	FY 2008	FY 2009
(U)	Previous President's Budget	37.530	19.213	12.606
(U)	Current PBR/President's Budget	43.998	19.091	12.422
(U)	Total Adjustments	6.468		
(U)	Congressional Program Reductions			
	Congressional Rescissions		-0.122	
	Congressional Increases			
	Reprogrammings	6.468		
	SBIR/STTR Transfer			

(U) Significant Program Changes:

FY07: Funds reprogrammed to CCS-C to provide critical capability to launch WGS 1-2

Exhibit R-2a, RDT&E Project Justification			DATE: February 2008
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 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4811 Wideband Gapfiller	28.466	0.000	0.000	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 Global SATCOM (WGS) System, previously known as Wideband Gapfiller Satellites, 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 the 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 WGS 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.

The first WGS successfully launched on 10 October 2007, the second satellite launch is scheduled for July 2008, and the third satellite launch is scheduled for November 2008.

Satellites 4 and 5 will have slight modifications to better support the Airborne Intelligence, Surveillance and Reconnaissance mission. Launches for satellites 4-5 are scheduled for FY12, October 2011 and April 2012 respectively. Satellite 4 launch has been delayed from FY11 to FY12 due to the FY09 WGS 4 booster buy being reprogrammed to FY10.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2007	FY 2008	FY 2009
(U) Perform efforts such as payload/production studies (e.g., related to parts obsolescence), integration, tests, and support development of WGS control system	2.442		
(U) Provide Program Office Support	0.629		
(U) Perform parts obsolescence redesign for satellites 4 and 5, non-recurring engineering and other related activities	25.395		
(U) Total Cost	28.466	0.000	0.000

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

	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
(U) MPAF, PE 0303600F, WGS, P-19,20	412.498	322.334	22.492	40.419	43.705	29.601	23.898	Continuing	TBD
(U) OPAF, PE 0303600F, WGS PIPs	0.000	0.000	0.000	1.701	1.701	0.000	0.000	0.000	30.166
(U) OPAF, PE 0303600F, CCS-C	0.000	0.531	0.000	0.000	0.000	0.000	0.000	0.000	17.667

Exhibit R-2a, RDT&E Project Justification		DATE February 2008
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) 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 November 2000 and awarded a FFP contract in January 2001 (three satellites and options for an additional three). Options for satellites 4-6 were not exercised prior to the 31 December 2003 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 approved. Not to exceed letter contract was awarded for satellites 4 and 5 (with unfunded priced option for 6th satellite) in 2nd Qtr FY06. The contract definitized on 17 October 2006.

All five satellites are 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 2008**

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 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
Parts Obsolescence Redesign	FPIF	Boeing, El Segundo CA	66.342	25.395	Dec-06						91.737	
WGS Satellite EMD (satellites 1-3)	FFP	Boeing, El Segundo CA	143.013								143.013	
UAV Bypass NRE	FFP	Boeing, El Segundo CA	14.000								14.000	
Payload/Production Studies	Various	Various	28.495	2.442	Dec-06						30.937	
Subtotal Product Development			251.850	27.837		0.000		0.000		0.000	279.687	0.000
Remarks:												
(U) Support												
Joint Terminals Engineering Office	PR	McLean, VA	6.618								6.618	
Pre-EMD	Form 277	Various	5.579								5.579	
Program Support	Various	Various	9.763	0.629	Jan-07						10.392	
Subtotal Support			21.960	0.629		0.000		0.000		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			273.810	28.466		0.000		0.000		0.000	302.276	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2008
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

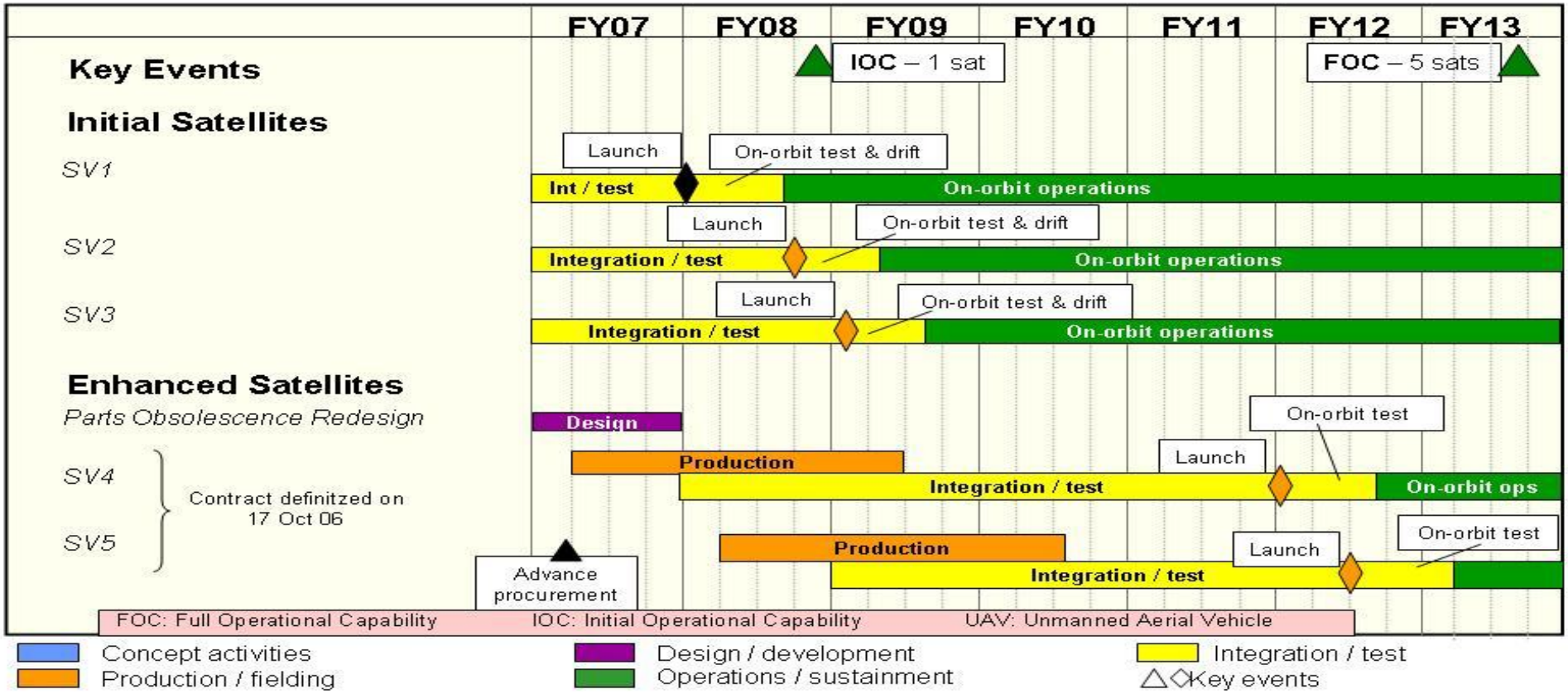

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2008
BUDGET ACTIVITY **04 Advanced Component Development and Prototypes (ACD&P)**	PE NUMBER AND TITLE **0603854F Wideband MILSATCOM (Space)**	PROJECT NUMBER AND TITLE **4811 Wideband Gapfiller**

(U) Schedule Profile	FY 2007	FY 2008	FY 2009
(U) Complete parts obsolescence redesign	4Q		

Exhibit R-2a, RDT&E Project Justification			DATE: February 2008
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 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4870	Command & Control System Consolidated (CCSC)	15.532	19.091	12.422	13.201	12.096	11.255	6.532	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 Global SATCOM (WGS), and Advanced Extremely High Frequency (AEHF), at reduced operating and maintenance costs.

FY09 funds provide required command and control capability to launch AEHF satellites.

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 2007	FY 2008	FY 2009
(U) Continue development of command and control functionality for WGS and AEHF satellites. Completed command and control functionality Milstar (1QFY06)	13.063	16.780	9.951
(U) Continue Program Office and other related support activities, to include Systems Engineering and Integration	2.469	2.311	2.471
(U) Total Cost	15.532	19.091	12.422

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

	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
(U) Other APPN									
(U) OPAF, PE 0303600F, CCS-C	0.000	0.531	0.000	0.000	0.000	0.000	0.000	0.000	17.667

(U) D. Acquisition Strategy

Competitive contracts with cost plus award fee options, were awarded in February 2001 to two teams to demonstrate capabilities for the concept demonstration phase. A downselect to a single team was awarded in March 2002 to develop the system for the development phase.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
04 Advanced Component Development and Prototypes (ACD&P)	**0603854F Wideband MILSATCOM (Space)**	**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 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 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	87.419	13.063	Oct-06	16.780	Oct-07	9.951	Oct-08	Continuing	TBD	
Subtotal Product Development			94.219	13.063		16.780		9.951		Continuing	TBD	0.000
Remarks:												
(U) Support												
CCSC Program Support Cost			18.059	2.469	Oct-06	2.311	Oct-07	2.471	Oct-08	Continuing	TBD	
Subtotal Support			18.059	2.469		2.311		2.471		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			112.278	15.532		19.091		12.422		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2008
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)

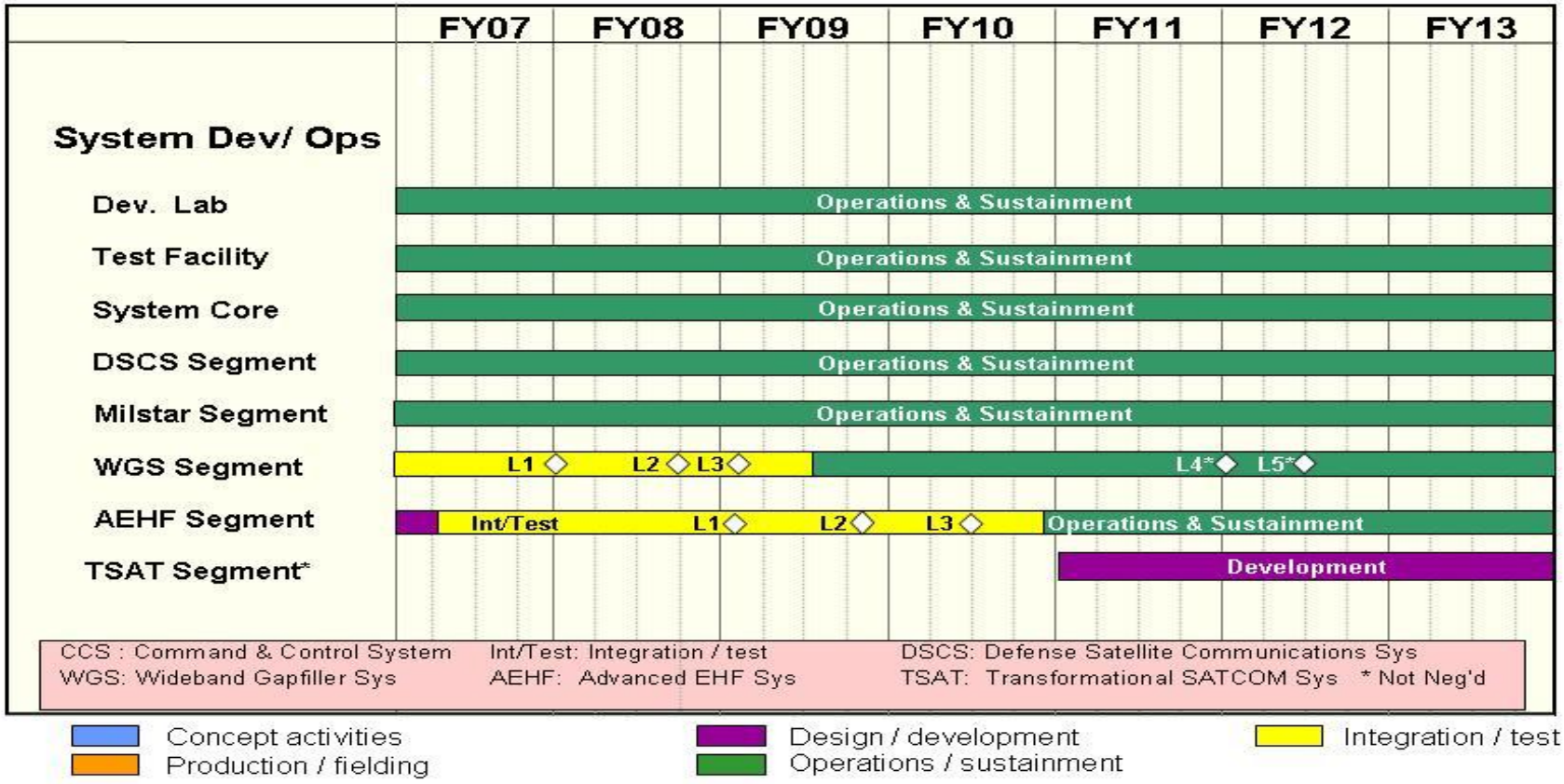

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2008
BUDGET ACTIVITY **04 Advanced Component Development and Prototypes (ACD&P)**	PE NUMBER AND TITLE **0603854F Wideband MILSATCOM (Space)**	PROJECT NUMBER AND TITLE **4870 Command & Control System Consolidated (CCSC)**

(U) Schedule Profile	FY 2007	FY 2008	FY 2009
(U) Continue WGS Integration & Test	1-4Q		
(U) Began AEHF Integration & Test	2Q		
(U) Continue WGS Integration & Test		1-4Q	
(U) Continue AEHF Integration & Test		1-4Q	
(U) Transition WGS into Sustainment			1Q
(U) Continue AEHF Integration & Test			1Q