

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2000			
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm				PROJECT 655010			
COST (\$ in Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost	
655010	Milstar Sat Comm Sys	513,960	357,235	236,841	135,781	72,790	1,452	1,449	0	9,562,236	
	Quantity of RDT&E Articles	1	1	1	1	0	0	0	0	6	
<p>(U) <u>A. Mission Description</u> Milstar is a joint service program to develop and acquire extremely high frequency (EHF) satellites; a satellite mission control segment; and new or modified Army, Navy, and Air Force communication terminals for survivable, jam-resistant, worldwide, secure communications to strategic and tactical warfighters. Milstar I Satellites 1 and 2 have a low data rate (LDR) payload that supports strategic and tactical forces with emphasis on highly survivable, minimum essential communications. Milstar II Satellites 3M-6 have both LDR and medium data rate (MDR) payloads with increased tactical capabilities, including higher data rates to mobile forces and 'nulling' that will neutralize close-in enemy jammers. (Satellite 3M was originally a Milstar I satellite, but was retrofitted with an MDR payload to function as a Milstar II satellite.) Satellite 3M was launched 30 April 1999 on a Titan IVB, but did not reach its proper orbit due to a Centaur upper stage failure. The Satellite was placed in its final non-interference orbit, shutdown and the mission ended on 10 May 1999. The Air Force is evaluating alternatives to mitigate constellation risk due to the loss of the Milstar 3 satellite. Milstar Terminals are funded under Program Element 0303601F.</p> <p>(U) <u>FY 1999 (\$ in Thousands)</u></p> <p>(U) \$426,847 Milstar II</p> <p>(U) \$0 Satellite 3M launch</p> <p>(U) \$0 Completed Satellite 4 integration and test</p> <p>(U) \$0 Completed satellite 5 LDR and MDR payload integration and test, and started satellite integration and test</p> <p>(U) \$0 Continued Satellite 6 LDR and MDR Payload and bus manufacturing</p> <p>(U) \$28,032 Milstar I/II Satellite Engineering</p> <p>(U) \$0 Satellites 3 and 4 technical launch and pre-launch support</p> <p>(U) \$0 Continued Satellites 1 and 2 on-orbit operations support</p> <p>(U) \$0 Continued LDR and MDR technical support</p> <p>(U) \$30,266 Automated Communications Management System (ACMS)</p> <p>(U) \$0 Completed software build 1, increment 3</p> <p>(U) \$0 Continued software build 2 development</p> <p>(U) \$28,815 Basic Program Office support</p> <p>(U) \$513,960 Total</p>											
Project 655010				Page 1 of 7 Pages				Exhibit R-2 (PE 0604479F)			

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
05 - Engineering and Manufacturing Development	0604479F MILSTAR LDR/MDR Sat Comm	February 2000 655010
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2000 (\$ in Thousands)</u>		
(U) \$283,723	Milstar II	
(U) \$0	Complete Satellite 4 delivery	
(U) \$0	Satellite 4 launch, perform on-orbit checkout and begin on-orbit testing	
(U) \$0	Complete Satellite 5 integration, test, and deliver	
(U) \$0	Complete satellite 6 LDR and MDR payload integration and test, and start satellite integration and test	
(U) \$27,000	Milstar I/II Satellite Engineering	
(U) \$0	Satellites 4 and 5 technical launch and pre-launch support	
(U) \$0	Continue Satellites 1, 2 and 4 on-orbit operations support	
(U) \$0	Continue LDR and MDR technical support	
(U) \$17,579	Automated Communications Management System (ACMS)	
(U) \$0	Continue software build 2 development	
(U) \$0	Continue maintenance of fielded software build 1	
(U) \$28,933	Basic Program Office support	
(U) \$357,235	Total	
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$170,401	Milstar II	
(U) \$0	Satellite 5 launch, perform on-orbit checkout and begin on-orbit testing	
(U) \$0	Complete Satellite 6 integration, test, and deliver	
(U) \$0	Continue Milstar component integration support	
(U) \$0	Implement ECPs as needed based on operational requirements	
(U) \$38,200	Milstar I/II Satellite Engineering	
(U) \$0	Satellites 5 and 6 technical launch and pre-launch support	
(U) \$0	Continue Satellites 1, 2, 4 and 5 on-orbit operations support	
(U) \$0	Continue LDR and MDR technical support	
(U) \$14,230	Automated Communications Management System (ACMS)	
(U) \$0	Continue software build 2 development	
(U) \$0	Continue maintenance of fielded software build 1	
(U) \$14,010	Basic Program Office support	
Project 655010	Page 2 of 7 Pages	Exhibit R-2 (PE 0604479F)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)			DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm			PROJECT 655010	
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2001 (\$ in Thousands) Continued</u>					
(U) \$236,841 Total					
(U) <u>B. Budget Activity Justification</u>					
This program is in Budget Activity 5, Engineering and Manufacturing Development since it funds Milstar II development.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>
(U)	Previous President's Budget (FY 2000 PBR)	546,509	361,308	225,757	9,500,914
(U)	Appropriated Value	550,940	362,808		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-4,431	-324		
	b. Small Business Innovative Research	-20,629			
	c. Omnibus or Other Above Threshold Reprogram		-2,422		
	d. Below Threshold Reprogram	-9,045			
	e. Rescissions	-2,875	-2,827		
	f. Other				
(U)	Adjustments to Budget Years Since FY 2000 PBR			11,084	
(U)	Current Budget Submit/FY 2001 PBR	513,960	357,235	236,841	9,562,236
Significant Program Changes:					
(U) <u>Significant Program Changes:</u>					
The funding increase in FY01 finances satellite sustaining engineering. FY99 reprogramming funded higher priority Air Force requirements. Funds were realigned from Milstar II to ACMS in FY01 due to ACMS Build 2 schedule slips. Flight 3 failure caused a schedule breach for MDR IOT&E and IOC II, and a performance breach of FOC. Program Deviation Report was sent to the Defense Acquisition Executive and final Acquisition Program Baseline update is being prepared.					
Project 655010		Page 3 of 7 Pages		Exhibit R-2 (PE 0604479F)	

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2000	
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm				PROJECT 655010	
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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) AF Wideband 3080 Procurement (CCS-C)	0	0	4,852	5,411	5,503	8,115	2,209	0	26,090
(U) AF Wideband 3600, PE 63854F, BPAC 836780 (CCS-C)	0	0	11,500	13,300	24,400	46,600	25,900	0	121,700
(U) Other Procurement, BP 83, Electronics and Telecommunications Equipment, Line Item P-69*									
(U) Related RDT&E:									
(U) PE 0303601F, MILSATCOM Terminals									
(U) PE 0603430F, Advanced MILSATCOM									
(U) PE 0604577N, EHF Satellite Communications									
(U) PE 0603432F, Polar Satellite Communications Program (Polar Adjunct)									
(U) E. Acquisition Strategy									
Lockheed Martin was awarded a sole source contract to develop 6 Milstar protected communication satellites. The first two LDR satellites were launched in FY94 and FY95. Satellite 3 launch in FY99 was to provide the first LDR/MDR on-orbit capability, but the satellite did not reach its proper orbit due to a Centaur upper stage failure. The last 3 LDR/MDR satellites 4-6 will be launched in FY00, 01, and 02.									
(U) F. Schedule Profile									
				<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
--	------------------------------

BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm	PROJECT 655010
--	---	--------------------------

(U) **F. Schedule Profile Continued**

	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Milstar II (LDR/MDR)												
(U) Complete Sat 3M Integ and Test		*										
(U) Deliver ACMS Build 1, Inc 2			*									
(U) Satellite 3M Launch			*									
(U) Satellite 4 Launch								X				
(U) MDR IOT&E						X						
(U) IOC II									X			
(U) Satellite 5 Launch												X
(U) Satellite 6 Launch - 3QFY02												
(U) FOC- 1QFY05												

*=completed event

x=planned event

Note: Current Milestones - Flight 3 failure caused a breach to the current MDR IOT&E, IOC II, and FOC milestones. Milestones will be up-dated when SAR is approved.

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000			
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm			PROJECT 655010			
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
						<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U)	Milstar II					426,847	283,723	170,401			
(U)	Milstar I/II Satellite Engineering					28,032	27,000	38,200			
(U)	Automated Communications Management System					30,266	17,579	14,230			
(U)	Basic Program Office Support					28,815	28,933	14,010			
(U)	Total					513,960	357,235	236,841			
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
	<u>Contractor or</u>	<u>Contract</u>									
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	
	<u>Product Development Organizations</u>									<u>Total</u>	
	LMSC (Milstar I) Sats	C/CPAF	Jun 83	2,181,587	2,818,587	4,727,752	0	0	0	0	4,727,752
	1,2,3L]										
	LMSC (Milstar II) [Sats 3M,	SS/CPAF	Oct 92/Nov	3,774,361	3,774,361	2,892,786	396,248	259,423	152,009	73,383	3,773,849
	4, 5, 6]		94								
	LMSC (Satellite Engineering)	SS/CPAF	Sep 97	210,783	210,783	27,222	28,032	27,000	38,200	89,230	209,684
	SPAWAR(ACMS)	SS/MIPR	Various			75,382	30,266	17,579	14,230	8,326	145,783
	LINCOM	SS/CPAF	Various			22,814	4,055	4,084	1,721	3,133	35,807
	Lincoln Lab	SS/MIPR	Various			24,489	2,680	2,550	2,050	4,000	35,769
	Miscellaneous	Various	Various			194,495	23,865	17,666	14,621	12,955	263,602
	<u>Support and Management Organizations</u>										
	Aerospace	SS/CPFF/AF	Various			134,559	20,882	20,025	10,297	16,743	202,506
	Miscellaneous	Various	Various			143,229	7,932	8,908	3,713	3,702	167,484
	<u>Test and Evaluation Organizations</u>										
	None.										

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	DATE February 2000
---	------------------------------

BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm	PROJECT 655010
--	---	--------------------------

(U) **Government Furnished Property:**

<u>Item</u> <u>Description</u>	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u> <u>Vehicle</u>	<u>Award or</u> <u>Obligation</u> <u>Date</u>	<u>Delivery</u> <u>Date</u>	<u>Total Prior</u> <u>to FY 1999</u>	<u>Budget</u> <u>FY 1999</u>	<u>Budget</u> <u>FY 2000</u>	<u>Budget</u> <u>FY 2001</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Product Development Property</u>									
None.									
<u>Support and Management Property</u>									
None.									
<u>Test and Evaluation Property</u>									
None.									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				7,964,940	485,146	328,302	222,831	191,027	9,192,246
Subtotal Support and Management				277,788	28,814	28,933	14,010	20,445	369,990
Subtotal Test and Evaluation									
Total Project				8,242,728	513,960	357,235	236,841	211,472	9,562,236