

**UNCLASSIFIED**

PE NUMBER: 0305160F  
 PE TITLE: Defense Meteorological Satellite Program

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	DATE <b>February 2008</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0305160F Defense Meteorological Satellite Program</b>
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.936	0.000	0.000	0.000	0.000	0.000	0.000	0.000	912.077
4758 DMSP Program	0.936	0.000	0.000	0.000	0.000	0.000	0.000	0.000	912.077

**(U) A. Mission Description and Budget Item Justification**

The Defense Meteorological Satellite Program (DMSP) is a fully operational program supporting a broad range of strategic and tactical national security users that require timely and accurate global weather information. DMSP is a critically important tool enabling commanders to effectively employ weapon systems and protect DoD resources in any operational battlespace. DMSP is DoD's only assured source of global weather data providing visible and infrared cloud cover imagery (1/3 nautical miles (nm) constant resolution) and other meteorological, oceanographic, land surface, and space environmental data. At least two satellites (one in each of two orbit planes) 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).

DMSP F-15 was the first Block 5D3 spacecraft (with legacy sensors) and was launched on a Titan-II booster in Dec 99. Premature attitude determination gyro failures on DMSP F-15 exposed a fleet-wide life-limiting problem with the attitude determination gyros that will fly on all remaining DMSP satellites. Mini-Inertial Measurement Units (MIMUs) are being integrated to DMSPs F-17 through F-20 to reduce risk of mission failures due to gyro problems. DMSP F-16 was launched in Oct 03 aboard the last Titan II booster and is the first 'full-up' Block 5D3 (spacecraft bus plus sensors). Operational imperatives drove a need to launch DMSP F-16 before it could be integrated with a MIMU to provide attitude determination system redundancy. DMSP F-16 flies a new series of highly capable microwave and ultraviolet sensors to perform comprehensive environmental sensing. A number of systemic problems were identified during those sensors' calibration and validation period that will be addressed prior to the launch of all remaining satellites. The program office will implement a service life extension program on F19 and F20 to increase projected lifetime from 4 to 5 years. The Spacecraft Integration & Test (SIT) contract for spacecraft support and the Independent Verification and Validation contract for test flight software were both awarded in Jun 02. DMSP's consolidated sensors support and services follow-on contract was awarded in Nov 04. DMSP F-17 was launched on a Delta IV booster on 4 Nov 06. DMSP F-18's launch is scheduled for 3rd Quarter FY08 on an Atlas V.

This program is in Budget Activity 7, Operational Systems Development, because it supports the current operational DMSP constellation.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	0.969		
(U) Current PBR/President's Budget	0.963		
(U) Total Adjustments	-0.006		
(U) Congressional Program Reductions	-0.002		
Congressional Rescissions	-0.004		
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
(U) <u>Significant Program Changes:</u>			

## Exhibit R-2a, RDT&amp;E Project Justification

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BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0305160F Defense Meteorological Satellite Program</b>			PROJECT NUMBER AND TITLE <b>4758 DMSP Program</b>		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4758 DMSP Program	0.936	0.000	0.000	0.000	0.000	0.000	0.000	0.000	912.077
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

**(U) A. Mission Description and Budget Item Justification**

The Defense Meteorological Satellite Program (DMSP) is a fully operational program supporting a broad range of strategic and tactical national security users that require timely and accurate global weather information. DMSP is a critically important tool enabling commanders to effectively employ weapon systems and protect DoD resources in any operational battlespace. DMSP is DoD's only assured source of global weather data providing visible and infrared cloud cover imagery (1/3 nautical miles (nm) constant resolution) and other meteorological, oceanographic, land surface, and space environmental data. At least two satellites (one in each of two orbit planes) 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).

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This program is in Budget Activity 7, Operational Systems Development, because it supports the current operational DMSP constellation.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue system integration and test, studies, and related support activities	0.500		
(U) Continue EELV interface design (transition to EELV)	0.463		
(U) Total Cost	0.963	0.000	0.000

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</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 RDT&E									
(U) Other APPN									
(U) Missile Procurement/PE 0305160F (P-24)	86.376	127.350	101.136	102.580	95.301	86.300	78.899	12.782	3,069.577
Related RDT&E:									
PE 0305178F, National Polar-orbiting Operational Environmental Satellite System (NPOESS)									
PE 0305160N, Navy Meteorological and Oceanographic Sensor-Space (METOC) (provides funds for Navy unique studies)									

(U) **D. 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. Production of DMSP satellites has been completed. Remaining effort is to continue spacecraft and sensor integration and test and successfully launch remaining DMSP satellites.

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**Exhibit R-3, RDT&E Project Cost Analysis**

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**February 2008**

<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0305160F Defense Meteorological Satellite Program</b>	<b>PROJECT NUMBER AND TITLE</b> <b>4758 DMSP Program</b>
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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &amp;</u> <u>Type</u>	<u>Performing</u> <u>Activity &amp;</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2007</u> <u>Cost</u>	<u>FY 2007</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2009</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
				<u>Cost</u>	<u>Award</u> <u>Date</u>	<u>Cost</u>	<u>Award</u> <u>Date</u>	<u>Cost</u>	<u>Award</u> <u>Date</u>			
(U) <u>Product Development</u>												
Lockheed -Martin	SS/CPAF										0.000	
Lockheed-Martin	SS/CPAF										0.000	
Northrop-Grumman (CSS&S)	SS/CPAF										0.000	
Lockheed-Martin	C/CPAF										0.000	
Lockheed-Martin	C/CPAF			0.963	Oct-06						0.963	
Harris (SSMIS/STT SW)	C/CPAF										0.000	
Det 11/GSA (Mark IVB P3I)	MIPR										0.000	
Lockheed-Martin (Titan II Msn Unique Studies)	SS/CPAF										0.000	
Boeing (EELV Msn Unique Studies & Services)	SS/CPAF										0.000	
Aerojet	SS/CPAF										0.000	
Aerojet	C/CPAF/FF P										0.000	
Aerojet (SSM/TW/IS S&S & Model + SSMIS)	SS/CPAF										0.000	
Raytheon, formerly Hughes (SSMI Spt & Svc)	SS/CPFF										0.000	
AFRL	MIPR/PD										0.000	
NRL	MIPR/Var										0.000	
APL	MIPR/Var										0.000	
SMC (Det 3 SSSG/NPOESS)	FCA/MIPR										0.000	
Sandia	MIPR/Var										0.000	
NOAA											0.000	
Other	Various										0.000	
Historical Satellite Blocks	Various										0.000	
NONE											0.000	
Subtotal Product Development			0.000	0.963		0.000		0.000		0.000	0.963	0.000
Remarks:												
(U) <u>Support</u>												
FFRDC	AF 277										0.000	
PRC/BD Systems/TASS	C/CPAF										0.000	
Program Mgmt											0.000	
Litigation Support											0.000	
Other	Various										0.000	
Historical Satellite Blocks	Various										0.000	
NONE											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>												
NONE											0.000	
NONE											0.000	

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Exhibit R-3 (PE 0305160F)

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**Exhibit R-3, RDT&E Project Cost Analysis**

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BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE		
<b>07 Operational System Development</b>		<b>0305160F Defense Meteorological Satellite Program</b>				<b>4758 DMSP Program</b>		
Subtotal Test & Evaluation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Remarks:								
(U) <u>Management</u>							0.000	
Subtotal Management	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Remarks:								
(U) Total Cost	0.000	0.963	0.000	0.000	0.000	0.000	0.963	0.000

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY  
07 Operational System Development

PE NUMBER AND TITLE  
0305160F Defense Meteorological  
Satellite Program

PROJECT NUMBER AND TITLE  
4758 DMSP Program

# DMSP Schedule

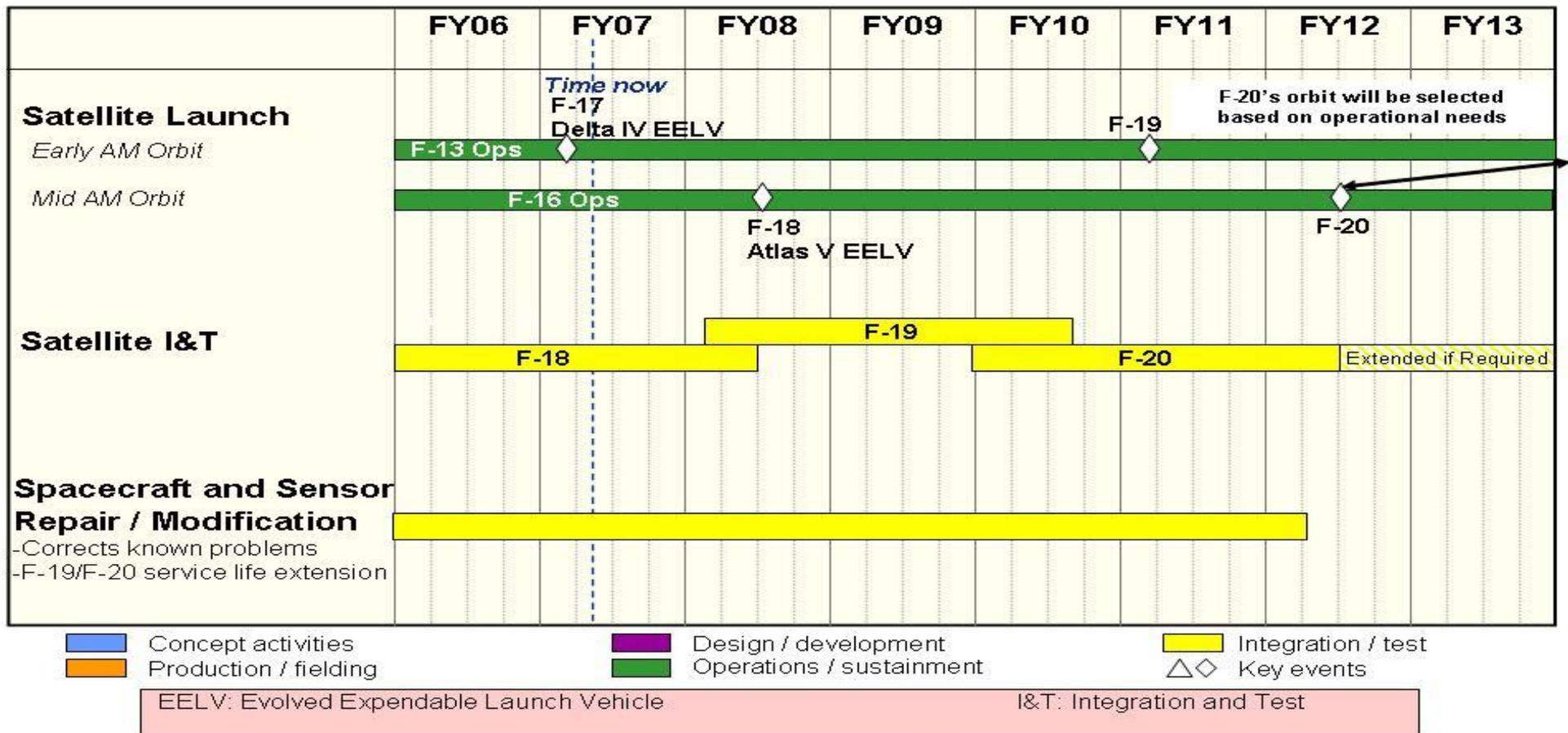


Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0305160F Defense Meteorological  
Satellite Program

PROJECT NUMBER AND TITLE

4758 DMSP Program

(U) Schedule Profile

FY 2007

FY 2008

FY 2009

(U) F-17 Satellite Launch

1Q

(U) F-18 Satellite Launch

3Q