

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0208006F Mission Planning Systems
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	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	115.002	129.259	105.371	99.028	99.213	99.964	101.896	103.967	Continuing	TBD
3858 Mission Planning Systems (MPS)	115.002	129.259	105.371	99.028	99.213	99.964	101.896	103.967	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

Mission planning involves the creation of a flight plan based on threats, targets, terrain, weather, aircraft performance capability, and configuration. It is an essential task that must be completed prior to any fixed or rotary wing aircraft sortie. The planner must have the ability to plan weapon, cargo, passenger, and/or fuel delivery, calculate fuel requirements, and assess the route based on known enemy threat location and type. Mission planners must be able to optimize and de-conflict flight routes with other aircraft; review, print, and brief the mission plan; and download pertinent flight information to on-board aircraft avionics.

The Mission Planning Systems (MPS) program provides automated mission-planning tools and support for fixed and rotary wing aircraft and guided munitions. It will replace two closed architecture legacy mission planning systems (the Unix-based MPS (Unix-MPS) and the PC-based Portable Flight Planning Software (PFPS)), with a single multi-service open architecture system more commonly referred to as the Joint Mission Planning System (JMPS). JMPS will enable the mission planning cycle to be compressed by providing an improved integrated planning environment, reducing the time required to respond to changing situations and urgent needs such as striking time sensitive/critical targets and conducting combat search and rescue. MPS will support a variety of Air Force aircraft and weapons including (but not limited to) the following: A-10, B-1, B-2, B-52, C-5, C-17, C-130, E-3, E-8, F-16, F-15, F-117, F-22A, F-35, KC-10, KC-135, RC-135, U-2, HH-60, CSAR-X, Air-to-Ground Munitions (AGM) -130, AGM-142, Joint Direct Attack Munitions (JDAM), Joint Stand Off Weapon (JSOW), Wind Corrected Munitions Dispenser (WCMD), Joint Air-to-Surface, Standoff Munitions (JASSM), Miniature Air Launched Decoy (MALD), Predator, and Global Hawk as well as Army and Navy platforms. Additionally, elements of Mission Planning Systems software will be utilized to continue development of a Joint Precision Airdrop System (JPADS) in conjunction with the Army. JMPS will significantly benefit command and control performance by enhancing information superiority for the warfighter and by providing unique capabilities in support of both precision engagement and dominant maneuver.

Mission Planning Systems uses an evolutionary acquisition approach, which emphasizes spiral development and the use of Increments (increment content is described below) to provide capabilities to individual platforms. Additionally, the JMPS architecture ensures common components are utilized among all service platforms and weapons systems where appropriate, thereby reducing duplicative software development efforts and increasing interoperability between services. Migrating all platforms to JMPS will eliminate stovepipe systems. The JMPS framework and common components will require continuous upgrades to: 1) reduce timelines for route planning; 2) transmit near real-time intelligence data to the platforms; 3) increase the accuracy of the mapping products; 4) provide a Windows-based, COTS-based, user friendly product; and 5) retain compatibility with changes to avionics and operational flight programs. JMPS is a collaborative program with the Army and Navy to leverage technical solutions and business practices for all Department of Defense (DoD) platforms. It will be developed incrementally using the following approach:

- a. Increment I - this was the initial development effort, which provided the framework for basic flight planning for all platforms.

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- b. Increment II - provides for the initial migration of legacy mission planning capability to JMPS for the F-15 and RC-135.
- c. Increment III - continues the migration of additional aircraft platforms (F22-A, F-16, B-1B, etc) and weapons (JASSM, etc) to JMPS. It upgrades the framework and develops new common components (e.g. Weather, Electronic Warfare, Airdrop, Precision Guided Munitions) and unique platform capabilities. Additionally, engineering studies will be conducted to plan and support the migration of future platforms to JMPS.
- d. Increment IV - continues the JMPS migration for additional platforms (Tanker Airlift Special Mission (TASM), Intelligence, Surveillance & Reconnaissance (ISR) aircraft, etc..) while upgrading the framework and Common Components Capabilities (e.g. Enhanced Air Refueling, Precision Guided Munitions Planning Software (PGMPS), etc..). It will continue to develop new unique platform capabilities while also conducting engineering studies to plan and support the migration of future platforms to JMPS.
- e. Increment V - completes the migration to JMPS for additional platforms (e.g. B-2, B-52, etc.) while developing new and improved JMPS capabilities for all platforms. It will also complete a variety of studies and analyses, including evaluating new Information Technology (IT) infrastructure technologies, in support of future system upgrades.
- f. Net centric capabilities are/will be developed to provide web based JMPS mission planning to stay in concert with current C2 strategies.

The Mission Planning Systems program is in Budget Activity 7 because it provides for development of technologies and capabilities to support and ultimately replace the currently fielded PFPS and Unix-MPS systems.

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	119.860	146.396	103.021	96.405
(U) Current PBR/President's Budget	115.002	129.259	105.371	99.028
(U) Total Adjustments	-4.858	-17.137		
(U) Congressional Program Reductions		-16.647		
Congressional Rescissions	-0.004	-0.490		
Congressional Increases				
Reprogrammings	-1.430			
SBIR/STTR Transfer	-3.424			
(U) <u>Significant Program Changes:</u>				

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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total	
3858 Mission Planning Systems (MPS)	115.002	129.259	105.371	99.028	99.213	99.964	101.896	103.967	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0			

(U) A. Mission Description and Budget Item Justification

Mission planning involves the creation of a flight plan based on threats, targets, terrain, weather, aircraft performance capability, and configuration. It is an essential task that must be completed prior to any fixed or rotary wing aircraft sortie. The planner must have the ability to plan weapon, cargo, passenger, and/or fuel delivery, calculate fuel requirements, and assess the route based on known enemy threat location and type. Mission planners must be able to optimize and de-conflict flight routes with other aircraft; review, print, and brief the mission plan; and download pertinent flight information to on-board aircraft avionics.

The Mission Planning Systems (MPS) program provides automated mission-planning tools and support for fixed and rotary wing aircraft and guided munitions. It will replace two closed architecture legacy mission planning systems (the Unix-based MPS (Unix-MPS) and the PC-based Portable Flight Planning Software (PFPS)), with a single multi-service open architecture system more commonly referred to as the Joint Mission Planning System (JMPS). JMPS will enable the mission planning cycle to be compressed by providing an improved integrated planning environment, reducing the time required to respond to changing situations and urgent needs such as striking time sensitive/critical targets and conducting combat search and rescue. MPS will support a variety of Air Force aircraft and weapons including (but not limited to) the following: A-10, B-1, B-2, B-52, C-5, C-17, C-130, E-3, E-8, F-16, F-15, F-117, F-22A, F-35, KC-10, KC-135, RC-135, U-2, HH-60, CSAR-X, Air-to-Ground Munitions (AGM) -130, AGM-142, Joint Direct Attack Munitions (JDAM), Joint Stand Off Weapon (JSOW), Wind Corrected Munitions Dispenser (WCMD), Joint Air-to-Surface, Standoff Munitions (JASSM), Miniature Air Launched Decoy (MALD), Predator, and Global Hawk as well as Army and Navy platforms. Additionally, elements of Mission Planning Systems software will be utilized to continue development of a Joint Precision Airdrop System (JPADS) in conjunction with the Army. JMPS will significantly benefit command and control performance by enhancing information superiority for the warfighter and by providing unique capabilities in support of both precision engagement and dominant maneuver.

Mission Planning Systems uses an evolutionary acquisition approach, which emphasizes spiral development and the use of Increments (increment content is described below) to provide capabilities to individual platforms. Additionally, the JMPS architecture ensures common components are utilized among all service platforms and weapons systems where appropriate, thereby reducing duplicative software development efforts and increasing interoperability between services. Migrating all platforms to JMPS will eliminate stovepipe systems. The JMPS framework and common components will require continuous upgrades to: 1) reduce timelines for route planning; 2) transmit near real-time intelligence data to the platforms; 3) increase the accuracy of the mapping products; 4) provide a Windows-based, COTS-based, user friendly product; and 5) retain compatibility with changes to avionics and operational flight programs. JMPS is a collaborative program with the Army and Navy to leverage technical solutions and business practices for all Department of Defense (DoD) platforms. It will be developed incrementally using the following approach:

- a. Increment I - this was the initial development effort, which provided the framework for basic flight planning for all platforms.
- b. Increment II - provides for the initial migration of legacy mission planning capability to JMPS for the F-15 and RC-135.

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c. Increment III - continues the migration of additional aircraft platforms (F22-A, F-16, B-1B, etc) and weapons (JASSM, etc) to JMPS. It upgrades the framework and develops new common components (e.g. Weather, Electronic Warfare, Airdrop, Precision Guided Munitions) and unique platform capabilities. Additionally, engineering studies will be conducted to plan and support the migration of future platforms to JMPS.

d. Increment IV - continues the JMPS migration for additional platforms (Tanker Airlift Special Mission (TASM), Intelligence, Surveillance & Reconnaissance (ISR) aircraft, etc..) while upgrading the framework and Common Components Capabilities (e.g. Enhanced Air Refueling, Precision Guided Munitions Planning Software (PGMPS), etc..). It will continue to develop new unique platform capabilities while also conducting engineering studies to plan and support the migration of future platforms to JMPS.

e. Increment V - completes the migration to JMPS for additional platforms (e.g. B-2, B-52, etc.) while developing new and improved JMPS capabilities for all platforms. It will also complete a variety of studies and analyses, including evaluating new Information Technology (IT) infrastructure technologies, in support of future system upgrades.

f. Net centric capabilities are/will be developed to provide web based JMPS mission planning to stay in concert with current C2 strategies.

The Mission Planning Systems program is in Budget Activity 7 because it provides for development of technologies and capabilities to support and ultimately replace the currently fielded PFPS and Unix-MPS systems.

(U) B. Accomplishments/Planned Program (\$ in Millions)	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Increment II - Continues the migration of mission planning capability to JMPS	4.739	0.000	0.000	0.000
(U) Increment III - Continues the migration of mission planning capability to JMPS	73.980	73.918	10.754	2.349
(U) Increment IV - Continues the migration of mission planning capability to JMPS	13.380	29.853	69.008	63.107
(U) Increment V - Completes the migration of mission planning capability to JMPS	0.000	0.000	0.000	8.159
(U) NetCentric Capability - develops new capability to provide information across all JMPS platforms	1.192	1.367	1.259	1.275
(U) Test, Training, and Certification	7.365	9.367	9.047	8.792
(U) FFRDC (Mitre)	5.421	5.365	5.783	6.073
(U) Program Office Support	8.925	9.389	9.520	9.273
(U) Total Cost	115.002	129.259	105.371	99.028

(U) C. Other Program Funding Summary (\$ in Millions)	<u>FY 2006</u>	<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 Complete</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>								
(U) Other Appn										
(U) OPAF PE 0208006F (Other Procurement Air Force, WSC)	16.085	16.225	16.985	22.870	24.445	23.342	22.886	17.506	Continuing	TBD

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

833040, Theater Air Control
System Improvement)

(U) **D. Acquisition Strategy**

Mission Planning Systems utilizes an evolutionary acquisition approach to develop and deliver an interoperable, network-centric, mission planning system tailored for numerous Air Force platforms using competition and multiple contract vehicles.

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Exhibit R-3, RDT&E Project Cost Analysis

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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>														
Mission Planning Enterprise Contract	C/Variou	Various	28.596	74.770	Nov-05	90.159	Nov-06	67.100	Nov-07	64.185	Nov-08	Continuing	TBD	TBD
Systems Engineering and Integration	C/Variou	Various	15.973	18.521	Nov-05	14.979	Nov-06	13.922	Nov-07	10.704	Nov-08	Continuing	TBD	TBD
Subtotal Product Development			44.569	93.291		105.138		81.022		74.889		Continuing	TBD	TBD
Remarks:														
(U) <u>Support</u>														
Software Engineering Institute (SEI)	C/T&M	Pittsburgh, PA	0.457	0.500	Dec-05	0.518	Nov-06	0.480	Nov-07	0.464	Nov-08	Continuing	TBD	TBD
Tecolote	C/T&M	Bedford, MA	1.814	0.322	Nov-05	0.789	Nov-06	0.759	Nov-07	0.800	Nov-08	Continuing	TBD	TBD
Subtotal Support			2.271	0.822		1.307		1.239		1.264		Continuing	TBD	TBD
Remarks:														
(U) <u>Test & Evaluation</u>														
46TW	PO	Eglin AFB, FL	10.674	6.157	Nov-05	7.943	Nov-06	7.665	Nov-07	7.323	Nov-08	Continuing	TBD	TBD
JITC	FFP/CPA F	Indian Head, MO	0.000	0.000	Jan-06	0.057	Jan-07	0.055	Jan-08	0.059	Jan-09	Continuing	TBD	TBD
Type I Training	FPAF	Hill AFB, UT	0.000	1.208	Nov-05	1.367	Nov-06	1.326	Nov-07	1.411	Nov-08	Continuing	TBD	TBD
Subtotal Test & Evaluation			10.674	7.365		9.367		9.046		8.793		Continuing	TBD	TBD
Remarks:														
(U) <u>Management</u>														
FFRDC (MITRE)	SS/T&M	Bedford, MA	16.459	5.421	Nov-05	5.365	Nov-06	5.783	Nov-07	6.073	Nov-08	Continuing	TBD	TBD
Program Office Support	C/T&M	Various	21.945	8.103	Nov-05	8.082	Nov-06	8.281	Nov-07	8.009	Nov-08	Continuing	TBD	TBD
Subtotal Management			38.404	13.524		13.447		14.064		14.082		Continuing	TBD	TBD
Remarks:														
(U) Total Cost			95.919	115.002		129.259		105.371		99.028		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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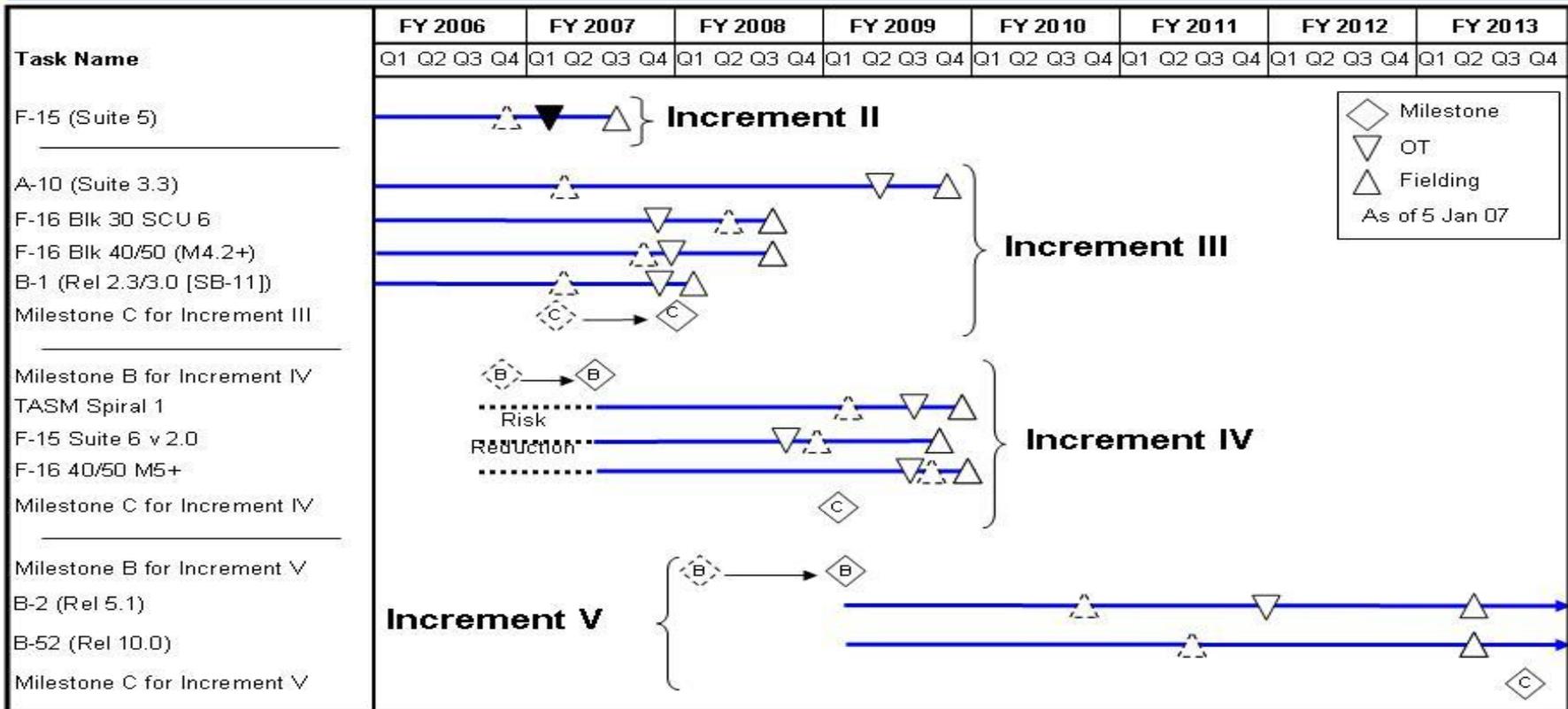
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U.S. AIR FORCE

Mission Planning Systems Schedule



Acronyms:

TASM - Tanker Airlift Special Mission

As of: 5 Jan 07

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Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
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	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <u>Schedule Profile</u>				
(U) F-15A-E Suite 5 Fielding		3Q		
(U) FDDR for Increment II		3Q		
(U) A-10 Suite 3 Fielding				4Q
(U) F-16 Block 30, SCU6 Fielding			3Q	
(U) F-16 (Block 40, M4.2+ and Block 50, M4.2+) Fielding			3Q	
(U) B-1 SB-11 Fielding			1Q	
(U) Milestone C for Increment III			1Q	
(U) Milestone B for Increment IV		3Q		
(U) F-15 Suite 6 Fielding				4Q
(U) TASM Spiral I Fielding				4Q
(U) Milestone C for Increment IV				1Q
(U) Milestone B for Increment V				1Q