

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm					PROJECT 5010		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5010	Milstar Sat Comm Sys	226,391	147,787	1,383	1,384	0	0	0	0	0	9,703,353
Quantity of RDT&E Articles		1	1	0	0	0	0	0	0	0	6
<p>(U) <u>A. Mission Description</u></p> <p>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 war fighters. 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 3 through 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 3 did not reach its proper orbit and the satellite was placed in its final non-interference orbit and shutdown. Milstar satellite 4 was launched successfully on 27 February 2001 and satellite 5 was launched successfully on 15 January 2002. Milstar satellite 6 is scheduled to launch in Feb 2003. Milstar Terminals are funded under Program Element 0303601F.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishment/Planned Program</p> <p>(U) \$146,529 Milstar II contract effort included Satellites 5 launch and on-orbit checkout and testing. Completed Satellite 6 factory test and integration. Also continued component integration support (including Mission Control System service life extension) and implementation of ECPs as operationally required.</p> <p>(U) \$47,104 Milstar I/II Satellite Engineering contract effort included launch/ pre-launch technical support for Satellites 5 and maintains constellation availability for Satellites 1, 2, 4 and 5. Flight 5 introduced two new technologies to Military Satellite Communications (Satellites in a ring around the globe and the addition of multi-satellite MDR processors) that resulted in a higher level of performance as well as higher constellation support costs.</p> <p>(U) \$17,926 Communications Planning Element included software development and maintenance. Automated Communications Management System (ACMS) development, testing, training and certification Mission Communications Planning Tool (MCPT) maintenance</p> <p>(U) \$4,600 Joint Integrated SATCOM Technology (JIST) development</p> <p>(U) \$10,232 Basic Program Office support</p> <p>(U) \$226,391 Total</p>											
Project 5010				Page 1 of 6 Pages				Exhibit R-2 (PE 0604479F)			

UNCLASSIFIED

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

DATE

February 2003

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

05 - System Development and Demonstration (SDD)**0604479F MILSTAR LDR/MDR Sat Comm****5010**(U) **A. Mission Description Continued**(U) **FY 2003 (\$ in Thousands)**

(U) \$0 Accomplishment/Planned Program

(U) \$77,026 Milstar II contract effort includes Satellite 6 launch and on-orbit checkout and testing. Also continue component integration support (including Mission Control System service life extension) and implementation of ECPs as operationally required. Conducting Milstar MOT&E to meet IOC II.

(U) \$48,728 Milstar I/II Satellite Engineering contract effort includes launch/ pre-launch technical support for Satellite 6; and maintains constellation availability for Satellites 1, 2, 4, 5 and 6. The constellation's increasing complexities in code and amounts of processors drives the importance of maintaining this line item.
Note: This effort transitions to 3400 in FY04.

(U) \$8,439 Communications Planning Element

(U) \$5,600 Joint Integrated SATCOM Technology (JIST) development

(U) \$7,994 Program Office Support

(U) \$147,787 Total

(U) **FY 2004 (\$ in Thousands)**

(U) \$0 Accomplishment/Planned Program

(U) \$1,134 Milstar II contract effort includes contract close out and the disposal of GFP

(U) \$249 Continued Program Office and other related support activities

(U) \$1,383 Total

(U) **B. Budget Activity Justification**

This program is in Budget Activity 5, System Development and Demonstration since it funds Milstar II development.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	228,722	148,936	1,415	9,706,890
(U) Appropriated Value	232,184	150,536		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-4,561	-2,104		
b. Small Business Innovative Research	-8,000			

Project 5010

Page 2 of 6 Pages

Exhibit R-2 (PE 0604479F)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604479F MILSTAR LDR/MDR Sat Comm				5010			
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>											
				<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>			
								<u>Total Cost</u>			
c. Omnibus or Other Above Threshold Reprogram						-645					
d. Below Threshold Reprogram				6,768							
e. Rescissions											
(U) Adjustments to Budget Years Since FY 2003 PBR								-32			
(U) Current Budget Submit/FY 2004 PBR				226,391		147,787		1,383			
								9,703,353			
(U) <u>Significant Program Changes:</u>											
Flight 5 introduced 2 new technologies to MILSATCOM (Satellites in a ring around the globe and the addition of multi-satellite MDR processors) that greatly improve communication services to the warfighter. Flight 3 failure caused an Acquisition Program Baseline 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 was signed on 1 May 02.											
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>											
				<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>			
				<u>Actual</u>		<u>Estimate</u>		<u>Estimate</u>		<u>Total Cost</u>	
(U) Other APPN											
(U) OPAF, PE 0303600F						21,476		19,973		2,135	
Wideband Gapfiller System,										289	
Project #836780, CCS-C										0	
(U) Related RDT&E:											
(U) RDT&E - AF, PE				16,543		11,836		36,686		20,350	
0603854F, Wideband										8,292	
Gapfiller System, Project #										7,013	
644870, CCS-C, BA-4, R-53										5,704	
(U) RDT&E - AF, PE				38,751		71,293		173,831		241,906	
0303601F, MILSATCOM										238,037	
Terminals, BA-7, R-174										174,566	
(U) RDT&E - AF, PE				459,631		822,477		778,078		573,652	
0603430F, Advanced EHF										402,398	
MILSATCOM, BA-4, R-43										317,428	
										189,563	
										229,486	
										142,100	
										4,310,915	
Project 5010											

UNCLASSIFIED

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

DATE

February 2003

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

05 - System Development and Demonstration (SDD)**0604479F MILSTAR LDR/MDR Sat Comm****5010**(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2002</u>	<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>Estimate</u>	<u>Complete</u>	
(U) RDT&E - AF, PE 0603432F, Polar Satellite Communications Program (Polar Adjunct), BA-4, R-40	21,380	19,347	5,580	963					0	297,572

(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. Satellite 4 was launched successfully on 27 February 2001 and Satellite 5 was launched successfully on 15 January 2002. The last LDR/MDR Satellite 6 is scheduled to be launched in February 2003.

(U) **F. Schedule Profile**

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Deliver ACMS Build 2, Inc 1					*							
(U) Deliver ACMS Build 2, Inc 2									X			
(U) MDR IOT&E						X						
(U) IOC II									X			
(U) Satellite 5 Launch		*										
(U) Satellite 6 Launch						X						
(U) FOC has been replaced by FFC in current APB - 3Q FY05												

*=completed event X=planned event

Note: MDR IOT&E, IOC II, and FOC milestones have been established in the current APB, signed 1 May 02.

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)					0604479F MILSTAR LDR/MDR Sat Comm				5010		
(U) A. Project Cost Breakdown (\$ in Thousands)											
					FY 2002		FY 2003		FY 2004		
(U)	Milstar II				146,529		77,026		1,134		
(U)	Milstar I/II Satellite Engineering				47,104		48,728		0		
(U)	Communications Planning Element				17,926		8,439		0		
(U)	Joint Integrated SATCOM Technology (JIST)				4,600		5,600				
(U)	Basic Program Office Support				10,232		7,994		249		
(U)	Total				226,391		147,787		1,383		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government</u>		<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>		<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
LMSC (Milstar I) Sats		C/CPAF	Jun 83	4,727,752	4,727,752	4,727,752				0	4,727,752
1,2,3L]											
LMSC (Milstar II) [Sats 3M,		SS/CPAF	Oct 92/Nov 94	3,888,349	3,888,349	3,680,922	131,781	74,464	1,134	48	3,888,349
4, 5, 6]											
LMSC (Satellite Engineering)		SS/CPAF	Sep 97	210,195	210,195	114,363	47,104	48,728		0	210,195
SPAWAR(ACMS)		SS/MIPR	Various	N/A	173,845	142,880	22,526	8,439		0	173,845
LINCOM		SS/CPAF	Various	N/A	38,926	33,249	3,911	1,766		0	38,926
Lincoln Lab		SS/MIPR	Various	N/A	34,802	31,235	2,000	1,567		0	34,802
Miscellaneous		Various	Various	N/A	262,811	249,145	8,837	4,829		0	262,811
<u>Support and Management Organizations</u>											
Aerospace		SS/CPFF/AF	Various	203,715	203,715	187,143	9,126	7,446			203,715
Miscellaneous		Various	Various	162,958	162,958	159,719	1,106	548	249	1,336	162,958
<u>Test and Evaluation Organizations</u>											
None.											
Project 5010					Page 5 of 6 Pages			Exhibit R-3 (PE 0604479F)			

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)				0604479F MILSTAR LDR/MDR Sat Comm			5010		
(U) <u>Government Furnished Property:</u>									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</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 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				8,979,546	216,159	139,793	1,134	48	9,336,680
Subtotal Support and Management				346,862	10,232	7,994	249	1,336	366,673
Subtotal Test and Evaluation									
Total Project				9,326,408	226,391	147,787	1,383	1,384	9,703,353

Project 5010

Page 6 of 6 Pages

Exhibit R-3 (PE 0604479F)

Project 5010

Page 6 of 6 Pages

Exhibit R-3 (PE 0604479F)