

**UNCLASSIFIED**

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2000		
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0305160F Defense Meteorological Satellite Program</b>				PROJECT <b>674758</b>	
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
674758 DMSP Program	19,983	21,207	25,372	14,934	11,882	11,131	11,396	22,057	955,279
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>(U) <b><u>A. Mission Description</u></b>                      The Defense Meteorological Satellite Program (DMSP) is a fully operational joint-service program supporting all military services. Operational commanders require timely, quality weather information to effectively employ weapon systems and protect DoD resources. DMSP is the DoD's most important and often the only source of global weather data. It provides visible and infrared cloud cover imagery (1/3 nm constant resolution) and other meteorological, oceanographic, and solar-geophysical information. This data is required over the entire earth to support global and theater military operations. At least two satellites are required in sun-synchronous, 450nm polar-orbit at all times (sun-synchronous means the satellites cross the equator at the same local sun time on each of their 14 orbits/day). Presidential Decision Directive PDD/NSTC-2 directed convergence of DMSP with the National Oceanic and Atmospheric Administration's (NOAA) polar-orbiting weather satellite system. A key step towards full program convergence was achieved in FY98 when DMSP satellite operations consolidated with NOAA satellite operations at NOAA's Suitland, MD, Satellite Operations Control Center (SOCC). DMSP F-15 was launched on a Titan-II booster in Dec 99. DMSP F-16 will be the last DMSP to launch on a Titan-II booster and is currently scheduled to launch in the Fall of 2000. The remaining DMSPs, F-17 through F-20, are all manifested to launch on the new Evolved Expendable Launch Vehicle (EELV) booster.</p>									
<p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b></p>									
(U) \$12,593	Continued system integration and test, miscellaneous calibration and validation, and related support activities								
(U) \$1,195	Continued Titan II integration effort (transition from Atlas E due to inventory depletion)								
(U) \$1,910	Began EELV interface design (transition to EELV)								
(U) \$505	Began Small Tactical Terminal (field portable weather terminal) Special Sensor Microwave Imager/ Sounder (SSMIS) software upgrades								
(U) \$565	Completed Mark IVB tactical weather terminal software upgrade for the next block of satellites (5D-3)								
(U) \$3,215	Began integration studies & test analysis to retrofit DMSP satellites with Solid State Recorders (SSRs)								
(U) \$19,983	Total								
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(U)	<b><u>A. Mission Description Continued</u></b>			
(U)	<u>FY 2000 (\$ in Thousands)</u>			
(U)	\$13,311	Continue system integration and test, and related support activities		
(U)	\$1,288	Continue Titan II integration effort (transition from Atlas E due to inventory depletion)		
(U)	\$4,472	Continue EELV interface design (transition to EELV)		
(U)	\$636	Continue Small Tactical Terminal (field portable weather terminal) SSMIS software upgrades		
(U)	\$1,500	Begin SSMIS calibration and validation		
(U)	\$21,207	Total		
(U)	<u>FY 2001 (\$ in Thousands)</u>			
(U)	\$15,594	Continue system integration and test, and related support activities		
(U)	\$1,718	Continue launch vehicle integration effort		
(U)	\$1,682	Continue EELV interface design (transition to EELV)		
(U)	\$497	Continue Small Tactical Terminal (Field Portable Weather Terminal) SSMIS software upgrades		
(U)	\$2,881	Continue integration studies and test analysis to retrofit DMSP satellites with SSRs		
(U)	\$3,000	Continue SSMIS calibration and validation		
(U)	\$25,372	Total		
(U)	<b><u>B. Budget Activity Justification</u></b>			
	This program is in Budget Activity 7, Operational Systems Development, because it supports the current operational DMSP constellation.			
(U)	<b><u>C. Program Change Summary (\$ in Thousands)</u></b>			
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U)	Previous President's Budget (FY 2000 PBR)	17,397	21,535	25,938
(U)	Appropriated Value	17,932	21,535	
(U)	Adjustments to Appropriated Value			
	a. Congressional/General Reductions	-770	-45	-815
	b. Small Business Innovative Research	-517		-517
	c. Omnibus or Other Above Threshold Reprogram		-116	-116
	d. Below Threshold Reprogram	3,450		3,450
	e. Rescissions	-112	-167	-279
	f. Other			61,536
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BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0305160F Defense Meteorological Satellite Program</b>			PROJECT <b>674758</b>						
<b>(U) C. Program Change Summary (\$ in Thousands) Continued</b>													
			<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			<u>Total Cost</u>					
(U)	Adjustments to Budget Years Since FY 2000 PBR				-566								
(U)	Current Budget Submit/FY 2001 PBR		19,983	21,207	25,372			955,279					
<b>(U) Significant Program Changes:</b>													
Funding:													
FY99 adjusted: \$3,450 below threshold reprogramming for integration studies/analysis for solid state data recorders for DMSPs F-15 & F-16.													
FY01 adjusted: \$2,941 transferred to the Air Force Weather Agency for DMSP tactical terminals. \$2,375 added to fund solid state recorders.													
Total program costs increased due to definitization of outyear funding requirements.													
Schedule: None													
Technical: None													
<b>(U) D. Other Program Funding Summary (\$ in Thousands)</b>													
			<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>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>Cost to</u>			<u>Complete</u>
(U)	AF RDT&E												
(U)	Other APPN												
(U)	Missile Procurement/PE 0305160F (Budget Activity 5, Line Item P-27)		40,607	35,775	68,582	48,695	58,176	50,069	49,134	88,600			2,091,556
(U)	Other Procurement/PE 0305160F (Line Item P-63) FY01 and out funds transfered to PE 0305111F for DMSP tactical terminals. Related RDT&E: PE 0603434F, National Polar-orbiting Operational Environmental Satellite System (NPOESS) PE 0305160N, DMSP (provides funds for Navy unique studies)		12,215	1,823	0	0	0	0	0	0			264,491

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(U) **E. Acquisition Strategy**  
 Support and services contracts for the spacecraft, sensors, ground systems, and supporting software have been awarded to various contractors. No major milestone decisions remain. The program is focused on successful completion of current contracts and contractor support for spacecraft, sensors, and ground systems already procured.

(U) **F. Schedule Profile**

	<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) Small Tactical Terminal Deliveries Complete				*								
(U) 5D-3 Spacecraft Delivery (S-20)			*									
(U) Satellite Launches (F-15/F-16)					*				X			

\* = Completed event  
 X = Planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
<b>07 - Operational System Development</b>					<b>0305160F Defense Meteorological Satellite Program</b>			<b>674758</b>		
<b>(U) A. Project Cost Breakdown (\$ in Thousands)</b>										
					<u>FY 1999</u>		<u>FY 2000</u>			<u>FY 2001</u>
(U)	Launch Vehicle Transition*				2,145		5,432			3,400
(U)	Spacecraft Integration and Test#				6,880		3,984			9,701
(U)	Calibration/Validation^				84		1,500			3,109
(U)	Algorithm Development				954		1,025			1,001
(U)	MARK IVB/STT Enhancements				2,143		1,076			497
(U)	Systems Engineering Support				4,775		4,765			3,697
(U)	Program Management Support				3,002		3,425			3,967
(U)	Total				19,983		21,207			25,372
* Launch Vehicle Transition funding increases in FY00 due to critical studies & analysis required to integrate DMSP spacecraft to new EELV booster. Bulk of activity must be accomplished in FY00 to maintain integration and launch schedule for DMSP F-17.										
# Spacecraft Integration and Test funding increases in FY01 due to Special Sensor Microwave Imager/Sounder (SSMIS) and Solid State Recorder integration studies/analysis for DMSP F-17.										
^ Calibration/Validation funding increases in FY01 due to required Naval Research Laboratory calibration & validation of the first on-orbit SSMIS. DMSP F-16 scheduled to launch in early FY01 will carry the first SSMIS. Critical calibration/validation work is required to enable the new sensor to provide operationally useful data.										
<b>(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)</b>										
<b>(U) Performing Organizations:</b>										
<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 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Lockheed -Martin	SS/CPAF	Apr 92	3,764	3,764	3,764				0	3,764
Lockheed-Martin	SS/CPAF	May 97	29,631	29,631	321	1,504	4,714	6,339	16,455	29,333
Northrop-Grummn	SS/CPAF	May 95	5,926	5,926	1,615	3,896	0		0	5,511
TBD (OLS Sys Eng Spt)	TBD	Dec 00	750	750				150	600	750
Lockheed-Martin	C/CPAF	Oct 88	39,513	39,513	39,513				0	39,513
Harris	C/CPAF	Jun 94	8,329	8,329	5,551	1,533	1,133		0	8,217
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)									DATE February 2000	
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<b>07 - Operational System Development</b>					<b>0305160F Defense Meteorological Satellite Program</b>				<b>674758</b>	
<b>(U) Performing Organizations Continued:</b>										
<u>Product Development Organizations</u>										
Det 11/GSA	MIPR	Jan 97	2,986	2,986	2,421	565			0	2,986
SMC/CL (Titan)	PO	Oct 94	6,921	6,921	1,821	1,543	1,288	1,718	79	6,449
Aerojet	SS/CPAF	May 92	2,530	2,530	2,530				0	2,530
Aerojet	C/CPAF/FFP	Mar 89	85,979	85,979	85,979				0	85,979
Aerojet	SS/CPAF	May 98	5,321	5,321	786	1,006	1,089	1,121	4,499	8,501
Hughes	SS/CPFF	May 96	371	371	157	70	72	72	0	371
AFRL	MIPR/PD	Oct 95			4,055	570	1,144	2,825	3,406	12,000
NRL	MIPR/Various	Oct 95			5,231	1,306	2,984	4,494	12,220	26,235
APL	MIPR/Various	Oct 95			1,854	770	813	664	1,084	5,185
SMC (Det 3 SSSG/NPOESS)	FCA/MIPR	Dec 95			2,506				0	2,506
Sandia	MIPR/Various	Oct 96			200		420	200	1,950	2,770
Other	Various				2,343	373	123	125	525	3,489
Historical Satellite Blocks	Various				583,786					583,786
<u>Support and Management Organizations</u>										
FFRDC	MORD*	Oct 95			13,040	2,575	2,712	2,775	6,670	27,772
PRC/bd Systems	C/CPAF	Aug 95			4,522	1,270	1,290	922	3,874	11,878
Program Mgmt					12,563	3,002	3,425	3,967	20,500	43,457
Litigation Support					1,809				0	1,809
Other	Various	Jul 91			1,958				0	1,958
Historical Satellite Blocks	Various				38,530					38,530
*MORD - Miscellaneous Obligation/Reimbursement Document -a vehicle/method for committing and obligating funds. In this case the program office sends a letter to SMC/FM to commit & obligate the funds programmed for Aerospace support.										
<u>Test and Evaluation Organizations</u>										
NONE										

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(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				744,433	13,136	13,780	17,708	40,818	829,875
Subtotal Support and Management				72,422	6,847	7,427	7,664	31,044	125,404
Subtotal Test and Evaluation									
Total Project				816,855	19,983	21,207	25,372	71,862	955,279