

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>					PE 0208006F: <i>Mission Planning Systems</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	61.207	69.377	62.605	-	62.605	86.628	86.700	78.456	79.010	Continuing	Continuing
673858: <i>Mission Planning Systems (MPS) Development</i>	-	6.198	6.405	0.277	-	0.277	0.000	0.000	0.000	0.000	Continuing	Continuing
675302: <i>Precision Aerial Delivery Systems (PADS)</i>	-	5.361	5.546	3.299	-	3.299	7.059	12.126	12.904	14.235	Continuing	Continuing
675380: <i>Mission Planning Systems (MPS) Modernization</i>	-	49.648	57.426	59.029	-	59.029	79.569	74.574	65.552	64.775	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 weapons, 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 is a collaborative program with the Army and Navy to leverage technical solutions and business practices for all Department of Defense (DoD) platforms. It provides automated mission planning tools and support for fixed and rotary wing aircraft and guided munitions. It replaced two closed architecture legacy mission planning systems (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). MPS will compress the mission planning cycle 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. The MPS development program will migrate a variety of Air Force aircraft, weapons, and airdrop payload systems from legacy mission planners to MPS. These systems include, but are not limited to the: A-10, B-1B, C-5, C-17, C-130, E-3, E-8, F-15, F-16, F-22A, RC-135, HH-60, and their associated weapons (e.g. Small Diameter Bomb (SDB), Joint Direct Attack Munitions (JDAM), Joint Air-to-Surface Standoff Munitions (JASSM), etc.) and airdrop payloads. In addition, basic MPS products have the potential to support all DoD fixed-wing and rotary-wing aircraft and will be shared with other AF programs, as well as the Army and Navy. MPS will deliver significant benefits to 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. To meet the unique needs of Air Mobility Command (AMC), the Mobility Air Force Automated Flight Planning Service (MAFPS) component of MPS will provide a centralized/net-centric global mobility mission flight planning capability. This service will provide significant fuel savings through automated flight route optimization utilizing aircraft performance, air traffic management, weather, and other data. Additionally, elements of Mission Planning Systems will be utilized to continue the development of a Joint Precision Airdrop System (JPADS) in conjunction with the Army.

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>
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The JPADS System of Systems (SoS) capability provides a planning and execution capability for DoD airdrop requirements. It is the primary airdrop mission planning and execution system for all ballistic airdrop mission, as well as precision guided airdrops that are required when the mission profile or surface-to-air threat assessment warrants a high-altitude and/or standoff precision delivery. JPADS enables high-altitude, precise airdrop delivery to forward ground forces, mitigating surface-to-air threats, reducing risk of Improvised Explosive Device (IED), and insurgent attack on ground convoys. JPADS allows the warfighter to consider weather, terrain, aircraft capabilities, threat, etc. to accurately deliver payloads to keep the warfighter supplied and in the fight.

This program is in Budget Activity 7, Operational System Development, which includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	63.009	69.377	70.332	-	70.332
Current President's Budget	61.207	69.377	62.605	-	62.605
Total Adjustments	-1.802	0.000	-7.727	-	-7.727
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.802	0.000			
• Other Adjustments	0.000	0.000	-7.727	-	-7.727

Change Summary Explanation

FY2014 increased by \$4.200M for development of Mobility Air Forces (MAF) Automated Flight Planning Service (MAFPS).

FY2014 decreased by \$11.927M for higher Air Force priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems				PROJECT 673858: Mission Planning Systems (MPS) Development			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
673858: Mission Planning Systems (MPS) Development	-	6.198	6.405	0.277	-	0.277	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Project 673858 was renamed Mission Planning Systems Development from Mission Planning Systems in FY13.

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 requirement 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 plan; and download pertinent flight information to on-board aircraft avionics.

This project provides for the continuous improvement of mission planning software capabilities that cut across all platforms and systems. It allows for the investigation of new technologies and products that have the potential for improving mission planning systems. This includes the continuous upgrading of the MPS framework. The framework is the underlying baseline for all mission planning systems. It 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, commercial off the shelf-based, user friendly product; and 5) retain compatibility with platform changes to avionics and operational flight programs. Development and modernization activities within this project are as follows:

a. MPS Increment IV: Continues development activities to complete the initial migration of designated Increment IV platforms (from the Combat Air Forces (CAF) and Mobility Air Forces (MAF--includes Special Mission Air Combat Command (SMACC) aircraft) to the new MPS planning capability. This includes the F-22 Mission Planning Environment (MPE) which will support new capabilities for weapons integration, sensor updates, and avionics changes integrated on board the aircraft. Planned updates include transitioning selected platform to the Windows 7 operating system. Additionally, the development effort will also address new and emerging Operational Flight Program (OFP)-generated requirements as identified by the operational users. Maintenance and common component updates will be completed as required.

b. MPS Modernization: Continues the modernization of overarching technologies (including the framework) to support development of Mission Planning Environments (MPEs) for various CAF and MAF platforms. Development funding for these modernization efforts will move to project 675380 in FY14.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems	PROJECT 673858: Mission Planning Systems (MPS) Development	
<p>c. CAF MPE Modernization: This effort will modernize CAF MPEs originally developed and delivered under MPS Increments II & IV. The modernization effort will provide new and improved mission planning capability for individual OFP requirements, such as new weapons, avionics upgrades, communications systems, etc. The OFPs requiring MPE updates under the CAF Modernization effort include but are not limited to those for A-10 (Suites 8, 9, 10, 11, 12), B-1B (Sustainment Blocks (SB) 15, 16, 16a, 17 and 18), and F-15 (Suites 7, 8, 9, and 10). CAF modernization also includes updates to mission planning capabilities supporting associated weapons, including Small Diameter Bomb (SDB), Joint Direct Attack Munitions (JDAM) and the Joint Air-to-Surface Standoff Missile (JASSM). Finally, CAF modernization will address required improvements to CAF related MPE Common Components (CCs), including Precision-Guided Munitions Planning System (PGMPS), Electronic Warfare CC (EWCC), etc. Development funding for these modernization efforts will move to project 675380 in FY14.</p> <p>d. MAF MPE Modernization: This effort modifies the common MAF MPE developed and deployed during previous mission planning increments. The modernization activities will provide new and improved mission planning capabilities for the MAF fleet as required to meet evolving OFPs, fuel efficiency, and Global Planning netcentric requirements such as avionics upgrades, communication systems, interfaces with command and control systems, new chute data, etc. for various MAF platforms. The MPE updates under the MAF Modernization effort include but are not limited to those for Air Mobility Command--C-5, C-17, C-27, C-130s (multiple variants), KC-10, KC-46, and KC-135 and Special Mission Air Combat Command--E-3, E-8, E-4, HH-60, and RC-135. MAF modernization will also address required improvements to and integration of MAF related MPE CCs, including the Communications, Navigation Surveillance/Air Traffic Management (CNS/ATM) CC, Consolidated Airdrop Tool (CAT), Aeronautical Advisory and Notices to Airmen Tool (AANT), and Air Refueling Tool (ART) CC, etc. Development funding for these modernization efforts will move to project 675380 in FY14.</p> <p>e. Test, Training and Certification: Continues all MPS-related integration, test, and certification activities for CAF and MAF platforms. Funding for these support efforts will be programmed with their associated project/program in FY14 and the outyears.</p> <p>f. Operational and Technical Support: Continues all program office management operations and support activities to ensure the timely delivery of mission planning systems to the warfighter.</p> <p>This program is in Budget Activity 7, Operational System Development, budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production, and anticipate production funding in the current or subsequent fiscal year.</p>			
B. Accomplishments/Planned Programs (\$ in Millions)			
Title: MPS Increment IV	FY 2012	FY 2013	FY 2014
Description: Continues contractor-executed software development and test activities required to migrate selected CAF and MAF platforms to the new MPS Increment IV mission planning capability.	4.940	5.909	0.26
FY 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>	PROJECT 673858: <i>Mission Planning Systems (MPS) Development</i>
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
Continued development of the unique planning component portion of MPEs for the F-22 and A-10. Initial development of F-22 MPE includes migration to the Windows 7 Operating System as well as Link-16 enhancements, the Global Pilot Vehicle Interface, Combat Identification, and Electronic Protection. FY 2013 Plans: Completes development and contractor testing of unique planning component of the MPE for F-22 and A-10. FY 2014 Plans: Will complete operational testing of OFP-driven updates (e.g. Global Pilot Vehicle Interface, Windows 7 operating environment, Link 16, Combat ID) for the F-22 MPE.			
Title: Program Management Administration Description: Continues all program management office technical and administrative activities and operations necessary to support development and fielding of all MPS capabilities. FY 2012 Accomplishments: Provided ongoing program support to the various efforts within Project 673858, MPS Development. FY 2013 Plans: Provides ongoing program support to the various efforts within Project 673858, MPS Development FY 2014 Plans: Provides ongoing program support to the various efforts within Project 673858, MPS Development.		1.258	0.496
Accomplishments/Planned Programs Subtotals		6.198	0.277
C. Other Program Funding Summary (\$ in Millions) N/A			
Remarks			
D. Acquisition Strategy MPS development 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.			
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems				PROJECT 673858: Mission Planning Systems (MPS) Development					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Planning Enterprise Contract II	C/Various	Various:Various,	-	2.707	Nov 2011	4.605	Nov 2012	0.180	Nov 2013	-		0.180	Continuing	Continuing	TBD
Systems Engineering and Integration	C/CPAF	SAIC:McLean, VA	-	1.191	Nov 2011	0.937	Nov 2012	0.031	Nov 2013	-		0.031	Continuing	Continuing	TBD
A-10 Development	PO	Organic:Hill AFB, UT	-	0.350	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Subtotal			0.000	4.248		5.542		0.211		0.000		0.211			
Remarks Prior to FY12, Systems Engineering and Integration, Framework, and Common Component costs were funded in project 673858. Beginning in FY12, projects 675302 and 675380 will also fund these costs.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Engineering Institute (SEI)	C/T&M	SEI:Pittsburgh, PA	-	0.019	Nov 2011	0.011	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
Tecolote (Cost Estimating)	C/T&M	Tecolote Inc:Bedford, MA	-	0.000		0.022	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
Subtotal			0.000	0.019		0.033		0.000		0.000		0.000			
Remarks Prior to FY12, all support costs were funded in project 673858. Beginning in FY12, projects 675302 and 675380 will also fund these costs.															
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Responsible Test Organization (RTO)	PO	46TW:Eglin AFB, FL	-	0.390	Nov 2011	0.195	Nov 2012	0.022	Nov 2013	-		0.022	Continuing	Continuing	TBD
Certification and Accreditation	MIPR	JITC:Indian Head, MD	-	0.017	Jan 2012	0.007	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems				PROJECT 673858: Mission Planning Systems (MPS) Development					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Type I Training	C/FP	Ogden Air Logistics Center:Hill AFB, UT	-	0.269	Nov 2011	0.103	Nov 2012	0.024	Nov 2013	-		0.024	Continuing	Continuing	TBD
Field Representative Hardware	C/Various	Various:Various,	-	0.026	Nov 2011	0.062	Nov 2012	0.004	Nov 2013	-		0.004	Continuing	Continuing	TBD
Subtotal			0.000	0.702		0.367		0.050		0.000		0.050			
Remarks Prior to FY12, all test and evaluation costs were funded in project 673858. Beginning in FY12, projects 675302 and 675380 will also fund these costs.															
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC Support	RO	Mitre Corp:Bedford, MA	-	0.181	Nov 2011	0.222	Oct 2012	0.007	Oct 2013	-		0.007	Continuing	Continuing	TBD
Program Management Administration	Various	Various:Various,	-	1.048	Nov 2011	0.241	Nov 2012	0.009	Nov 2013	-		0.009	Continuing	Continuing	TBD
Subtotal			0.000	1.229		0.463		0.016		0.000		0.016			
Remarks Prior to FY12, all management services costs were funded in project 673858. Beginning in FY12, projects 675302 and 675380 will also fund these costs.															
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	6.198		6.405		0.277		0.000		0.277			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

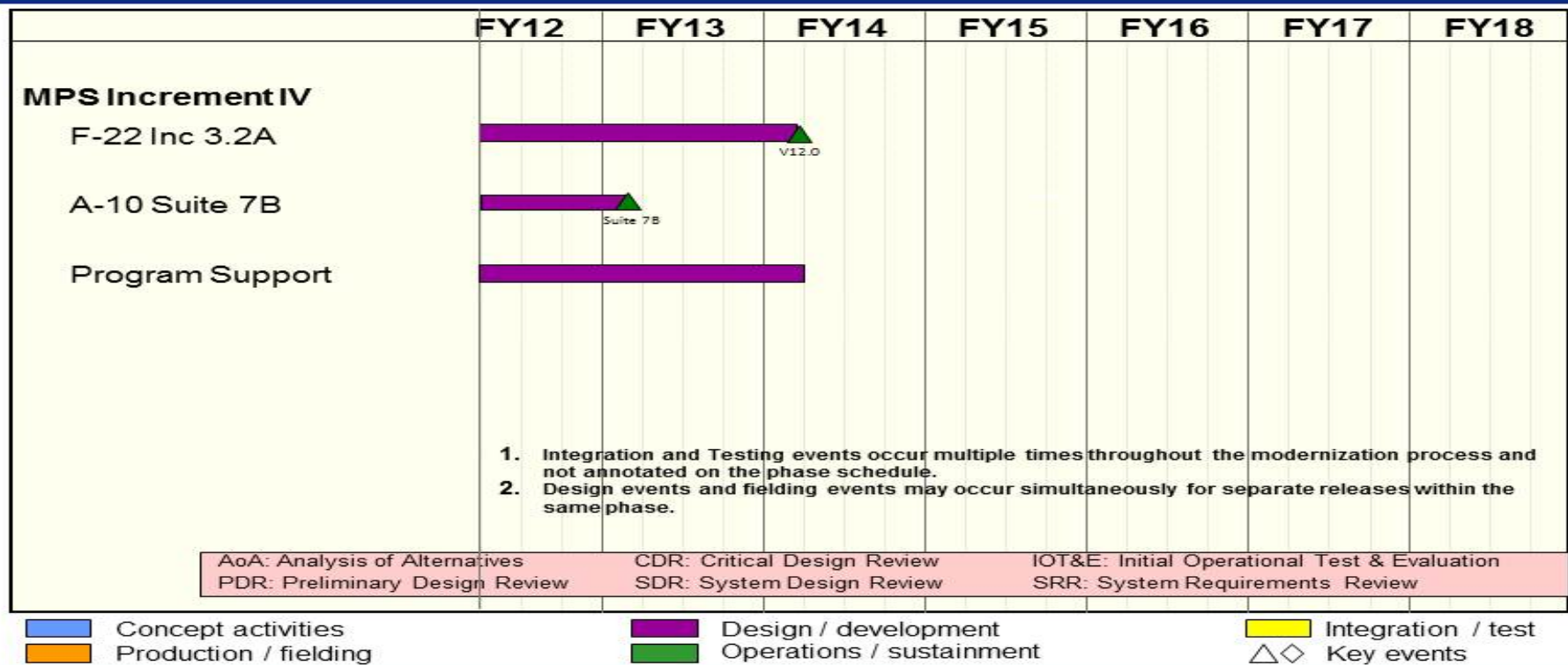
PE 0208006F: Mission Planning Systems

PROJECT

673858: Mission Planning Systems (MPS) Development



Mission Planning Systems (MPS) Development Program Schedule (BPAC 673858)



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>	PROJECT 673858: <i>Mission Planning Systems (MPS) Development</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
F-22 Inc 3.2A v12.0 Fielding	1	2014	1	2014
A-10 Suite 7B Fielding	1	2013	1	2013
Program Support	1	2012	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems				PROJECT 675302: Precision Aerial Delivery Systems (PADS)			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675302: Precision Aerial Delivery Systems (PADS)	-	5.361	5.546	3.299	-	3.299	7.059	12.126	12.904	14.235	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note Project 675302 was renamed Precision Aerial Delivery Systems (PADS) from Mobility Air Forces (MAF) Planning Systems in FY13.												
A. Mission Description and Budget Item Justification Mission planning involves the creation of a flight plan based on multiple inputs including 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 requirement 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 plan; download pertinent flight information to on-board aircraft avionics; and, conduct dynamic/in-flight replanning as applicable. This project continues the development of a Joint Precision Airdrop System-Mission Planner (JPADS-MP) in conjunction with the Army. The JPADS System of Systems (SoS) capability provides a planning and execution capability for DoD airdrop requirements. It is the primary airdrop mission planning and execution system for all ballistic airdrop mission as well as precision guided airdrops that are required when the mission profile or surface-to-air threat assessment warrants a high-altitude and/or standoff precision delivery. JPADS enables high-altitude, precise airdrop delivery to forward ground forces, mitigating surface-to-air threats, reducing risk of Improvised Explosive Device (IED) & insurgent attack on ground convoys. JPADS allows the warfighter to consider weather, terrain, aircraft capabilities, threat, etc. to accurately deliver payloads to keep the warfighter supplied and in the fight. The Joint Precision Airdrop System-Mission Planner (JPADS-MP) program of record (PoR), of which the Consolidated Airdrop Tool (CAT) software is a key deliverable, continues development of CAT to provide precision and conventional airdrop capability for AF and other services (e.g the Army, etc). Future releases of CAT software concentrate on increasing the accuracy of airdrop mission planning by improving aircraft, payload, and chute specific calculations along with weather analysis visualization tools specifically adapted for airdrop. In addition, the AFRL led Precision Airdrop (PAD) Flagship Capability Concept (FCC) effort will transition capabilities to the JPADS-MP PoR, specifically into various CAT software release deliverables. The PAD FCC is charged with updating airdrop platforms and airdrop related systems to improve accuracy across all airdrop mission types. a. CAT 2.x includes but is not limited to Digital Terrain Data (DTED), Wireless Gate Release (WGRS), and aircraft specific Monte Carlo solutions. CAT v3.x includes but is not limited to updates to the operating systems and standard desktop configuration (SDC), refactor of the weather component known as WinPADS, replaces the Local Area Prediction System (LAPS), and Airdrop Damage Estimate (ADE) capabilities. CAT 3.x also transitions and supports the AFRL PADS FCC capability of bundle tracking.												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems	PROJECT 675302: Precision Aerial Delivery Systems (PADS)		
<p>b. CAT 4.x includes but is not limited to OS/SDC updates, migration to JMPS, combination airdrop and new map projections including polar stereographic. CAT v5.x includes but is not limited to approach headings for guided systems, secondary cargo airdrop release, and transitions AFRL PADS FCC forced exit and humanitarian airdrop capabilities. CAT v6.x includes but is not limited to new chute configurations and aerial guidance units, updates ballistics data and dispersion models and transitions AFRL PADS FCC Light Detection and Ranging (LIDAR) and RADAR sensing capabilities for real-time weather. CAT v7.x includes but is not limited to OS/SDC updates, force deployment, and transitions AFRL PADS FCC human effectiveness capabilities.</p> <p>This program is in Budget Activity 7, Operational System Development, which includes development efforts to upgrade systems that have been fielded or have received approval for full rate production, and anticipate production funding in the current or subsequent fiscal year.</p>				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
<p>Title: JPADS Development</p> <p>Description: Continue development of a JPADS capability for precise, high altitude delivery of material to forward ground forces.</p> <p>FY 2012 Accomplishments: Continued development of a JPADS capability for precise, high altitude delivery of material to forward ground forces.</p> <p>FY 2013 Plans: CAT v3.x effort will: 1) Modify the airdrop software for the integration of new solution to replace the antiquated "black box" module Local Analysis and Prediction System (LAPS) for improved localized weather modeling; 2) develop aircraft/chute system specific calculations for increased accuracy; 3) develop capability for airdrop software to ingest updates to payload ballistic data; 4) develop capability to display location of dropped bundles real-time on the mission computer; and 5) make necessary updates in the software to accommodate new mission computers.</p> <p>FY 2014 Plans: CAT v3.x will develop and integrate weather forecast and analysis tools customized for precision airdrop, and integrate Airdrop Damage Estimate (ADE) tool for improved planning. Efforts also include revising the work-flow of the software and maximizing automation in order to simplify mission execution for the aircrew. CAT v4.x development activities expand precision airdrop capabilities for accurate calculating leaflet dispersion and developing calculations and capabilities for combination airdrop for personnel and heavy equipment in a single pass. Efforts also include the migration of airdrop software to a JMPS framework.</p>		4.702	4.909	2.725
<p>Title: Program Management Administration</p> <p>Description: Ongoing program support for various efforts within Project 675302, Precision Aerial Delivery Systems (PADS). All FY11 and prior year program support resided in Project 675838, MPS Development.</p> <p>FY 2012 Accomplishments:</p>		0.659	0.637	0.574

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>			PROJECT 675302: <i>Precision Aerial Delivery Systems (PADS)</i>		

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
Provided ongoing program support for various efforts within Project 675302, Precision Aerial Delivery Systems (PADS). FY 2013 Plans: Provides ongoing program support for various efforts within Project 675302, Precision Aerial Delivery Systems (PADS). FY 2014 Plans: Provides ongoing program support for various efforts within Project 675302, Precision Aerial Delivery Systems (PADS).			
Accomplishments/Planned Programs Subtotals	5.361	5.546	3.299

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPAF: BA07: Line Item #	9.709	8.487	8.525		8.525	9.175	9.348	9.525	9.696	Continuing	Continuing
Remarks											
D. Acquisition Strategy PADS 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.											
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems				PROJECT 675302: Precision Aerial Delivery Systems (PADS)					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DITCO IV Contract	MIPR	TYBRIN:Ft Walton Beach, FL	-	3.566	Nov 2011	3.897	Nov 2012	1.561	Nov 2013	-		1.561	Continuing	Continuing	TBD
Systems Engineering and Integration	C/CPAF	SAIC:McLean, VA	-	0.749	Nov 2011	0.471	Nov 2012	0.690	Nov 2013	-		0.690	Continuing	Continuing	TBD
Subtotal			0.000	4.315		4.368		2.251		0.000		2.251			
Remarks Systems Engineering and Integration costs were programmed in project 673858 prior to FY12.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Engineering Institute (SEI)	C/T&M	SEI:Pittsburgh, PA	-	0.000		0.014	Nov 2012	0.012	Nov 2013	-		0.012	Continuing	Continuing	TBD
Tecolote (Cost Estimating)	C/T&M	Tecolote Inc:Bedford, MA	-	0.000		0.028	Nov 2012	0.024	Nov 2013	-		0.024	Continuing	Continuing	TBD
Subtotal			0.000	0.000		0.042		0.036		0.000		0.036			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Responsible Test Organization (RTO)	PO	46TW:Eglin AFB, FL	-	0.215	Nov 2011	0.287	Nov 2012	0.250	Nov 2013	-		0.250	Continuing	Continuing	TBD
Certification and Accreditation	MIPR	JITC:Indian Head, MD	-	0.010	Jan 2012	0.011	Jan 2013	0.010	Jan 2014	-		0.010	Continuing	Continuing	TBD
Type I Training	C/FP	Ogden Air Logistics Center:Hill AFB, UT	-	0.148	Nov 2011	0.151	Nov 2012	0.133	Nov 2013	-		0.133	Continuing	Continuing	TBD
Field Representative Hardware	C/Various	Various:Various,	-	0.014	Nov 2011	0.092	Nov 2012	0.081	Nov 2013	-		0.081	Continuing	Continuing	TBD

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>							R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>					PROJECT 675302: <i>Precision Aerial Delivery Systems (PADS)</i>			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	0.387		0.541		0.474		0.000		0.474			

Remarks
Test and Evaluation costs were programmed in project 673858 prior to FY12.

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC Support	RO	MITRE Corp:Bedford, MA	-	0.000		0.285	Oct 2012	0.243	Oct 2013	-		0.243	Continuing	Continuing	TBD
Program Management Administration	Various	Various:Various,	-	0.659	Nov 2011	0.310	Nov 2012	0.295	Nov 2013	-		0.295	Continuing	Continuing	TBD
Subtotal			0.000	0.659		0.595		0.538		0.000		0.538			

Remarks
Management Services costs were programmed in project 673858 prior to FY12.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	5.361	5.546	3.299	0.000	3.299			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

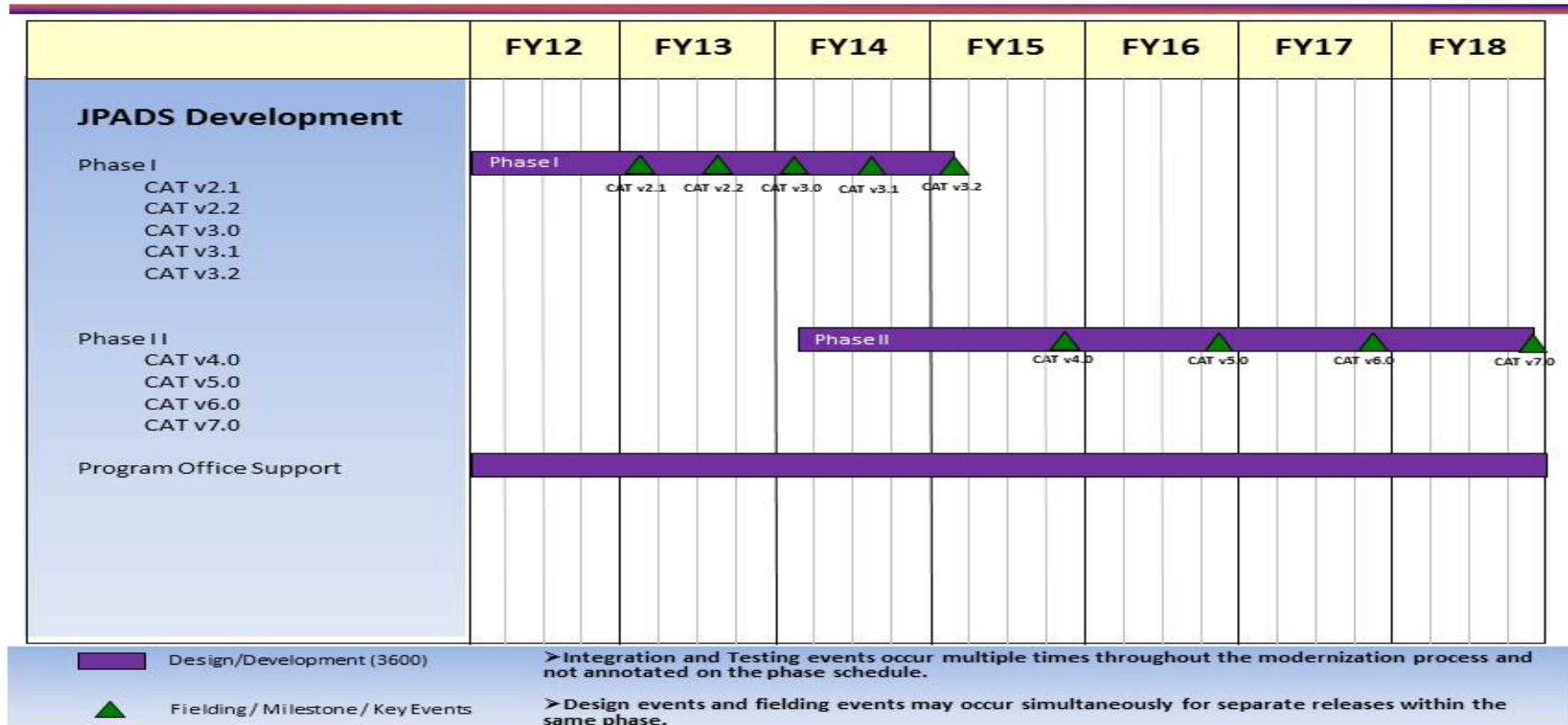
PE 0208006F: Mission Planning Systems

PROJECT

675302: Precision Aerial Delivery Systems (PADS)



Precision Aerial Delivery Systems (PADS) Project 675302



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>	PROJECT 675302: <i>Precision Aerial Delivery Systems (PADS)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JPADS-MP CAT v2.1 Fielding	1	2013	1	2013
JPADS-MP CAT v2.2 Fielding	3	2013	3	2013
JPADS-MP CAT v3.0 Fielding	1	2014	1	2014
JPADS-MP CAT v3.1 Fielding	3	2014	3	2014
JPADS-MP CAT v3.2 Fielding	1	2015	1	2015
JPADS-MP CAT v4.0 Fielding	4	2015	4	2015
JPADS-MP CAT v5.0 Fielding	4	2016	4	2016
JPADS-MP CAT v6.0 Fielding	4	2017	4	2017
JPADS-MP CAT v7.0 Fielding	4	2018	4	2018
Program Office Support	1	2012	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems				PROJECT 675380: Mission Planning Systems (MPS) Modernization			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675380: Mission Planning Systems (MPS) Modernization	-	49.648	57.426	59.029	-	59.029	79.569	74.574	65.552	64.775	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Project 675380 was renamed Mission Planning Systems (MPS) Modernization from Combat Air Forces (CAF) Planning Systems in FY13.

All MPS Modernization efforts will be centralized in project 675380 starting in FY14, including efforts previously found in project 673858.

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 weapons, cargo, passenger, and/or fuel delivery, calculate fuel requirement, 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 plan; and download pertinent flight information to on-board aircraft avionics. This project focuses on modernizing MPS to support Combat Air Forces (CAF) and Mobility Air Forces (MAF), including the development, test and sustainment of Mission Planning Environments (MPEs) to support the A-10, B-1B, C-5, C-17, C- 27, C-130, E-3, E-8, F-15, F-16, F-22A, KC-10, KC-46, KC-135, RC-135, other platforms, and all common component (CCs) software tools currently approved as necessary for mission requirements. Activities also include studies and analysis to support both current program planning and execution and future program planning. MPS modernization efforts are as follows:

a. MPS Increment IV Development: This effort continues update/development activities for platforms that previously transitioned to MPS (e.g. F-15, F-16, A-10, B-1B, and F-22A Increment 3.2A) to provide capabilities in accordance with the Increment IV Capability Development Document (CDD). In addition, it also upgrades several common components (CCs) that are utilized on a variety of CAF platforms. Starting in FY13, all MPS Increment IV Development efforts will reside in Project 673858, Mission Planning Systems (MPS) development.

b. CAF MPE Modernization: These efforts modernize CAF MPEs that were developed and delivered under MPS Increments II and IV. The modernization effort will provide new and improved mission planning capability for individual Operational Flight Program (OFP) requirements, such as new weapons, avionics upgrades, communications systems, etc. The OFPs requiring MPE updates under the CAF modernization effort in Fiscal Years 2011 through 2017 include but are not limited to those for A-10 (Suites 8, 9, 10, 11, and 12), B-1B (Sustainment Blocks 15, 16, 16a, 17 and 18), F-15 (Suites 7, 8, 9, and 10), F-16 Block 30 (System Capability Upgrade [SCU] 8, 9, and 10), F-16 Block 40/50 (M6.1, M6.5, M7.1, and M8.0) and F-22 (Increments 3.2B, 3.2C, and 4.0). CAF modernization also includes updates to mission planning capabilities supporting associated weapons, including small diameter bomb (SDB-II), joint direct attack munitions (JDAM) and the Joint air-to-surface standoff

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>	PROJECT 675380: <i>Mission Planning Systems (MPS) Modernization</i>
<p>missile (JASSM). Finally, CAF modernization will address required improvements to CAF related MPE CCs, including Precision-Guided Munitions Planning System (PGMPS), Electronic Warfare CC (EWCC), etc.</p> <p>(Starting in FY14, CAF MPE Modernization is broken out into specific platforms as per the following.)</p> <p>1) F-15 Modernization: This modernization program consists of multiple software development efforts driven by OFPs updates for F-15 Suites 7, 8, and 9. Suite 7 MPE capabilities include, but are not limited to, Digital Transfer Device (DTD) improvements, updates for new features in weapons such as Joint Direct Attack Munition (JDAM), Small Diameter Bomb (SDB), AIM-9X, AIM-120D, and Network Enable Weapon support elements (e.g. key handling, weapon data link, and Link 16). It will also include enhancements to the synthetic aperture radar planning tool (SAR-PT) and the global area reference tool as well as radar modernization updates (e.g. combat identification, radar planning tool enhancements). Development efforts for F-15 Suite 8 include, but are not limited to, integration of B61 Life Extension Program, feature updates for several weapons, and the expansion of Link-16 messages sets. F-15 Suite 9 MPE updates will include a variety of updates and enhancements for weapons and aircraft systems.</p> <p>2) F-16 Block 30 Modernization: The F-16 Block 30 modernization effort will support new aircraft capabilities established in OFPs for the SCU8, SCU9, and SCU10. The effort will also migrate the F-16 Block 30 Mission Planning Environment (MPE) to the Windows 7 operating system and the current version of the MPS Framework. SCU8 system capabilities include the addition of Helmet Mounted Integrated Targeting (HMIT), Small Diameter Bomb (SDB), the AIM-120D missile variant and Center Display Unit (CDU) Integration. SCU9 capabilities include finishing HMIT and CDU integrations, support of Threat Symbolology/Correlation (TS/C) file import (commonality with F-16 Block 40/50) and the addition of the Laser JDAM.</p> <p>3) F-16 Block 40/50 Modernization: The F-16 Block 40/50 modernization efforts will provide the capability within the MPE to plan/utilize a number of OFP-driven capabilities in the platform. These capabilities include, but are not limited to, integrating the universal armament interface (UAI) with the most recent version of precision guided munitions planning software (PGMPS) to give the platform the ability to plan missions for any type of network enabled weapon (NEW). It will also provide for UAI compliance with the small diameter bomb (SDB; GBU-39) and the laser joint direct attack munition (LJDAM; GBU-54). The modernization effort will also provide for the use of the advanced identification friend or foe (AIFF) Mode 5 capability in the F-16 Blk 40/50. AIFF will allow use of enhanced authentication and verification of friendly signals, through the incorporation of cryptographically secured signals. It will also introduce Automatic Dependent Surveillance-Broadcast (ADS-B) technology and facilitate compliance with standards for the Next Generation Air Transportation System (NextGen). The development effort will also migrate the F-16 Block 40/50 MPE to the Windows 7 operating environment</p> <p>4) F-22 Modernization: F-22 OFP-driven enhancements include, but are not limited to the addition of improved capabilities for the AIM-9X and AIM-120D, the incorporation of additional electronic protection tasks, the small diameter bomb target list manager, combat identification improvements, installation of the auto ground collision avoidance system, and incorporation of the synthetic aperture radar planning tool. Additionally, other new and emerging OFP-generated requirements will be addressed as identified by the operational user(s). Other common component updates will also be completed as required.</p> <p>5) B-1 Modernization: The B-1 Modernization program includes OFP-driven software updates for Releases 7.0, 8.0, and 9.0. It will incrementally update the platform MPE and provide for integration with the Reliability and Maintainability Improvement Program (RMIP)/Inertial Navigation System Replacement (INSR), Laptop</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>	PROJECT 675380: <i>Mission Planning Systems (MPS) Modernization</i>
<p>Computer Targeting Pod Phase 2 (LCTP), Integrated Battle Station elements (including Fully Integrated Data Link/Visual Situation Display Upgrade (VSDU)), Central Integrated Test System Upgrade (CITS), and related follow on enhancements. Additionally it will migrate the B-1 MPE to the Windows 7 operating system and convert the B-1 Unit Planning Component (UPC) Visual Basic (VB) code to C# .NET.</p> <p>6) A-10 Modernization: The A-10 effort will continue to support aircraft OFP-driven capability enhancement for Suite 7B and Suite 8. Suite 7B capabilities include, but are not limited to, JPEG 2000 Maps, Situational Awareness Data Link (SADL) Crypto Upgrade, Electronic Warfare Threat Table Correlation, pre-planning combat search and rescue parameters and helmet mounted cueing system updates. Suite 8 capabilities include, but are not limited to, the addition of Mode 5 IFF, Combat Survivor Evader Locator (CSEL), Laser JDAM (Joint Direct Attack Munition), AGM-65L (Laser Code Entry), advanced targeting pod mission planning settings, and combat search and rescue post mission enhancements. The modernization effort will also migrate the A-10 Mission Planning Environment (MPE) to the Windows 7 operating system and the current version of the MPS framework.</p> <p>c. MAF MPE Modernization: This effort modifies the common MAF MPE developed and deployed during previous mission planning increments. The modernization activities will provide new and improved mission planning capabilities for the MAF fleet as required to meet evolving OFP, fuel efficiency, and global planning netcentric requirements such as avionics upgrades, communication systems, interfaces with command and control systems, new chute types, etc. for various MAF platforms. The MPE updates under the MAF Modernization effort include but are not limited to those for Air Mobility Command--C-5, C-17, C-27, C-130s (multiple variants), KC-10, KC-46, and KC-135 and Special Mission Air Combat Command--E-3, E-8, E-4, HH-60, and RC-135. MAF modernization will also address required improvements to and integration of MAF related MPE CCs, including the Communications, Navigation Surveillance/Air Traffic Management (CNS/ATM) CC, Aeronautical Advisory and Notices to Airmen Tool (AANT), and Air Refueling Tool (ART) CC, etc. This effort also provides the capability to use the new Digital Aeronautical Information File (DAFIF) web services-based data structure being produced by NGA in this timeframe.</p> <p>1) ACC Special Missions Modernization: The ACC Special Mission Modernization Program includes development and testing of mission planning software for the E-3/E-8 (v2.0, 3.0, and 3.1), RC-135 (v3.0), and EC-130 (v1.0) platforms. The main purpose of the E-3/E-8 v2.0 software is to provide Windows 7 capability to maintain SDC compliance. The purpose of the E-3/E-8 v3.0 development effort is to add requested enhancements, while v3.1 will deliver software that is fully compatible with the E-3 DRAGON avionics upgrade, including CNS/ATM certification. RC-135 v3.0 will include compatibility with potential aircraft avionics upgrades and maintain SDC and Windows compliance. EC-130 v1.0 will be the platform's first release on the JMPS software. Work will also commence on the Phase 2 program for these aircraft.</p> <p>2) MAF MPS Modernization (AMC Transition): This effort modifies the common MAF MPE developed and deployed during previous mission planning increments. It will provide new and improved mission planning capabilities for the MAF fleet (e.g. C-5, C-130, KC-10, etc.) as required to meet OFP, fuel efficiency, and global planning net-centric requirements. It includes enhanced capabilities to accommodate avionics upgrades, improved communications systems, interfaces with command and control systems, new chutes, etc. for various MAF platforms. Development efforts also include integrating improvements to MAF related Common Components (CCs). Examples of these CCs include the Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) CC, Consolidated Airdrop Tool (CAT), Aeronautical Advisory and Notices to Airmen Tool (AANT), and Air Refueling Tool (ART). This effort also provides the capability to use the new Digital Aeronautical Information File (DAFIF) services-based data structure being produced by NGA.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems	PROJECT 675380: Mission Planning Systems (MPS) Modernization		
d. Mobility Air Force Automated Flight Planning Service (MAFPS): This effort includes development of a centralized/net-centric global mobility flight planning capability, which will provide significant fuel savings through automated flight route, airspeed, and altitude optimization utilizing aircraft performance, air traffic management, weather, and other data.				
e. Test, Training and Certification: Continues all MPS-related integration, test, and certification activities for all CAF and MAF platforms.				
f. Program Support: Continues all program office management operations and support activities to ensure the timely delivery of mission planning systems to the warfighter.				
This program is in Budget Activity 7, Operational System Development, which includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and, anticipate production funding in the current or subsequent fiscal year.				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Title: F-15 Modernization Description: Continues the modernization of previously fielded F-15 MPEs to enable efficient use of new and improved capabilities being developed in the OFPs. FY 2012 Accomplishments: Completed testing and fielding of v3.0, which improves Digital Transfer Device performance and Weapons updates for new features, and v3.1, which adds the Image Capture Tool & LOS Planning Tool, changes to Common Components, and Updates to support Radar Modernization. Started development of v3.2, which integrates the Small Diameter Bomb II including Network Enable Weapons support elements, and ACC driven enhancements to planning tools. Starting development of v4.0, which integrates B61 Life Extension Program support, weapons updates, and expansion of Link-16 message sets. FY 2013 Plans: Continue development of v3.2 and v4.0, which include B61-LEP and additional OFP requirements. FY 2014 Plans: Will complete development and testing (DT/OT) of SDB II improvements. Will continue development of radar and other weapon updates (e.g. B61 LEP, key data loading). Will initiate development of OFP-driven updates for F-15 Suite 9.		9.407	10.295	6.762
Title: F-16 Block 30 Modernization Description: Continues the modernization of previously fielded F-16 Block 30 MPEs to enable efficient use of new and improved capabilities being developed in the OFPs. FY 2012 Accomplishments:		7.276	4.973	2.881

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems	PROJECT 675380: Mission Planning Systems (MPS) Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Completed development, flight test release and formal qualification testing of the SCU8 MPE, which adds Helmet Mounted Integrated Targeting (HMIT), Small Diameter Bomb (SDB), and the AIM-120D missile variant. Completed initial design activities for SCU9, which finishes HMIT integration, support of Threat Symbology/Correlation (TS/C) File import, and the addition of Laser JDAM. FY 2013 Plans: Complete software development/testing to migrate F-16 SCU8 to Windows 7 operating environment. Initiate development of F-16 SCU9 updates to incorporate Laser JDAM, threat symbology/correlation, and other capabilities. Initiate requirements planning and definitization for F-16 SCU10 updates. FY 2014 Plans: Will complete development and testing of F-16 SCU9 updates (e.g. Laser JDAM, threat symbology/correlation). Will initiate requirements definitization/planning and initial design activities for F-16 SCU10 updates.				
Title: F-16 Block 40/50 Modernization Description: Continues the modernization of previously fielded F-16 Block 40/50 MPEs to enable efficient use of new and improved capabilities being developed in the OFPs. FY 2012 Accomplishments: Completed the development of M6.1/M6.1+, which includes the Universal Armament Interface (UAI), Network Enabled Weapons (NEW), and Advanced Identification Friend or Foe (AIFF) Mode 5. Begins M7.1+ development. FY 2013 Plans: Continues the development of M6.5/M6.5+, which implements UAI Mission Planning 1 (MP1) completion, Weapons Data Link, and Common Weapons Employment Zone (CWEZ) Updates, will commence in support of that OFP. M7.1+ will continue development throughout FY13 and will include Mission Plannable Declutter, Pattern Management for UAI, and CWEZ. FY 2014 Plans: Will near completion of development of M6.5/M6.5+. The M7.1+ will continue development throughout FY14. Capabilities include, but are not limited to, UAI MP2 Completion, Weapons Data Link, and Common Weapons Employment Zone updates.		5.818	6.221	5.151
Title: F-22 Modernization Description: Continues the modernization of previously fielded F-22 MPEs to enable efficient use of new and improved capabilities being developed in the OFPs. FY 2012 Accomplishments:		4.085	6.305	6.236

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>	PROJECT 675380: <i>Mission Planning Systems (MPS) Modernization</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
Started F-22 JPMPS modernization effort with start of v13.0 development. Version 13.0 adds the AIM-9X/AIM-120D capabilities, Electronic Protection Tasks, and the SDB Target List Manager.			
FY 2013 Plans: Initiate MPE integration and transition to Framework 1.5.1.x. Conduct Preliminary Design Reviews and developer evaluations in support of v13.0 development and user enhancements to tools, Framework, and common component updates. Implement correction of v12.0 deficiencies identified during Government testing.			
FY 2014 Plans: Will continue development of v13.0. Capabilities for v13.0 include, but are not limited to, addition of AIM-9X and AIM-120D, incorporation of additional Electronic Protection Tasks, Small Diameter Bomb Target List Manager, Combat Identification improvements, and installation of Auto Ground Collision Avoidance System and the Synthetic Aperture Radar Planning Tool.			
Title: A-10 Modernization Description: Continues the modernization of previously fielded A-10 MPEs to enable efficient use of new and improved capabilities being developed in the OFPs. FY 2012 Accomplishments: Continued development and evaluation of A-10 Suite 7B, which includes JPEG 2000 Maps, upgrades Situational Awareness Data Link (SADL) Crypto, and implements Electronic Warfare Threat Table Correlation, pre-planning Combat Search and Rescue parameters and Helmet Mounted Cueing System updates. Completed A-10 Suite 7B development and operational testing (DT/OT). FY 2013 Plans: Continue A-10 Suite 8 development. Capabilities include, but are not limited to, the addition of Mode 5 IFF, CSEL (Combat Survivor Evader Locator), Laser JDAM (Joint Direct Attack Munition), AGM-65L (Laser Code Entry), Advanced Targeting Pod Mission Planning Settings, and CSAR Post Mission Enhancements. FY 2014 Plans: Will complete A-10 Suite 8 DT/OT. Will initiate initial design reviews for A-10 Suite 9.		1.541	1.599
Title: B-1 Modernization Description: Continues the modernization of previously fielded B-1 MPEs to enable efficient use of new and improved capabilities being developed in the OFPs. FY 2012 Accomplishments:		8.803	8.837
			0.697
			5.573

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems	PROJECT 675380: Mission Planning Systems (MPS) Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Continued development of B-1 Release 7.0 (which provides mission planning collaboration capability, migration to Windows 7, conversion of B-1 UPC Visual Basic code to C-Sharp, Merge RMIP/INSR and LCTP Phase 2) will support Software Block (SB) 15 and 16 requirements. FY 2013 Plans: Completes B-1 Release 7.0 FQT and associated activities to field for support of SB16. Conducting initial design reviews and Full Qualification Testing (FQT) for Rel 8.0 (which will update de-clutter configuration tool and defensive threat rings) to support SB 16A requirements. FY 2014 Plans: Will complete operational test (OT) and field Release 8.0. Will conduct initial design reviews for Rel 9.0 which will update FIDL/ VSDU displays and provide for the initialization of ARC 210 radio with Beyond Line Of Site (BLOS) capabilities to support SB 17 requirements.				
Title: MAF MPS Modernization (AMC Transition) Description: Efforts include the start and continuation of activities for the modernization of the MAF MPE to include C-5, C-17, C-130s, C-27, KC-10, KC-135, and KC-46 platforms. FY 2013 Plans: Conduct development and test activities of Framework 1.5.300 to support MAF MPS modernization requirements. Ensure legacy capabilities for various tools are supported in the JMPS program. Such tools include, but are not limited to, the Drop Zone/ Landing Zone (DZLZ) database manager and Enterprise Administration and Synchronization Environment (EASE). FY 2014 Plans: Efforts will include the following: Development and integration of Global Mobility JMPS UPC/MPE releases; development, integration, and test of the Air Refueling Tool CC.		0.000	4.157	14.694
Title: ACC Special Missions Modernization Description: Continues the modernization of previously fielded mission planning software environments for the E-3, E-8, E-4, EC-130, and RC-135. FY 2012 Accomplishments: Continued development of E-3/E-8 MPE to transition software to latest SDC/Win 7 configuration. FY 2013 Plans:		6.636	9.092	5.622

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>	PROJECT 675380: <i>Mission Planning Systems (MPS) Modernization</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
Development of software for E-3/E-8, RC-135, and EC-130H to ensure SDC currency and upgrade capabilities based on aircraft platform OFP requirements. These include the Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) CC, cockpit upgrades, communication presets, mission/navigation database format changes, and FPM/TOLD updates.			
FY 2014 Plans: Will develop software for E-3/E-8, RC-135, and EC-130H to ensure SDC currency and to upgrade capabilities based on aircraft platform OFP requirements. These include the Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) CC, cockpit upgrades, communication presets, mission/navigation database format changes, and FPM/TOLD updates. These software updates will include compatibility with potential aircraft avionics upgrades and maintain SDC and Windows compliance.			
Title: MAF Automated Flight Planning Service (MAFPS)		0.000	0.000
Description: Develops a centralized/net-centric global mobility flight planning capability, which will provide significant fuel savings through automated flight route, airspeed, and altitude optimization utilizing aircraft performance, air traffic management, weather, and other data.			4.200
FY 2014 Plans: Will continue ongoing development efforts to update MAF MPE. Includes integration with MAF related CCs such as the Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) CC, Aeronautical Advisory and Notices to Airmen Tool (AANT), and Air Refueling Tool (ART) CC. Prior to FY2014, MAFPS efforts were funded solely by AMC.			
Title: Program Management Administration		6.082	5.947
Description: Ongoing program support to the various efforts within Project 675380, MPS Modernization. Prior to FY12, all Mission Planning Systems (MPS) program support resided in Project 675838, MPS Development.			7.213
FY 2012 Accomplishments: Provided program support for the various efforts within Project 675380, MPS Modernization.			
FY 2013 Plans: Continues ongoing program support to various efforts within Project 675380, MPS Modernization.			
FY 2014 Plans: Will continue ongoing program support to the various efforts within Project 675380, MPS Modernization.			
Accomplishments/Planned Programs Subtotals		49.648	57.426
			59.029

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>			PROJECT 675380: <i>Mission Planning Systems (MPS) Modernization</i>			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA07: Line Item # 833170: <i>Mission Planning Systems</i>	8.820	6.808	5.678		5.678	8.011	8.761	9.127	9.291	Continuing	Continuing
Remarks											
D. Acquisition Strategy Mission Planning Systems (MPS) Modernization 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.											
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems				PROJECT 675380: Mission Planning Systems (MPS) Modernization					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Planning Enterprise Contract II	C/Various	Various:Various,	-	20.992	Nov 2011	21.473	Nov 2012	22.300	Nov 2013	-		22.300	Continuing	Continuing	TBD
F-16 Modernization	PO	Organic:Hill AFB, UT	-	1.726	Nov 2011	6.769	Nov 2012	4.108	Nov 2013	-		4.108	Continuing	Continuing	
A-10 Modernization	PO	Organic:Hill AFB, UT	-	0.600	Nov 2011	1.042	Nov 2012	0.380	Nov 2013	-		0.380	Continuing	Continuing	TBD
EC-130H Modernization	PO	Organic:Robins AFB, GA	-	1.554	Nov 2011	1.290	Nov 2012	1.470	Nov 2013	-		1.470	Continuing	Continuing	TBD
Systems Engineering and Integration	C/CPAF	SAIC:McLean, VA	-	6.743	Nov 2011	5.593	Nov 2012	7.784	Nov 2013	-		7.784	Continuing	Continuing	TBD
Framework	C/FPIF	Northrop Grumman:Herndon, VA	-	1.133	Nov 2011	5.474	Nov 2012	1.603	Nov 2013	-		1.603	Continuing	Continuing	TBD
Common Components	C/Various	Various:Various,	-	5.561	Nov 2011	5.444	Nov 2012	8.781	Nov 2013	-		8.781	Continuing	Continuing	TBD
Subtotal			0.000	38.309		47.085		46.426		0.000		46.426			
Remarks Systems Engineering and Integration, Framework, and Common Components costs were programmed in project 673858, MPS Development, prior to FY12.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Engineering Institute (SEI)	C/T&M	SEI:Pittsburgh, PA	-	0.191	Nov 2011	0.130	Nov 2012	0.147	Nov 2013	-		0.147	Continuing	Continuing	TBD
Tecolote (Cost Estimating)	C/T&M	Tecolote Inc:Bedford, MA	-	0.275	Nov 2011	0.264	Nov 2012	0.300	Nov 2013	-		0.300	Continuing	Continuing	TBD
Subtotal			0.000	0.466		0.394		0.447		0.000		0.447			
Remarks Support costs were programmed in project 673858, MPS Development, prior to FY12.															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0208006F: Mission Planning Systems				PROJECT 675380: Mission Planning Systems (MPS) Modernization					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Responsible Test Organization (RTO)	PO	46TW:Eglin AFB, FL	-	2.919	Nov 2011	2.329	Nov 2012	2.856	Nov 2013	-		2.856	Continuing	Continuing	TBD
Certification and Accreditation	MIPR	JITC:Indian Head, MD	-	0.128	Jan 2012	0.088	Jan 2013	0.109	Jan 2014	-		0.109	Continuing	Continuing	TBD
Type I Training	C/FP	Ogden Air Logistics Center:Hill AFB, UT	-	2.015	Nov 2011	1.230	Nov 2012	1.509	Nov 2013	-		1.509	Continuing	Continuing	TBD
Field Representative Hardware	C/Various	Various:Various,	-	0.195	Nov 2011	0.747	Nov 2012	0.916	Nov 2013	-		0.916	Continuing	Continuing	TBD
Subtotal			0.000	5.257		4.394		5.390		0.000		5.390			
Remarks Test and Evaluation costs were programmed in project 673858, MPS Development, prior to FY12.															
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC Support	RO	MITRE Corp:Bedford, MA	-	3.659	Oct 2011	2.662	Oct 2012	3.017	Oct 2013	-		3.017	Continuing	Continuing	TBD
Program Management Administration	Various	Various:Various,	-	1.957	Nov 2011	2.891	Nov 2012	3.749	Nov 2013	-		3.749	Continuing	Continuing	TBD
Subtotal			0.000	5.616		5.553		6.766		0.000		6.766			
Remarks Management Services costs were programmed in project 673858, MPS Development, prior to FY12.															
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	49.648		57.426		59.029		0.000		59.029			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

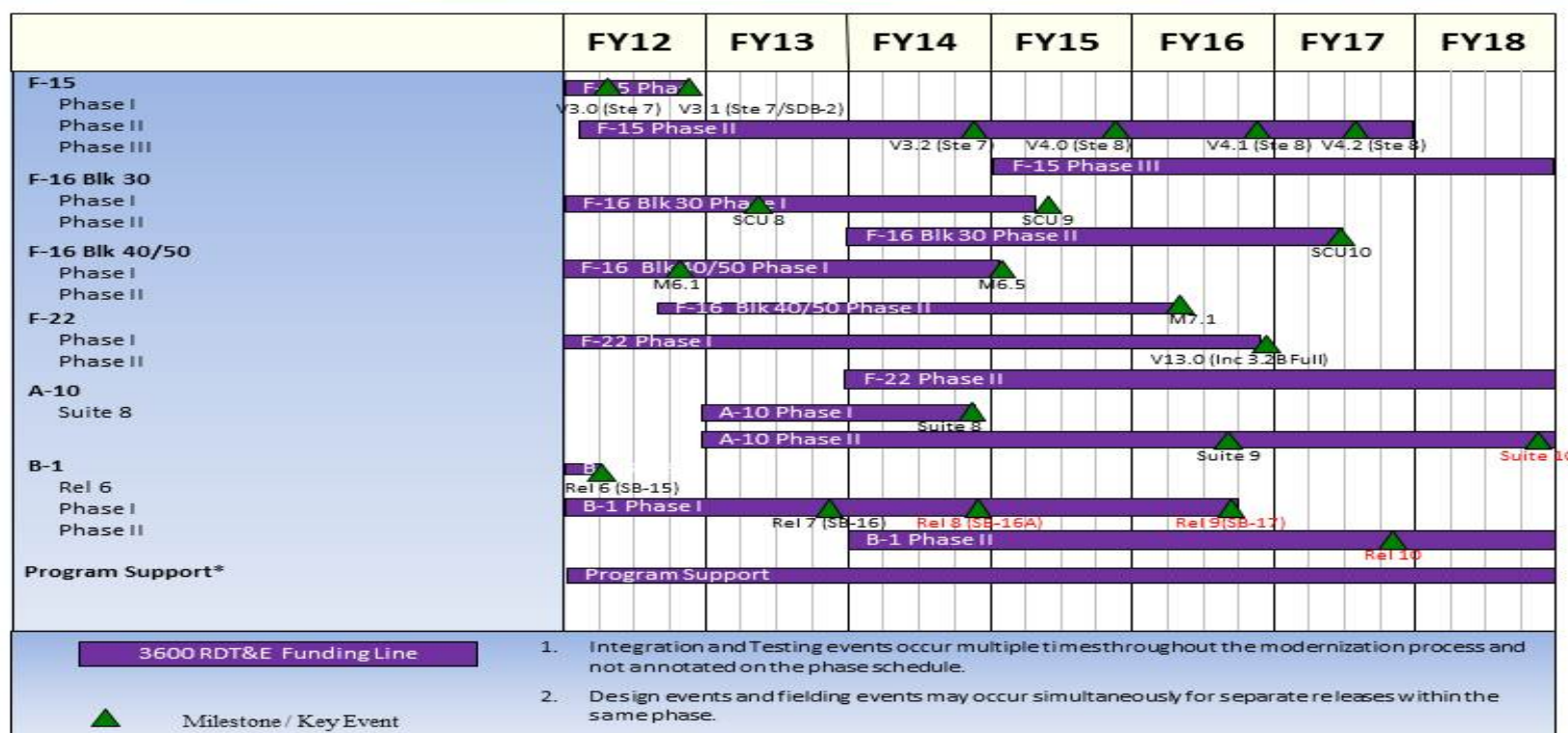
PE 0208006F: Mission Planning Systems

PROJECT

675380: Mission Planning Systems (MPS) Modernization



Mission Planning Systems (MPS) Modernization Project 675380 (page 1 of 2)



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

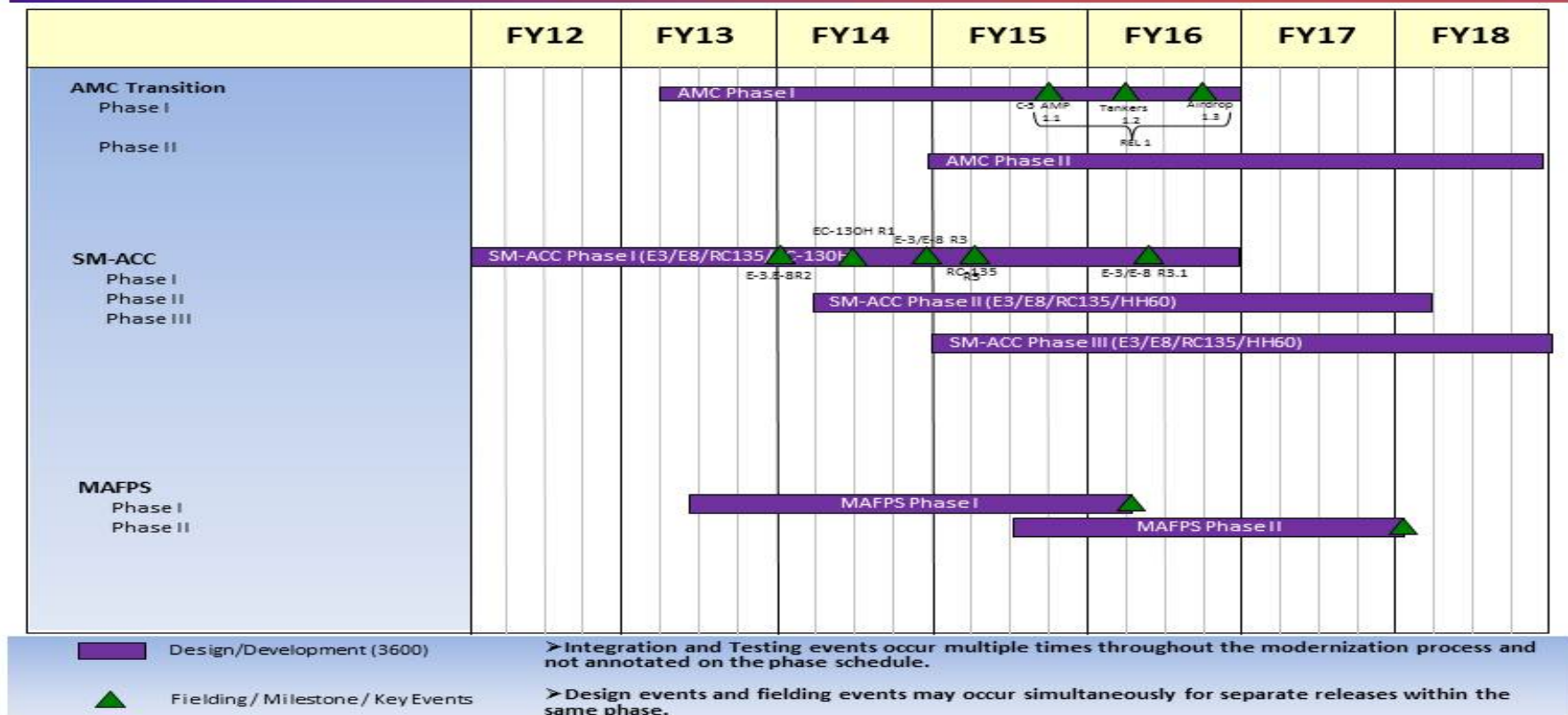
PE 0208006F: Mission Planning Systems

PROJECT

675380: Mission Planning Systems (MPS) Modernization



Mission Planning Systems (MPS) Modernization Project 675380 (page 2 of 2)



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>	PROJECT 675380: <i>Mission Planning Systems (MPS) Modernization</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
F-15 v3.0 Fielding	2	2012	2	2012
F-15 v3.1 Fielding	4	2012	4	2012
F-16 Blk 30 SCU 8 Fielding	2	2013	2	2013
F-16 Blk 30 SCU 9 Fielding	2	2015	2	2015
F-16 Blk 30 SCU 10 Fielding	2	2017	2	2017
F-16 Blk 40/50 M6.1 Fielding	4	2012	4	2012
F-16 Blk 40/50 M6.5 Fielding	1	2015	1	2015
F-16 Blk 40/50 M7.1 Fielding	2	2016	2	2016
F-22 v13.0 Fielding	4	2016	4	2016
A-10 Suite 8 Fielding	4	2014	4	2014
A-10 Suite 9 Fielding	3	2016	3	2016
A-10 Suite 10 Fielding	4	2018	4	2018
B-1 Release 6 Fielding	2	2012	2	2012
B-1 Release 7 Fielding	3	2013	3	2013
B-1 Release 8 Fielding	4	2014	4	2014
B-1 Release 9 Fielding	3	2016	3	2016
B-1 Release 10 Fielding	4	2017	4	2017
AMC Modernization C-5 AMP Release 1 Fielding	3	2015	3	2015
AMC Modernization Tankers Release 1 Fielding	1	2016	1	2016
AMC Modernization Airdrop Release 1 Fielding	3	2016	3	2016
SM-ACC E-3 / E-8 Release 2 Fielding	1	2014	1	2014
SM-ACC E-3 / E-8 Release 3 Fielding	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0208006F: <i>Mission Planning Systems</i>		PROJECT 675380: <i>Mission Planning Systems (MPS) Modernization</i>
		Start		End
Events		Quarter	Year	Quarter
				Year
SM-ACC RC-135 Release 3 Fielding		2	2015	2
SM-ACC E-3 / E-8 Release 3.1 Fielding		2	2016	2
SM-ACC EC-130H Release 1 Fielding		3	2014	3
MAFPS Release 1 Fielding		2	2016	2
MAFPS Release 2 Fielding		1	2018	1
Program Support		1	2012	4
				2018