PE NUMBER: 0603430F
PE TITLE: Advanced (EHF 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: 0603430F Advanced (EHF 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	607.254	655.779	633.258	429.268	227.743	83.767	70.118	Continuing	TBD
4050 Advanced MILSATCOM	607.254	655.779	633.258	429.268	227.743	83.767	70.118	Continuing	TBD

Beginning FY06, the Exhibit R-2a, Planned Program shows FFRDC funding breakout in an effort to better define program support efforts.

(U) A. Mission Description and Budget Item Justification

Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighter. AEHF satellites will replenish the existing EHF system (Milstar) at much higher capacity and data rate capabilities. On 10 October 2001, a Milestone B decision was approved by the Defense Acquisition Executive to enter the System Development and Demonstration (SDD) phase. The SDD letter contract was awarded in Nov 01 and was definitized in Aug 02. The program is a sole source acquisition to a contractor team comprised of Lockheed Martin (prime/integrator) and Northrop-Grumman (provider of satellite payload). The follow-on buy for Satellite Vehicle 3 was approved in Jun 04 and awarded on 12 Jan 06. Satellites 1 and 2 are funded with RDT&E funds and satellite 3 is funded with procurement funds. An Interim Program Review was held 22 Oct 04 to decide if a fourth AEHF satellite would be added to the program in the FY06 President's Budget to meet Full Operational Capability (FOC). At that time, the Milestone Decision Authority (MDA) decided to maintain the AEHF and Transformational Satellite Communications System (TSAT) baselines, achieving AEHF FOC-equivalency with the first TSAT. The Department of Defense in its Quadrennial Defense Review reaffirmed the decision to buy three AEHF satellites and use the first TSAT satellite to complete the Extended Data Rate (XDR) ring. AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and The Netherlands).

This program is in Budget Activity 4, Advanced Component Development and Prototypes, since it funds Advanced EHF technology validation and modeling.

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

		FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	606.659	665.257	631.991
(U)	Current PBR/President's Budget	607.254	655.779	633.258
(U)	Total Adjustments	0.595	-9.478	
(U)	Congressional Program Reductions	-0.465		
	Congressional Rescissions		-9.478	
	Congressional Increases			
	Reprogrammings	17.924		
	SBIR/STTR Transfer	-16.864		
(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: 0603430F Advanced (EHF MILSATCOM (Space)

PROJECT NUMBER AND TITLE: 4050 Advanced MILSATCOM

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
4050 Advanced MILSATCOM	607.254	655.779	633.258	429.268	227.743	83.767	70.118	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighter. AEHF satellites will replenish the existing EHF system (Milstar) at much higher capacity and data rate capabilities. On 10 October 2001, a Milestone B decision was approved by the Defense Acquisition Executive to enter the System Development and Demonstration (SDD) phase. The SDD letter contract was awarded in Nov 01 and was definitized in Aug 02. The program is a sole source acquisition to a contractor team comprised of Lockheed Martin (prime/integrator) and Northrop-Grumman (provider of satellite payload). The follow-on buy for Satellite Vehicle 3 was approved in Jun 04 and awarded on 12 Jan 06. Satellites 1 and 2 are funded with RDT&E funds and satellite 3 is funded with procurement funds. An Interim Program Review was held 22 Oct 04 to decide if a fourth AEHF satellite would be added to the program in the FY06 President's Budget to meet Full Operational Capability (FOC). At that time, the Milestone Decision Authority (MDA) decided to maintain the AEHF and Transformational Satellite Communications System (TSAT) baselines, achieving AEHF FOC-equivalency with the first TSAT. The Department of Defense in its Quadrennial Defense Review reaffirmed the decision to buy three AEHF satellites and use the first TSAT satellite to complete the Extended Data Rate (XDR) ring. AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and The Netherlands).

This program is in Budget Activity 4, Advanced Component Development and Prototypes, since it funds Advanced EHF technology validation and modeling.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Continue SDD of the AEHF satellites and MCS, continue build of Satellite 1 and 2 flight hardware, and intermediate software increments for bus, payload and MCS	519.972	548.345	532.703
(U) Continue satellite cryptographic development	34.888	40.199	31.566
(U) Continue qualification and productization of radiation-hardened components for USAF/DOD space programs	21.000	20.000	21.000
(U) Government Furnished Property (e.g., Launch Prep, Radiation Hardening Testing, Communication Circuit)		5.005	4.352
(U) Continue Technical Support		23.606	23.241
(U) Continue Program Office and related support activities	31.394	18.624	20.396
(U) Total Cost	607.254	655.779	633.258

(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) Related Proc:									
(U) MPAF, PE 0303604F, Advanced	78.226	521.147	0.000	12.233	15.808	16.677	17.796	0.000	661.887

Exhibit R-2a, RDT&E Project Justification			DATE: February 2006
BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE: 0603430F Advanced (EHF MILSATCOM (Space)	PROJECT NUMBER AND TITLE: 4050 Advanced MILSATCOM	

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

	EHF, P-17/18									
(U)	RDT&E, PE 0603854F, Wideband MILSATCOM (Space), Project #644870, CCS-C, R-52	22.550	3.627	6.659	5.186	5.728	5.809	6.286	Continuing	TBD
(U)	OPAF, PE 03033600F Wideband Gapfiller System, Project #836780, CCS-C	3.328	0.286	0.000	0.000	0.000	0.000	0.000	0.000	17.137
(U)	RDT&E, PE 0303601F, MILSATCOM Terminals, BA-7, R-175	245.582	269.218	271.562	187.419	215.910	192.994	188.437	Continuing	TBD

(U) D. Acquisition Strategy

The Advanced MILSATCOM, also known as Advanced EHF (AEHF), program is a sole source acquisition to a contractor team comprised of Lockheed Martin (prime/integrator) and Northrop-Grumman (provider of the satellite payload). This team will perform the Advanced Component Development and Prototypes (ACD&P) and SDD of three satellites and associated mission command and control ground capabilities under Cost Plus Award Fee line items on the contract. AEHF will incorporate lessons learned and improvements from Milstar and commercial SATCOM practices into the next generation EHF secure, anti-jam military communications satellite system.

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: **0603430F Advanced (EHF MILSATCOM (Space)**

PROJECT NUMBER AND TITLE: **4050 Advanced MILSATCOM**

(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												
NSA	MIPR	Camden, NJ	140.782	34.888	Oct-04	40.199	Feb-06	31.566	Nov-06	0.000	247.435	
JTEO	PR	San Diego, CA	15.491							0.000	15.491	
MIT/LL	MIPR	Hanscom AFB, MA	4.988							0.000	4.988	
Hughes	CPFF	El Segundo, CA	67.175							0.000	67.175	
TRW	CPFF	Redondo Beach, CA	62.083							0.000	62.083	
Various	Various		66.659							0.000	66.659	
Lockheed Martin (Pre-EMD)	FFP	Sunnyvale, CA	225.011							0.000	225.011	
Hughes	FFP	El Segundo, CA								0.000	0.000	
SDD Contractor (Lockheed Martin)	CPAF		1,811.823	519.972	Oct-04	548.345	Nov-05	532.703	Nov-06	Continuing	TBD	
Radiation Hardened parts developers	Various		38.000	21.000		20.000		21.000		84.205	184.205	
None											0.000	
Subtotal Product Development			2,432.012	575.860		608.544		585.269		Continuing	TBD	0.000
Remarks:												
(U) Support												
Various	Various		123.696							Continuing	TBD	
Technical Support						23.606	Oct-05	23.241	Oct-06	Continuing	TBD	
GFP						5.005		4.352		Continuing	TBD	
Program Office Support				31.394	Oct-04	18.624		20.396		Continuing	TBD	
Subtotal Support			123.696	31.394		47.235		47.989		Continuing	TBD	0.000
Remarks:												
(U) Test & Evaluation												
AFOTEC			0.000							Continuing	TBD	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		Continuing	TBD	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			2,555.708	607.254		655.779		633.258		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 **0603430F Advanced (EHF MILSATCOM (Space)**	PROJECT NUMBER AND TITLE **4050 Advanced MILSATCOM**

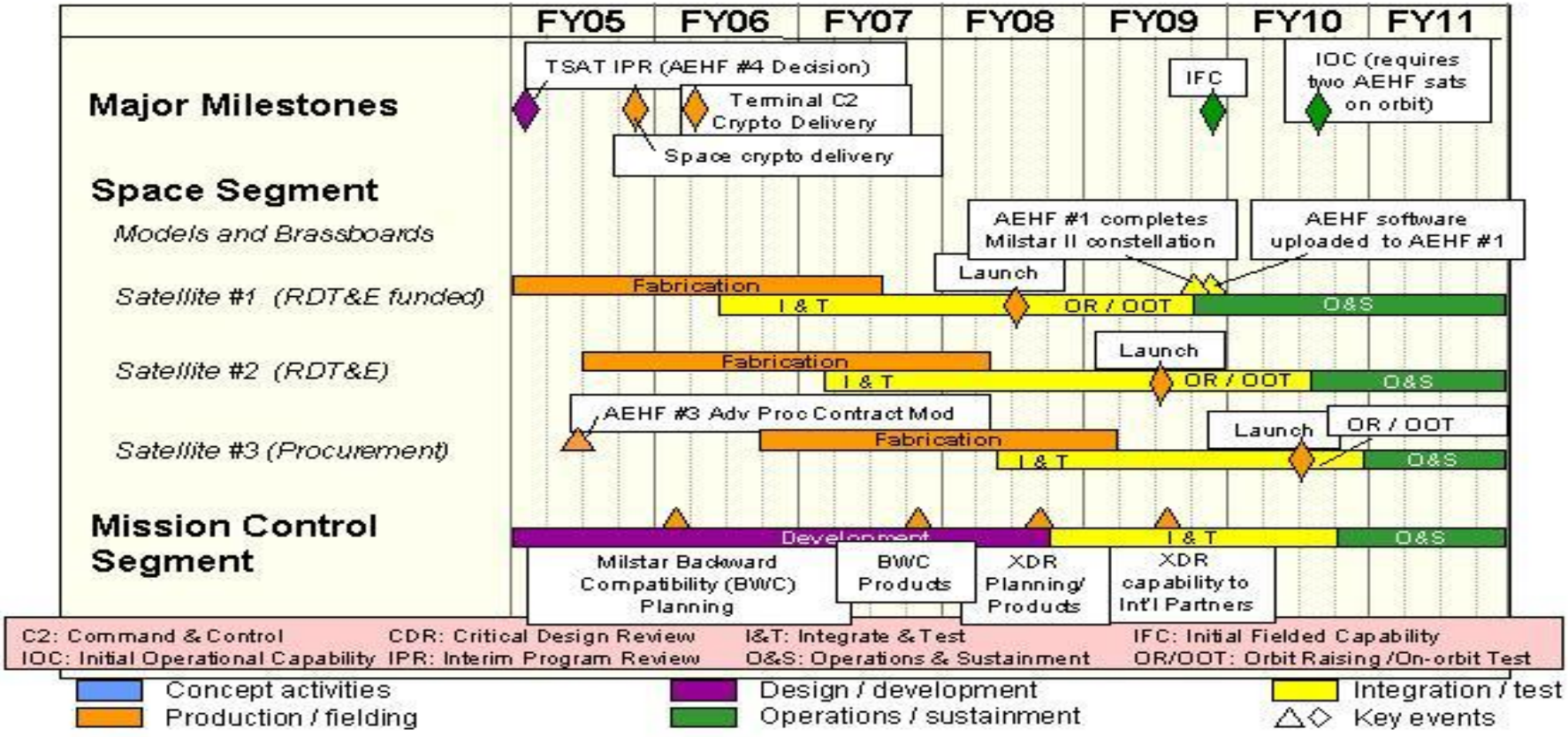

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **04 Advanced Component Development and Prototypes (ACD&P)**	PE NUMBER AND TITLE **0603430F Advanced (EHF MILSATCOM (Space)**	PROJECT NUMBER AND TITLE **4050 Advanced MILSATCOM**

	Schedule Profile	FY 2005	FY 2006	FY 2007
(U)	Interim Program Review	1Q		
(U)	Completed Ground Segment Software Increment 3 (World-wide Planning for Resource Allocation of 5 Milstar payloads and 1st AEHF Comm Payload)		1Q	
(U)	Complete Ground Segment Software Increment 4 (World-wide Flight and Payload Control of 5 Milstar satellites and 1 AEHF satellite)			4Q
(U)	Payload delivery for integration onto Space Vehicle			2Q