

UNCLASSIFIED

PE NUMBER: 0603430F
 PE TITLE: Advanced (EHF MILSATCOM (Space))

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2004	
BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603430F Advanced (EHF MILSATCOM (Space))					
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	802.648	802.341	612.049	409.972	316.777	189.477	131.102	Continuing	TBD
4050 Advanced MILSATCOM	802.648	802.341	612.049	409.972	316.777	189.477	131.102	Continuing	TBD

(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. Additionally, this program focuses on leveraging commercial technology to the maximum extent possible. 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 decision for Satellite 3 will be in 4th Qtr FY04. Satellites 1 and 2 are funded with RDT&E funds and satellite 3 is funded with procurement funds. A program Interim Progress Review is scheduled for Nov 04 to decide if a fourth AEHF satellite will be required to be added to the program. AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and The Netherlands) and is part of the DoD bid to provide NATO with a protected SATCOM capability.

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

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	822.477	778.078	573.652
(U) Current PBR/President's Budget	802.648	802.341	612.049
(U) Total Adjustments	-19.829	24.263	
(U) Congressional Program Reductions		-10.737	
Congressional Rescissions			
Congressional Increases		35.000	
Reprogrammings	-6.499		
SBIR/STTR Transfer	-13.330		

(U) Significant Program Changes:

FY04: Congress added \$35M for production gap between satellites 2 and 3
 FY05: Increased funding \$40M due to production gap and revised crypto costs

Exhibit R-2a, RDT&E Project Justification

DATE
February 2004

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 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total	
4050 Advanced MILSATCOM	802.648	802.341	612.049	409.972	316.777	189.477	131.102	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	1	1	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. Additionally, this program focuses on leveraging commercial technology to the maximum extent possible. 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 decision for Satellite 3 will be in 4th Qtr FY04. Satellites 1 and 2 are funded with RDT&E funds and satellite 3 is funded with procurement funds. A program Interim Progress Review is scheduled for Nov 04 to decide if a fourth AEHF satellite will be required to be added to the program. AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and The Netherlands) and is part of the DoD bid to provide NATO with a protected SATCOM capability.

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

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishment/Planned Program			
(U) Continued SDD of the AEHF satellites and Mission Control System (MCS), continue build of satellite engineering development models and brassboards, and complete initial software increments for bus, payload and MCS	706.200		
(U) Continued SDD of the AEHF satellites and MCS, begin build of Satellite 1 and 2 flight hardware, and begin intermediate software increments for bus, payload and MCS		711.941	
(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			549.949
(U) Continue satellite cryptographic development	35.900	36.200	7.100
(U) Continued JTEO support (Starting in FY04, the JTEO effort transferred to PE 0303601F, MILSATCOM Terminals)	3.500		
(U) Continue qualification and productization of radiation-hardened components for USAF/DOD space programs	19.000	19.000	21.000
(U) Continue Program Office and related support activities	38.048	35.200	34.000
(U) Total Cost	802.648	802.341	612.049

Exhibit R-2a, RDT&E Project Justification

DATE

February 2004

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)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</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) Related Proc:									
(U) MPAF, PE 0303604F, Advanced EHF, P-28	0.000	0.000	98.590	392.244	0.000	11.811	15.142	16.043	533.830
(U) RDT&E, PE 0603854F, Wideband MILSATCOM (Space), Project #644870, CCS-C, R-51	13.801	36.271	20.297	8.269	6.999	5.701	6.357	Continuing	TBD
(U) OPAF, PE 03033600F									
(U) Wideband Gapfiller System, Project #836780, CCS-C	5.320	8.049	2.124	0.288	0.000	0.000	0.000	0.000	15.781
(U) RDT&E, PE 0303601F, MILSATCOM Terminals, BA-7, R-173	65.090	171.860	272.149	241.099	161.529	186.802	173.957	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 ACD&P 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis										DATE February 2004		
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)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total</u> Prior to FY 2003 Cost	<u>FY</u> 2003 Cost	<u>FY</u> 2003 Award Date	<u>FY</u> 2004 Cost	<u>FY</u> 2004 Award Date	<u>FY</u> 2005 Cost	<u>FY</u> 2005 Award Date	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
NSA	MIPR	Camden, NJ	68.682	35.900		36.200		7.100		0.000	147.882	
JTEO	PR	San Diego, CA	11.991	3.500						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	0.000	
SDD Contractor (Lockheed Martin)	CPAF		397.284	706.200		711.941		549.949		Continuing	TBD	
Radiation Hardened parts developers	Various		0.000	19.000		19.000		21.000		84.205	143.205	
None											0.000	
Subtotal Product Development			903.873	764.600		767.141		578.049		Continuing	TBD	0.000
Remarks:												
(U) <u>Support</u>												
Various	Various		50.448	38.048		35.200		34.000		Continuing	TBD	
None											0.000	
Subtotal Support			50.448	38.048		35.200		34.000		Continuing	TBD	0.000
Remarks:												
(U) <u>Test & Evaluation</u>												
None											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	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			954.321	802.648		802.341		612.049		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

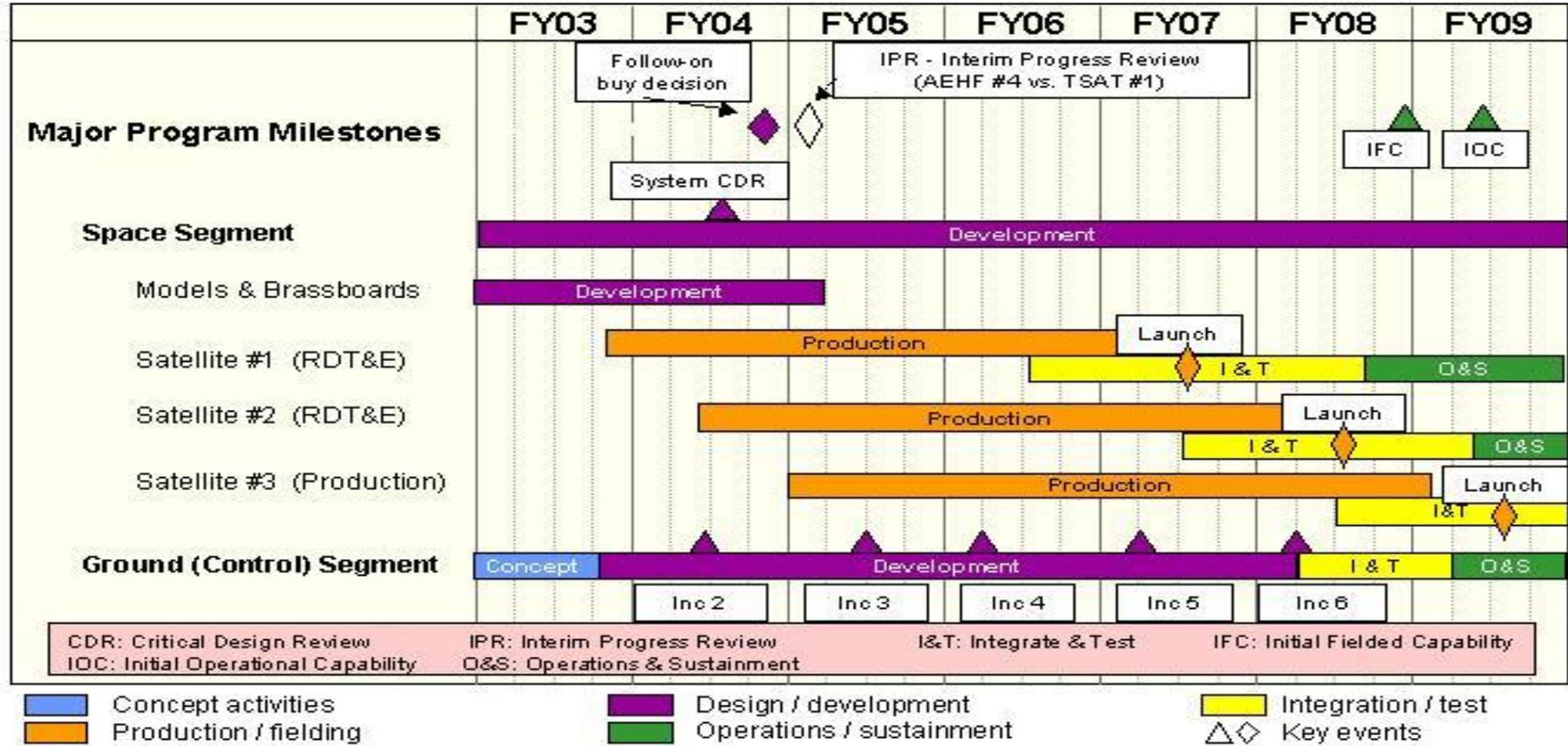
DATE

February 2004

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



UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2004
--	------------------------------

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>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <u>Schedule Profile</u>			
(U) System Critical Design Review (CDR)		3Q	
(U) Follow-On Buy Decision (previously referred to as Milestone C)		4Q	
(U) Interim Progress Review			1Q
(U) Mission Control Segment: first operational ground software delivery			4Q