PE NUMBER: 0208006F
PE TITLE: Mission Planning Systems

Exhibit R-2, RDT&E Budget Item Justification									DATE February 2005	

BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0208006F Mission Planning Systems					

Cost ($ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	49.391	105.003	138.475	130.626	102.900	96.489	98.685	99.822	Continuing	TBD
3858 Mission Planning Systems (MPS)	49.391	105.003	138.475	130.626	102.900	96.489	98.685	99.822	Continuing	TBD

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

The Mission Planning Systems (formally Air Force Mission Support Systems (AFMSS)) program was established in 1990 to consolidate the many mission planning system development efforts into a single-unit level mission planning system. In FY04, the Mission Planning Systems System Program Office at Hanscom AFB, MA was directed to execute all JMPS development activities and funding was added to accomplish this directive. Today there are two legacy AF mission planning systems migrating to a single, multi-service system, called the Joint Mission Planning System (JMPS). Until all aircraft and weapons are migrated to JMPS, Mission Planning Systems maintains current combat capabilities on the two existing legacy planning systems. Mission Planning Systems is considered a family of products program consisting of the UNIX-based Mission Planning System (MPS), the PC-based Portable Flight Planning Software (PFPS) and the JMPS.

Mission Planning Systems encompasses evolutionary software and hardware development by integrating military and commercial software on Commercial-Off-The-Shelf (COTS) hardware in an open systems architecture. This allows the program to take advantage of the latest PC technology to meet user demands for the most capable systems.

Mission Planning provides comprehensive mission planning tools to aid the warfighter in planning a variety of worldwide missions ranging from homeland security and the global war on terrorism to operations supporting conventional and nuclear armed conflicts. These tools also support peacetime exercises as well as day-to-day training. The UNIX-based MPS operates in combination with the PC-based PFPS to deliver planning capability uploads for aircraft and missile systems, and routing data for platforms utilizing low observable (LO) technology.

Mission Planning Systems supports/will support a variety of 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-15, F-16, F-117, F/A-22, KC-10, KC-135, RC-135, U-2, Joint Strike Fighter (JSF), 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, Stand off Munitions (JASSM), Miniature Air Launched Decoy (MALD), Predator, and Global Hawk. Mission Planning Systems software is used in the Cockpit Auxiliary Targeting System (CATS) portion of the Integrated Air Ground Imaging (IAGI) capability for the A-10.

The migration to JMPS will replace the Air Force's, Navy's, Army's and US Special Operations Command's legacy mission planning systems. Mission Planning Systems will use 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, thereby reducing duplicative software development efforts and increasing interoperability between services. Further spirals of JMPS will eliminate stovepipe systems. The JMPS framework and common components will require continuous upgrades to: reduce timelines for route planning, transmit near real-time intelligence data to the platforms, increase the accuracy of the mapping products, and provide a Windows-based, COTS-based, user friendly product. JMPS has inter-service leadership and requirements.

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2005

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0208006F Mission Planning Systems

a. Increment I 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 aircraft.

c. Increment III continues the migration of additional aircraft platforms (F/A-22, F-16, B-1B, etc) and weapons (JASSM, etc) to JMPS, upgrades the framework, and develops new common components (e.g. weather, electronic warfare) 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.) to JMPS while upgrading the framework and Common Components Capabilities.

e. Increment V continues the migration to JMPS for additional aircraft platforms (B-2, B-52) as well as the development of new and improved JMPS capabilities. It aslo considers the potential upgrade of the JMPS architecture.

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 in suport of the currently fielded MPS and PFPS systems.

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

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Previous President's Budget	51.645	136.701	143.154	196.749
(U) Current PBR/President's Budget	49.391	105.003	138.475	130.626
(U) Total Adjustments	-2.254	-31.698		
(U) Congressional Program Reductions	0.000	-30.000		
Congressional Rescissions	0.000	-1.698		
Congressional Increases	0.000			
Reprogrammings	-0.709			
SBIR/STTR Transfer	-1.545			

(U) Significant Program Changes:

FY 06/07 reductions are for higher AF priorities and defers the migration of some platforms (e.g., B-2) to JMPS until FY12/13.

Exhibit R-2 (PE 0208006F)

Exhibit R-2a, RDT&E Project Justification								DATE February 2005		

BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0208006F Mission Planning Systems			PROJECT NUMBER AND TITLE 3858 Mission Planning Systems (MPS)			

Cost ($ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
3858 Mission Planning Systems (MPS)	49.391	105.003	138.475	130.626	102.900	96.489	98.685	99.822	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U)   A. Mission Description and Budget Item Justification

The Mission Planning Systems (formally Air Force Mission Support Systems (AFMSS)) program was established in 1990 to consolidate the many mission planning system development efforts into a single-unit level mission planning system. In FY04, the Mission Planning Systems System Program Office at Hanscom AFB, MA was directed to execute all JMPS development activities and funding was added to accomplish this directive. Today there are two legacy AF mission planning systems migrating to a single, multi-service system, called the Joint Mission Planning System (JMPS). Until all aircraft and weapons are migrated to JMPS, Mission Planning Systems maintains current combat capabilities on the two existing legacy planning systems. Mission Planning Systems is considered a family of products program consisting of the UNIX-based Mission Planning System (MPS), the PC-based Portable Flight Planning Software (PFPS) and the JMPS.

Mission Planning Systems encompasses evolutionary software and hardware development by integrating military and commercial software on Commercial-Off-The-Shelf (COTS) hardware in an open systems architecture. This allows the program to take advantage of the latest PC technology to meet user demands for the most capable systems.

Mission Planning provides comprehensive mission planning tools to aid the warfighter in planning a variety of worldwide missions ranging from homeland security and the global war on terrorism to operations supporting conventional and nuclear armed conflicts. These tools also support peacetime exercises as well as day-to-day training. The UNIX-based MPS operates in combination with the PC-based PFPS to deliver planning capability uploads for aircraft and missile systems, and routing data for platforms utilizing low observable (LO) technology.

Mission Planning Systems supports/will support a variety of 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-15, F-16, F-117, F/A-22, KC-10, KC-135, RC-135, U-2, Joint Strike Fighter (JSF), 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, Stand off Munitions (JASSM), Miniature Air Launched Decoy (MALD), Predator, and Global Hawk. Mission Planning Systems software is used in the Cockpit Auxiliary Targeting System (CATS) portion of the Integrated Air Ground Imaging (IAGI) capability for the A-10.

The migration to JMPS will replace the Air Force's, Navy's, Army's and US Special Operations Command's legacy mission planning systems. Mission Planning Systems will use 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, thereby reducing duplicative software development efforts and increasing interoperability between services. Further spirals of JMPS will eliminate stovepipe systems. The JMPS framework and common components will require continuous upgrades to: reduce timelines for route planning, transmit near real-time intelligence data to the platforms, increase the accuracy of the mapping products, and provide a Windows-based, COTS-based, user friendly product. JMPS has inter-service leadership and requirements.

Exhibit R-2a, RDT&E Project Justification		DATE February 2005
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0208006F Mission Planning Systems	PROJECT NUMBER AND TITLE 3858 Mission Planning Systems (MPS)

    a. Increment I 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 aircraft.

    c. Increment III continues the migration of additional aircraft platforms (F/A-22, F-16, B-1B, etc) and weapons (JASSM, etc) to JMPS, upgrades the framework, and develops new common components (e.g. weather, electronic warfare) 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.) to JMPS while upgrading the framework and Common Components Capabilities.

    e. Increment V continues the migration to JMPS for additional aircraft platforms (B-2, B-52) as well as the development of new and improved JMPS capabilities. It aslo considers the potential upgrade of the JMPS architecture.

    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 in suport of the currently fielded MPS and PFPS systems.

(U) **B. Accomplishments/Planned Program ($ in Millions)**	FY 2004	FY 2005	FY 2006	FY 2007
(U) Continue Mission Planning Systems development effort (including but not limited to JMPS development)	7.365	13.299	0.000	0.000
(U) Continue Mission Planning Systems (PC-based) Common Capabilities, which could include but is not limited to Global Positioning System (GPS) crypto key, Global Air Traffic Management (GATM), Precision Guided Munition (PGM) migration, Conventional Weapons Planning, Automated Target Data Transfer, Airdrop Planning, Auto Routing, Low Observable Planning, Computer Based Training (CBT), Single Integrated Operational Plan (SIOP), Vertical Profile, Weather Planning, Sensor Prediction, Mission Rehearsal, Electronic Warfare (EW) Planning, and System Security	18.565	24.000	0.000	0.000
(U) Commence UPC (transitioning from A/W/E listed above) development/support/integration for the platforms listed above to include all UPCs required for JMPS. Specific effort for FY04 includes but is not limited to UPCs for the F-15, F-16, F/A-22, A-10, and JASSM. This work continues through FY05. Starting in FY05 could include, but not limited to bombers, tankers, airlift and special mission aircraft.	16.038	60.023	0.000	0.000
(U) Increment II - Migration of mission planning capability to JMPS	0.000	0.000	3.493	0.370
(U) Increment III - continues the migration of additional platforms as well as adding upgrades to JMPS	0.000	0.000	108.823	69.648
(U) Increment IV - continues to add enhancements and/or upgrades to JMPS framework and common components	0.000	0.000	12.774	42.441
(U) Increment V - continues the migration JMPS into additional aircraft platforms	0.000	0.000	0.869	5.058

Exhibit R-2a, RDT&E Project Justification		DATE February 2005
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0208006F Mission Planning Systems	PROJECT NUMBER AND TITLE 3858 Mission Planning Systems (MPS)

(U) NetCentric Capability - continuing the development and design of web-based tools to provide information to JMPS	0.000	0.000	1.313	1.208
(U) Continue Responsible Test Organization support	2.000	4.098	5.795	6.269
(U) Program Office Support	5.423	3.583	5.408	5.632
(U) Total Cost	49.391	105.003	138.475	130.626

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

	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) Other Appn OPAF PE 0208006F (Other										
(U) Procurement Air Force, WSC 833040, Theater Air Control System Improvement)	11.594	14.185	15.239	16.470	14.038	14.505	15.565	13.941	Continuing	TBD

(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 multiple Air Force, Navy, and Marine Corps systems using open competition and a variety of contract vehicles.

Exhibit R-3, RDT&E Project Cost Analysis													DATE February 2005	

| BUDGET ACTIVITY 07 Operational System Development | | | | PE NUMBER AND TITLE 0208006F Mission Planning Systems | | | | | PROJECT NUMBER AND TITLE 3858 Mission Planning Systems (MPS) | | | | | |

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development														
Northrop Grumman Information Technology (NGIT, formerly Logicon) (JMPS)	C/CPIF	San Pedro, CA		4.919	Dec-03	0.000		0.000		0.000		Continuing	TBD	TBD
Tybrin Corporation	PO	Fort Walton Beach, FL		2.071		0.000		0.000		0.000		Continuing	TBD	TBD
A/W/E and/or UPC development and integration activity	Various	Various		20.033	Dec-03	0.000		0.000		0.000		Continuing	TBD	TBD
SPO Misc* (*Prior year total includes past, inactive contracts)				0.000	Nov-03	1.451	Nov-04	0.000		0.000		Continuing	TBD	TBD
Mission Planning Systems Common Capabilities	C/Various	Various		4.656	Dec-03	0.000		0.000		0.000		Continuing	TBD	TBD
Mission Planning Enterprise Contract	C/Various	Various		1.150	Nov-04	77.634	Feb-05	108.779	Nov-05	101.474	Nov-06	Continuing	TBD	TBD
Systems Engineering and Integration	C/Various	Various		8.275	Apr-05	17.656	Jun-05	18.493	Nov-05	17.251	Nov-06	Continuing	TBD	TBD
N/A													0.000	
Subtotal Product Development			0.000	41.104		96.741		127.272		118.725		Continuing	TBD	TBD
Remarks:														
(U) Support														
Software Engineering Institute (SEI)	C/T&M	Pittsburgh, PA		0.150	Feb-04	0.187	Feb-05	0.000		0.000		Continuing	TBD	TBD
Tecolote	C/T&M	Bedford, MA		0.584	Nov-03	0.394	Nov-04	0.000		0.000		Continuing	TBD	TBD
Subtotal Support			0.000	0.734		0.581		0.000		0.000		Continuing	TBD	TBD
Remarks:														
(U) Test & Evaluation														
46TW	PO	Eglin AFB, FL		2.130	Oct-03	4.098	Oct-04	5.795	Nov-05	6.269	Nov-06	Continuing	TBD	TBD
N/A													0.000	
Subtotal Test & Evaluation			0.000	2.130		4.098		5.795		6.269		Continuing	TBD	TBD
Remarks:														
(U) Management														
FFRDC (MITRE)	SS/T&M	Bedford, MA		0.395	Oct-03	1.450	Oct-04	0.547	Nov-05	0.574	Nov-06	Continuing	TBD	TBDC
SPO Support	C/T&M	Various		5.028	Oct-03	2.133	Oct-04	4.861	Nov-05	5.058	Nov-06	Continuing	TBD	TBD
Subtotal Management			0.000	5.423		3.583		5.408		5.632		Continuing	TBD	TBD
Remarks:														
(U) Total Cost			0.000	49.391		105.003		138.475		130.626		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0208006F Mission Planning Systems**	PROJECT NUMBER AND TITLE **3858 Mission Planning Systems (MPS)**

Task Name	FY 2003 Q1 Q2 Q3 Q4	FY 2004 Q1 Q2 Q3 Q4	FY 2005 Q1 Q2 Q3 Q4	FY 2006 Q1 Q2 Q3 Q4	FY 2007 Q1 Q2 Q3 Q4	FY 2008 Q1 Q2 Q3 Q4

F-15 A/D/E Suite 4 (Fielding)
F-15 A/D/E Suite 5 (Fielding)
RC-135 Spiral 1 (Fielding)
Milestone C for Increment II

Increment II

Milestone B for Increment III
A-10 Suite 3 (Fielding)
F-16 Blk 30 SCU6 (Fielding)
F-16 Blk 40/50 M4.2+ (Fielding)
B-1 SB-11 (Fielding)
U-2 Spiral 1 (Fielding)
Milestone C for Increment III

Increment III

Milestone B for Increment IV

Increment IV

Project 3858	R-1 Shopping List - Item No. 161-8 of 161-9	Exhibit R-4 (PE 0208006F)

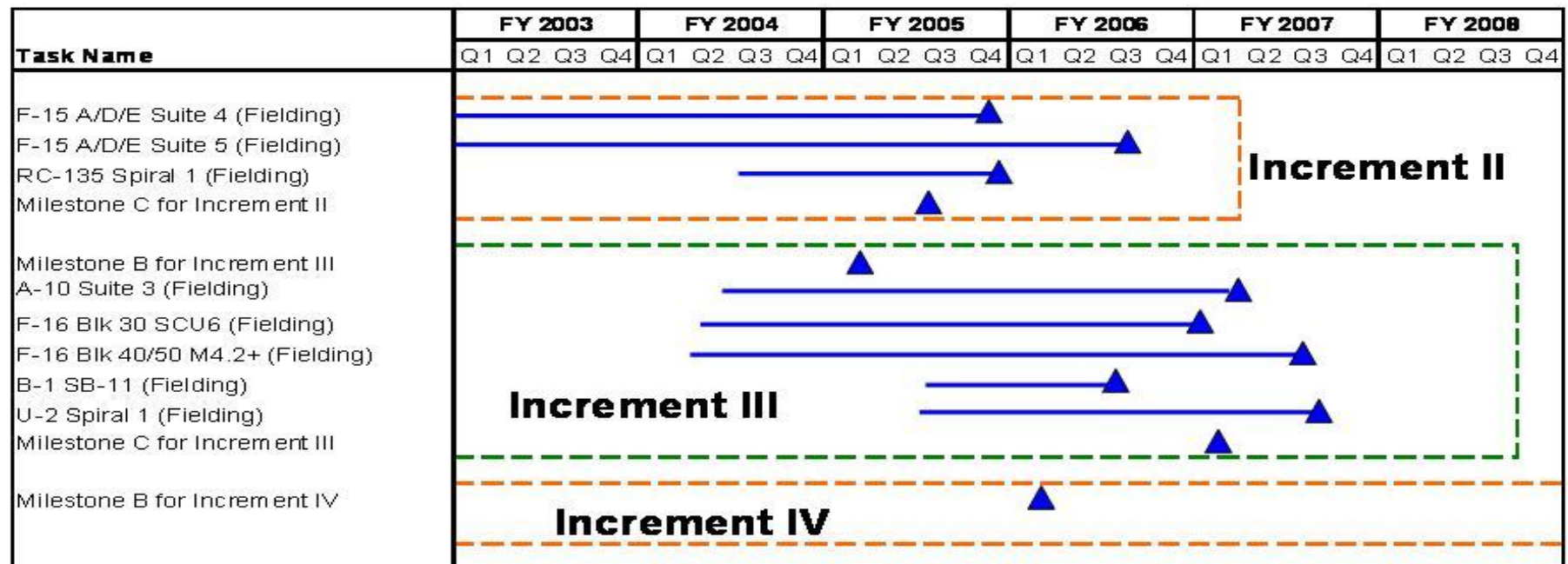| Exhibit R-4a, RDT&E Schedule Detail	DATE February 2005

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0208006F Mission Planning Systems	PROJECT NUMBER AND TITLE 3858 Mission Planning Systems (MPS)

(U) **Schedule Profile**	FY 2004	FY 2005	FY 2006	FY 2007
(U) Milestone B for Increment III		1Q		
(U) Milestone C for Increment II		3Q		
(U) RC-135 Fielding		4Q		
(U) F-15A-E Suite 4 Fielding		4Q		
(U) Milestone B for Increment IV			1Q	
(U) B-1 SB-11 Fielding			3Q	
(U) U-2 Fielding			3Q	
(U) F-15A-E Suite 5 Fielding			3Q	
(U) A-10 Suite 3 Fielding				1Q
(U) F-16 Block 30, SCU6 Fielding				1Q
(U) Milestone C for Increment III				1Q
(U) F-16 (Block 40, M4.2+ and Block 50, M4.2+) Fielding				3Q