

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2000		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0208006F Mission Planning Systems				PROJECT 673858		
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
673858	Air Force Mission Support System (AFMSS)	15,415	18,084	20,755	16,976	17,228	17,573	17,919	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0

(U) A. Mission Description

The Mission Planning System program was established in 1990 to consolidate mission planning system development efforts into a single unit-level mission planning system. This program maintains and preserves combat capability on existing legacy planning systems which will migrate into a USAF wide standard mission planning system known as the Air Force Mission Support System (AFMSS). Integrating military and commercial software on Commercial-Off-The-Shelf (COTS) hardware, AFMSS encompasses evolutionary software and hardware development in an open systems architecture. AFMSS today consists of the Mission Planning System (MPS), a UNIX-based system, the Portable Flight Planning Software (PFPS), a personal computer (PC)-based system, and the Joint Mission Planning System (JMPS), which is the next generation PC-based system.

The MPS provides comprehensive mission planning tools to conduct missions ranging from day-to-day training, peace time operations/exercises to complex operations supporting conventional and nuclear armed conflict. The MPS design is centered around an open architecture, using standard protocols and interfaces, COTS hardware and software. The MPS currently or will support the following aircraft and associated weapons: B-1, B-2, B-52, F-15, F-16, F-117, F-22, U-2, AGM-130, AGM-142, JDAM, JSOW, WCMD, ABL, JASSM, MALD, Global Hawk, and Predator. Platforms use tailored software called Aircraft/Weapon/Electronics (A/W/E) that integrate with the core software to specialize the software for their mission.

The PFPS provides flight planning tools that support day-to-day training, peace time operations/exercises, and conventional armed conflict. The PFPS design is based on single user PCs. The user interface is Windows 95 and Windows NT. The PFPS currently or will support the following aircrafts: F-16, MC-130, EC-130, HC-130H/N/P, AC-130, E-3, E-8, C-130E/H/J, LC-130, WC-130, C-27, C-17, E-4, T-38, C-141, RC-135, KC-10, KC-135R/E, C-5, C-9, A-10, MH-53, MH-47, AH/MH-6J, and MH/HH-60.

The JMPS is a continuation effort of the AFMSS MPS and PFPS directed at merging the AFMSS and the Navy's Tactical Automated Mission Planning System (TAMPS), to form a single family of systems achieving Global Command and Control System (GCCS) compatibility through compliance with the Defense Information Infrastructure and Common Operating Environment (DII/COE).

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(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 1999 (\$ in Thousands)</u>		
(U) \$1,459	Completed MPS core software development support	
(U) \$3,130	Began PFPS software development support	
(U) \$3,426	Continued A/W/E development/support/integration for the platforms listed above	
(U) \$6,400	Began JMPS migration effort	
(U) \$1,000	Stand up Responsible Test Organization (RTO) support	
(U) \$15,415	Total	
(U) <u>FY 2000 (\$ in Thousands)</u>		
(U) \$1,258	Continue PFPS software development support	
(U) \$671	Continue A/W/E development /support/integration for the platforms listed above	
(U) \$15,435	Continue JMPS migration effort	
(U) \$720	Continue Responsible Test Organization (RTO) support	
(U) \$18,084	Total	
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$668	Continue A/W/E development/support/integration for the platforms listed above	
(U) \$14,687	Continue JMPS migration effort	
(U) \$4,680	Begin JMPS Combat Capabilities, including PGM migration	
(U) \$720	Continue Responsible Test Organization (RTO) support	
(U) \$20,755	Total	
(U) <u>B. Budget Activity Justification</u>		
Mission Planning Systems is in budget activity 7, Operational System Development, because the program currently supports deployed AFMSS systems, which include transportable, non-deployable, and portable laptop workstations. AFMSS MPS C2.0, C2.1, and PFPS 3.0 software are operationally fielded. MPS C2.2 and PFPS 3.01 which incorporate Y2K fixes among other new requirements were released and are in the process of fielding to the Combat Air Forces. Development of JMPS v1.0 began in Jun 99.		
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BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0208006F Mission Planning Systems			673858			
(U) C. Program Change Summary (\$ in Thousands)										
			<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>				
(U)	Previous President's Budget (FY 2000 PBR)		16,204	16,764	20,755	TBD				
(U)	Appropriated Value		17,090	18,264						
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions		-972	-81						
	b. Small Business Innovative Research		-514							
	c. Omnibus or Other Above Threshold Reprogram		-2,342	-99						
	d. Below Threshold Reprogram		2,153							
	e. Rescissions									
	f. Other					TBD				
(U)	Adjustments to Budget Years Since FY 2000 PBR									
(U)	Current Budget Submit/FY 2001 PBR		15,415	18,084	20,755	TBD				
(U) Significant Program Changes:										
FY99:										
BTR/ATR: The AFMSS program was part of a large 1415-2 action requiring a consolidation of numerous sources into several PEs. Funds were BTR'd into the program as part of this 1415-2 and later removed as part of the larger 1415-2 action. The net change to the AFMSS program was -\$174. In addition, - \$15 was for a canceled bill.										
(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 RDT&E									
(U)	Other APPN									
(U)	Other Procurement, AF WSC 833040, Theater Air Control System Improvement (TACSI)	6,035	12,633	13,383	17,713	16,253	16,604	16,905	Continuing	TBD
(U)	Other Procurement, AF, WSC 86190A, Initial Spares	1,447	1,118	1,068	785	558	529	380	Continuing	TBD
(U)	Operations & Maintenance,	29,188	32,277	33,794	30,602	32,340	33,621	33,130	Continuing	TBD
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(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>	

AF, 0208006F

O&M funds for PE 28006F support the software and hardware maintenance costs of the Air Force Mission Support System (AFMSS) and the Common Mapping Production System. These funds also support the maintenance of the following existing operational systems until replaced by AFMSS: Mission Support System II (MSS IIA) supports existing combat capability for the F-15 and F-16 aircraft mission planning (F/RF-4 and F-111 are now retired); Mission Data Preparation System (MDPS) supports conventional and nuclear mission planning, aircraft/weapons avionics loading, compatibility between evolving B-1B, B-52H avionics, their weapons systems, and USSTRATCOM. O&M funding supported approximately 240 older systems in FY94. By FY00, a similar amount of funding will support over 2900 AFMSS mission planning systems world-wide.

There are no other AFMSS core related RDT&E activities for unit level mission planning in the USAF. Over 50 individual aircraft and weapons programs develop their respective software to be used in conjunction with the AFMSS core software. The aircraft and weapons software is a complimentary, synergistic effort that provides specific aircraft and weapons information and functionality to the core AFMSS software. The combined software gives the warfighter the full spectrum of mission planning and combat capabilities for their aircraft or weapon including interoperability with planned Theater Battle Management (TBM) systems.

(U) **E. Acquisition Strategy**

The Air Force Mission Support System (AFMSS) program is managed within the Combat Air Forces (CAF) Command and Control (C2) Systems Program Office, Electronic Systems Center, Hanscom AFB, Massachusetts. The AFMSS acquisition strategy leverages military and commercial software integrated on Commercial-Off-The-Shelf (COTS) hardware. AFMSS encompasses evolutionary software and hardware development in an open systems architecture. The contractors for the AFMSS projects are Sanders, Nashua, NH, a Lockheed Martin Company, for the MPS and C-17, KC-10, C-5, C-9, C-141, E-3, E-8, KC-135E/R A/W/Es; Tytrin, Fort Walton Beach, FL, for the PFPS; and Logicon, San Pedro, CA for JMPS. A/W/E development is also performed in-house (government) by Oklahoma City Air Logistics Center (OC-ALC), Tinker AFB, OK; Sacramento Air Logistics Center (SM-ALC), McClellan AFB, CA; Warner Robbins Air Logistics Center (WR-ALC), Robbins AFB, GA; and Ogden Air Logistics Center (OO-ALC), Hill AFB, UT.

The JMPS is in the development phase. Development and initial migration activities began in FY99. The current plan is to continue development and migration activities in the FY00-FY05 time frame while individual weapon systems transition with planned Operational Flight Program (OFP) upgrades.

(U) **F. Schedule Profile**

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
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(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) PFPS 3.1 Software Release					*							
(U) PFPS 3.1 OT&E Complete						X						
(U) PFPS 3.2 OT&E Complete										X		
(U) MPS C2.1 OT&E Complete		*										
(U) MPS C2.2 OT&E Begin		*										
(U) MPS C2.2 OT&E Complete				*								
(U) MPS C2.2C (w/ F117) OT&E Begin						X						
(U) MPS C2.2C (w/ F117) OT&E Complete								X				
(U) JMPS Study Complete				*								
(U) JMPS Source Selection Complete				*								
(U) JMPS 1.0 Beta S/W Releases						X		X	X		X	X
* denotes completed event												
X denotes planned event												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0208006F Mission Planning Systems			PROJECT 673858		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>
(U)	Primary Software Development					6,715		11,640		15,455
(U)	Aircraft/Weapons/Electronics (A/W/E) Integration Spt.					100		200		300
(U)	Systems Engineering					4,400		2,640		2,800
(U)	Program Management					2,600		2,823		1,300
(U)	Test and Evaluation					700		684		700
(U)	Miscellaneous					900		97		200
(U)	Total					15,415		18,084		20,755
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<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>Total</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>Program</u>
<u>Product Development Organizations</u>										
Logicon (JMPS)	CPAF	Jun 99	TBD	TBD	0	3,325	10,650	8,800	Continuing	TBD
Sanders	CPAF	Dec 92	93,773	93,773	93,201	99	0	0	Continuing	TBD
Tybrin (Ft Walton Beach)	Project Order	Dec 98	TBD	TBD	0	2,500	530	0	Continuing	TBD
A/W/E Integration Activity	Time & Mat'l	Oct 98	TBD	TBD	0	250	0	0	Continuing	TBD
SPO Misc					4,449	2,867	1,769	2,100	Continuing	TBD
JMPS Combat Capability	TBD	TBD	TBD	TBD				3,680	Continuing	TBD
<u>Support and Management Organizations</u>										
FFRDC			TBD	TBD	15,480	4,400	2,640	2,860	Continuing	TBD
Miscellaneous			TBD	TBD	9,532	1,254	1,775	2,595	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
46TW (Eglin AFB)	Project Order	Oct 98	TBD	TBD	0	720	720	720	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	DATE February 2000
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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>									
N/A									
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
N/A									
				<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				97,650	9,041	12,949	14,580	TBD	TBD
Subtotal Support and Management				25,012	5,654	4,415	5,455	TBD	TBD
Subtotal Test and Evaluation				0	720	720	720	TBD	TBD
Total Project				122,662	15,415	18,084	20,755	TBD	TBD