

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0208006F I Mission Planning Systems							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	0.000	82.054	63.074	71.465	0.000	71.465	91.934	94.093	97.542	97.586	Continuing	Continuing
675302: Precision Aerial Delivery Systems (PADS)	0.000	8.072	8.845	7.021	0.000	7.021	3.090	1.896	1.931	1.965	Continuing	Continuing
675380: Mission Planning Systems (MPS) Modernization	0.000	73.188	54.229	64.444	0.000	64.444	88.844	92.197	95.611	95.621	Continuing	Continuing
675385: MPS Increment 5	0.000	0.794	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.794
Program MDAP/MAIS Code: 509												
Note												
<p>- Increment 5 will be complete in 2019 with the final release recommendation for AMC platforms. The remaining test events are paid with FY18 funds on contract. The majority of work for Increment 5 was conducted in the MPS Modernization BPAC. The Increment 5 BPAC was established for FY17 and FY18 only, in order to meet MAIS reporting requirements. The majority of the work for increment 5 was conducted in the MPS Modernization BPAC.</p> <p>- MPS software is a layered software, designed with open architected standards and modular construction. The core of the MPS software is the Framework software (FW) used by all MPS platforms and the Navy. Common Components are distinct services that are used by a select number of platforms. An example would be weapon specific capability that fighters share. The Unique Planning Component (UPC) is the platform specific software and associated software (install etc) that is delivered to the users in the form of a mission planning environment. Traditionally the MPS Systems Program Office allocates FW funding to other Platform Operational Flight program (OPF) development programs. In FY20, will continue FW effort but will establish it as a independent program. This tracks with the Navy and affords greater insight into the framework cost elements. The FY20 R-Doc will list FW as a separate program in the MPS Modernization BPAC.</p>												
A. Mission Description and Budget Item Justification												
<p>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 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 plan; download pertinent flight information to on-board aircraft avionics; and, conduct dynamic/in-flight re-planning as applicable.</p> <p>The Mission Planning Systems (MPS) program is a collaborative program with the Navy to leverage technical solutions and business practices for most Department of Defense (DoD) platforms. It provides automated mission planning tools and support for fixed- and rotary wing aircraft and guided munitions. It replaces 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, frequently 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</p>												

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems	
<p>and conducting combat search and rescue. MPS products have the potential to support all DoD fixed-wing and rotary wing aircraft and are shared with the selected programs in the Navy. MPS delivers 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.</p> <p>FY20 funding will allow continuation of the MPS Modernization project. MPS will develop pre-, post-, and in-flight mission planning capabilities for Air Force aircraft Global Positioning System (GPS) and weapons migrating from legacy mission planning systems to the Joint Mission Planning System (JMPS),in addition to continuing support for new capabilities and updates for Air Force platforms/weapon systems that have already migrated to JMPS. These platforms/weapon systems include, but are not limited to, the B-1, EC-130, E-3, E-8, F-15, F-16, F-22A, RC-135, and their associated weapons (e.g., Small Diameter Bomb (SDB), Joint Direct Attack Munitions (JDAM), Joint Air-to-Surface Standoff Munitions (JASSM), and Network Enabled Weapons (NEW). JMPS will support the development of follow on modernization efforts for MAFPS, SMACC CSAR (HC/MC-130, HH-60)and Global Mobility (C-5,C-17,C-130, KC-10, KC-135, KC-46) to be delivered with the final MPS Inc 5 software releases.</p> <p>In addition, FY20 funding will be utilized to continue the development of the Joint Precision Airdrop System- Mission Planning (JPADS-MP)system in conjunction with the Army. This program includes the JPADS-MP airdrop software (and other system components) to provide a precision airdrop capability for the C-17, C-130 and other selected platforms as necessary and deliver a planning capability for DoD airdrop requirements. It is the primary airdrop mission planning system for all ballistic airdrop missions, 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-MP 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, and other data to accurately deliver payloads to keep the warfighter supplied and in the fight.</p> <p>Finally, for MPS Increment 5, there is no FY20 development required as the final software delivery is planned for FY19.</p> <p>This program element may include necessary civilian pay expenses required to manage, execute, and deliver Mission Planning weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p> <p>This program is in Budget Activity 7, Operational System Development because this 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>		

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force				Date: February 2019	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		PE 0208006F I Mission Planning Systems			
B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	85.531	63.653	81.131	0.000	81.131
Current President's Budget	82.054	63.074	71.465	0.000	71.465
Total Adjustments	-3.477	-0.579	-9.666	0.000	-9.666
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-0.579			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	-2.598	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.879	0.000			
• Other Adjustments	0.000	0.000	-9.666	0.000	-9.666

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems				Project (Number/Name) 675302 / Precision Aerial Delivery Systems (PADS)			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
675302: Precision Aerial Delivery Systems (PADS)	0.000	8.072	8.845	7.021	0.000	7.021	3.090	1.896	1.931	1.965	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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 re-planning as applicable.

This project continues the development of a Joint Precision Airdrop System-Mission Planner (JPADS-MP) capability in conjunction with the Army. JPADS provides a planning capability for DoD airdrop requirements. It is the primary airdrop mission planning system for all ballistic airdrop missions 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. It enables high-altitude, precise airdrop delivery to forward ground forces, while mitigating surface-to-air threats, reducing risk of exposure to Improvised Explosive Devices (IEDs) and insurgent attack on ground convoys. JPADS allows the warfighter to consider weather, terrain, aircraft capabilities, threat, and other data to accurately deliver payloads to U.S. and other friendly forces.

Consolidated Airdrop Tool (CAT) is the key JPADS-MP software deliverable. It will increase the accuracy of airdrop mission planning by improving aircraft, payload, and chute specific calculations along with weather analysis visualization tools specifically adapted for airdrop. Future initiatives are designated to achieve automation of airdrop planning and execution to reduce task saturation in the cockpit and support Air Mobility Command's (AMC) objective of moving to a two-man cockpit. These efforts include the ability to automatically receive and use real-time winds in any location, calculation of a release point and airdrop in a single pass, the ability to conduct real-time objective area analysis to calculate probable damage estimates and execute dynamic re-tasking, the ability to conduct post-drop assessments, and the implementation of new technologies (e.g. Service Oriented Architecture (SOA) Touch Screen environment).

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Mission Planning weapon system. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020
Title: JPADS-MP Phase I	8.072	8.845	7.021
Description: Continues development of a JPADS capability for precise, high altitude delivery of material to forward ground forces.			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>	Project (Number/Name) 675302 / <i>Precision Aerial Delivery Systems (PADS)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020
<p><i>FY 2019 Plans:</i></p> <ul style="list-style-type: none"> - Will complete operational testing of CAT v6.x for fielding in FY19 - Will continue development and testing of CAT to address capabilities of Visual Navigation and GPS Coverage, Software User Notifications, HUD/SCNS Display/Workflow, Wind Transfer to the AGU, Dry Pass, LT-ADE Integration, Initial table capabilities, Ensemble Weather, and Kalman Filter Implementation. - Will begin development of CAT v8.x. All development is being conducted for these versions via agile development with multiple Program Increments (PIs). Each of the PIs provides an interim capability available to the using command supporting the rapid fielding of warfighter capabilities. Projected capabilities are not limited to, but include HALO for JPADS, Hazard Avoidance, and terrain effects. <p><i>FY 2020 Plans:</i></p> <ul style="list-style-type: none"> - Continue agile development of increased JPADS capability, primarily with CAT v8.x. This version will provide precision and conventional airdrop capabilities including but not limited to, Airdrop Damage Estimate (ADE), 3D Hazard and obstruction data for guided delivery system navigation, automation for aircrew in-flight airdrop workflow, Extracted Container Delivery Systems (ExCDS), data services to multiple mission planning devices, and calculations to maximize payload impact success on drop zones. - Continue development of CAT v9.0 (incorporating capabilities from MAJCOM prioritization requirements) <p><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></p> <ul style="list-style-type: none"> -The substantial increase is due to the higher development cost of the all complex CAT v9.0 capabilities plus the beginning of development for CAT v9.0. FY20, JPADS budget decreased by \$1.6 Million to support the Framework platform. 			
Accomplishments/Planned Programs Subtotals	8.072	8.845	7.021

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

<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u> <u>Base</u>	<u>FY 2020</u> <u>OCO</u>	<u>FY 2020</u> <u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 Line Item 833170: <i>Mission Planning Systems</i>	6.083	3.801	5.208	-	5.208	5.216	5.109	5.129	7.848	Continuing	Continuing

Remarks

D. Acquisition Strategy

The MPS PADS efforts are developed and fielded using a variety of contracting instruments. Efforts to accomplish activities such as software development, systems engineering and integration, training, and support are completed using competitively awarded contracts (e.g. Cost Plus Award Fee (CPAF), Fixed Price (FP)).

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>	Project (Number/Name) 675302 / <i>Precision Aerial Delivery Systems (PADS)</i>
<p>Program Management Administration (PMA) contracts are awarded competitively and consist of various types of contracts at various locations.</p> <p>MITRE, a Federally Funded Research and Development Center (FFRDC) contractor, provides technical support via a no fee for service contract.</p> <p>Other efforts are accomplished using Purchase Orders (PO) and Military Interdepartmental Purchase Requests (MIPR).</p> <p>For the efforts listed above, the Air Force Life Cycle Management Center at Hanscom AFB (AFLCMC/HB) is the Contracting Authority and provides Contracts, Legal, and Comptroller Support.</p> <p>Air Force Program Executive Officer (PEO) for Battle Management (AFPEO/BM) is the PEO and Milestone Decision Authority (MDA) for the PADS program.</p> <p><u>E. Performance Metrics</u></p> <p>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.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems				Project (Number/Name) 675302 / Precision Aerial Delivery Systems (PADS)					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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 Development	MIPR	Various : Various	0.000	5.998	Nov 2017	7.051	Nov 2018	5.166	Nov 2019	-		5.166	Continuing	Continuing	-
Systems Engineering and Integration	C/CPAF	Leidos, Inc. : Reston, VA	0.000	1.213	Jan 2018	0.925	Jan 2019	0.944	Jan 2020	-		0.944	Continuing	Continuing	-
Subtotal			0.000	7.211		7.976		6.110		-		6.110	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cost Estimating	C/T&M	Quantech Services : Lexington, MA	0.000	0.014	Nov 2017	0.015	Nov 2018	0.028	Nov 2019	-		0.028	0.000	0.057	0.181
Subtotal			0.000	0.014		0.015		0.028		-		0.028	0.000	0.057	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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	Spiral Solutions & Technologies : Bellevue, NE	0.000	-		-		-		-		-	0.000	0.000	2.172
Subtotal			0.000	-		-		-		-		-	0.000	0.000	N/A
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various : Various	0.000	0.847	Nov 2017	0.854	Nov 2018	0.883	Nov 2019	-		0.883	Continuing	Continuing	-
Subtotal			0.000	0.847		0.854		0.883		-		0.883	Continuing	Continuing	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force											Date: February 2019				
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems					Project (Number/Name) 675302 / Precision Aerial Delivery Systems (PADS)					
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	8.072		8.845		7.021		-		7.021	Continuing	Continuing	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force			Date: February 2019		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>			Project (Number/Name) 675302 / <i>Precision Aerial Delivery Systems (PADS)</i>

	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>Precision Aerial Delivery Systems (PADS)</i>																												
JPADS-MP CAT v6.x Development and Testing Completion																												
JPADS-MP CAT v6.x Fielding																												
JPADS-MP CAT v7.x Development and Testing																												
JPADS-MP CAT v7.x Fielding																												
JPADS-MP CAT v8.x Development and Testing																												
JPADS-MP CAT v8.x Fielding																												
JPADS-MP CAT v9.x Development and Testing																												
JPADS-MP CAT v9.x Fielding																												
JPADS-MP CAT Continued Integration, Test, and Fielding																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>	Project (Number/Name) 675302 / <i>Precision Aerial Delivery Systems (PADS)</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Precision Aerial Delivery Systems (PADS)</i>				
JPADS-MP CAT v6.x Development and Testing Completion	1	2019	1	2019
JPADS-MP CAT v6.x Fielding	1	2019	1	2019
JPADS-MP CAT v7.x Development and Testing	4	2018	3	2019
JPADS-MP CAT v7.x Fielding	3	2019	4	2019
JPADS-MP CAT v8.x Development and Testing	4	2019	3	2020
JPADS-MP CAT v8.x Fielding	2	2020	4	2020
JPADS-MP CAT v9.x Development and Testing	2	2020	2	2021
JPADS-MP CAT v9.x Fielding	2	2021	2	2021
JPADS-MP CAT Continued Integration, Test, and Fielding	3	2020	4	2024

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems				Project (Number/Name) 675380 / Mission Planning Systems (MPS) Modernization			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
675380: Mission Planning Systems (MPS) Modernization	0.000	73.188	54.229	64.444	0.000	64.444	88.844	92.197	95.611	95.621	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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 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 plan; download pertinent flight information to on-board aircraft avionics; and, conduct dynamic/in-flight re-planning as applicable. 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 B-1, C-5, C-17, C-130, HC-130, EC-130, E-3, E-8, F-15, F-16, F-22A, KC-10, KC-46, KC-135, RC-135, HH-60 other platforms, Framework (FW) and all Common Component (CCs) software tools 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:

1) CAF MPS Modernization: These development efforts modernize CAF Mission Planning Environments (MPEs). 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 include, but are not limited to, B-1 (Sustainment Blocks 15, 16, 16a, 17, 17a and 18), F-15 (Suites 7, 8, 9 and 10) and F-22 Increments 3.2B, 3.2M Release One, Release Two, and Release Three. CAF modernization also includes updates to mission planning capabilities supporting associated weapons including, but not limited to, Small Diameter Bomb (SDB-II), Joint Direct Attack Munitions (JDAM) and the Joint Air-to-Surface Standoff Missile (JASSM). Finally, CAF modernization will address required improvements to CAF related JMPS MPE CCs, including Weapon Planning Software (WPS), Electronic Warfare CC (EWCC), GPS Crypto (including GPS M-code), Weather CC, etc. CAF MPE Modernization includes, but is not limited to, the following platform efforts:

a. F-15 Modernization Phase II & III: This modernization program consists of multiple software development efforts driven by OFP updates for F-15 Suites 7,8,9,9.1, and 9.2. Suite 7-9 MPE capabilities include, but are not limited to, Data Transfer Device (DTD) improvements, updates for new features in weapons such as Joint Direct Attack Munition (JDAM), Small Diameter Bomb I and II (SDB I and II), 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 (LEP), feature updates for several weapons, and the expansion of Link-16 messages sets. F-15 Suite 9 MPE will include a variety of updates and enhancements for weapons and aircraft systems to include, but are not limited to, Eagle Passive Active Warning Survivability System (EPAWSS), a new Advanced Dual Core Process II (ADCP-II) computer as well as Digital Transfer Device/Modules (DTD/DTM) modernization.

b. F-16 Block 40/50 Modernization Phases I&II: The F-16 Block 40/50 modernization completed fielding and transitioned to full sustainment the 2Q of FY17.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>	Project (Number/Name) 675380 / <i>Mission Planning Systems (MPS) Modernization</i>
<p>c. F-22 Modernization Phase I: The F-22 Modernization program includes OFP-driven software updates v13.1, v14.0, v14.1, and v14.2. These 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, combat identification improvements, addition of an Inter-flight Data Link Gateway, Mode 5 IFF and Combat ID updates, Link 16 updates, 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 (CC) updates will also be completed as required.</p> <p>d. B-1 Modernization Phase I: The B-1 Modernization program includes OFP-driven software updates for Releases 7.0, 8.0, 9.0, and 11.0. It will incrementally update the platform MPE and provide updates to the aircraft mission capabilities, including adding sensor anywhere on tactical display, updating threat range rings and route re-planning capabilities, improving Air Coordination Order (ACO) file loading and the memory utilization in the onboard avionics updates. Additionally, it will migrate the B-1 MPE to a native 64-bit environment and utilize Mission Planning Data Service Layers (MPDSL) to modernize the software architecture.</p> <p>e. The platform efforts include work associated with updates to the framework and associated services. Beginning in FY20 the Framework will be broken out as a separate program with a unique funding line.</p> <p>2) MAF MPS Modernization: These development efforts modernize MAF MPEs for the KC-46 aircraft as well as all Air Mobility Command platforms initially fielded under MPS Increment 5. The modernization effort will provide new and improved mission planning capability for individual Operational Flight Program (OFP), Global C2, and AMC fuel efficiency requirements.</p> <p>3) The SMACC Modernization Program includes development, testing, and fielding of MP software for the E-3 DRAGON, E-3/E-8, RC-135 and EC-130. Combat Search and Rescue (CSAR) is providing a new JMPS capability to the HH-60 and MC/HC aircraft. The follow-on versions continue that development.</p> <p>4) MAF Modernization effort builds upon the fielded E-8 MPE to 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, but is not limited to, enhanced capabilities to accommodate avionics upgrades, improved communications systems, interfaces with command and control systems, new parachutes, etc. for various MAF platforms. Development efforts also include, but are not limited to, integrating improvements to MAF related Common Components (CCs). Examples of these CCs include, but are not limited to, MAF tools, such as Assault Zone CC and the Air Refueling Tool (ART) CC. CSAR Release 1.1 program began in FY17 modernizing the efforts begun with the CSAR products developed in MPS Inc 5. The CSAR effort will continue to modernization via agile development with CSAR Rel 2.0 or with Milestone Decision Authority Approval, extension of the CSAR 1.1 program for the new requirements.</p> <p>5) Mobility Air Forces Automated Flight Planning Service (MAFPS) Phase Two began in FY17. This effort modernizes the MAFPS products developed in Increment 5. This effort completes the 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.</p>		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems	Project (Number/Name) 675380 / Mission Planning Systems (MPS) Modernization
6) Beginning in FY20 the MPS Framework will be established as an independent Program of Record (anticipated as an ACAT III). The Framework represents the basic fundamental layer of the JMPS software. It rides on SDC compliant Windows OS. The basic services that all programs use (Falconview, Data Load, Route construction, flight planning etc)are included in the Framework architecture. The Navy utilizes the same basic core Framework software. The funding for the Framework has historically been accomplished through a "tax" to the platform mission planning budgets. The programs were based upon the platform OFPs and the fielded software packages (mission planning environments). The program office will segregate Framework for future oversight. Framework will be an agile development effort based on services developed in a common development environment.		
Test, Training, and Certification: Continues all MPS-related integration, test, and certification activities for all CAF and MAF platforms.		
Program Support: Continues all program office management operations and support activities to ensure the timely development, testing, and delivery of mission planning systems to the warfighter.		
The platform efforts include work associated with updates to the Framework and associated services.		
This program element may include necessary civilian pay expenses required to manage, execute, and deliver Mission Planning weapon system capability.The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.		
B. Accomplishments/Planned Programs (\$ in Millions)		
Title: F-15 Modernization Phase II and III		FY 2018
Description: Continues the modernization of previously fielded F-15 Mission Planning Environments (MPEs) to enable efficient use of new and improved capabilities being developed in platform Operational Flight Programs (OFPs).		FY 2019
FY 2019 Plans:		FY 2020
- Complete DT/OT on v5.0		14.147
- FQT v6.0		10.686
FY 2020 Plans:		11.066
- Begin development of v6.1		
- Field v5.0		
- Field v6.0		
FY 2019 to FY 2020 Increase/Decrease Statement:		
-Increase due to beginning of development of 6.1 in FY20.		
Title: F-22 Modernization Phase I and II		7.013
		9.148
		11.752

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force			Date: February 2019		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>		Project (Number/Name) 675380 / <i>Mission Planning Systems (MPS) Modernization</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2018	FY 2019	FY 2020
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 2019 Plans: - Field v13.1 - Complete FQT of v14.0 - Complete DT of v14.0 - Begin development for v14.1 FY 2020 Plans: - FQT/Field v14.1 - Begin development of v14.2 FY 2019 to FY 2020 Increase/Decrease Statement: - There is a very slight increase from FY19 to FY20 budgets					
Title: B-1 Modernization Phase I and II 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 2019 Plans: - Begin development of B-1 Rel 11.0 in support of B-1 SB18 OFP requirements. FY 2020 Plans: - Finish development and complete FQT of B-1 Rel 11.0 in support of B-1 SB18 OFP requirements. - Begin development of B-1 Rel 12.0 in support of B-1 SB19 OFP requirements. FY 2019 to FY 2020 Increase/Decrease Statement: Decreased due to start of Release 12.0			14.177	12.083	5.361
Title: MAF Modernization Description: Develops the KC-46 JMPs Mission Planning Environment (MPE). In addition, develop, test, and field the follow on modernization of the Global Mobility (GM) 100 series MPE to account for changes in aircraft operational flight profiles account for changes in aircraft operational flight profiles (OFPs) and Global Command and Control Changes. FY 2019 Plans: - Will complete both operational testing and fielding for the GM 1.4 (KC-46) MPE.			10.179	5.974	20.374

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force		Date: February 2019	
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>	Project (Number/Name) 675380 / <i>Mission Planning Systems (MPS) Modernization</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019
<ul style="list-style-type: none"> - Begin development of the Agile Global Mobility (AGM) effort for the modernization of the C-5, C-17, C-130, KC-10, and KC-135 (fielded during MPS Inc 5) as well as follow on modernization to the KC-46. - Complete fielding for GM 1.3.310 <p>FY 2020 Plans:</p> <ul style="list-style-type: none"> - Continued development of AGM for modernized capabilities. Integration/development, testing, and release will be conducted concurrently via agile development with multiple Program Increments (PIs). Each of the PIs provide full and/or interim capabilities made available to the using command for fielding. <p>FY 2019 to FY 2020 Increase/Decrease Statement:</p> <ul style="list-style-type: none"> - FY20 increased because FY19 was partially with FY18 funds. Also the increased work for V2.x program increments in FY20, as the move from concept into development and testing. 			
<p>Title: Special Mission ACC (SMACC)</p> <p>Description: Continues the modernization of previously fielded mission planning software environments for the E-3, E-8, E-4, EC-130, and RC-135. In addition, continues modernization efforts for the Inc 5 follow on for SMACC CSAR.</p> <p>FY 2019 Plans:</p> <ul style="list-style-type: none"> - Develop and test RC-135 V3.3 - Develop, test, and field the E-3 Dragon V3.002 - Complete and obtain the release recommendation for E-3/E08 V2.1.2. - Complete development and test V2.2 - Obtain the release recommendation for the EC-130 V2.0 - Obtain the release recommendation for SMACC CSAR V1.1 (Release 4). - Continuation of CSAR development under follow on CSAR-Pedro King (PK) effort. Integration/development, testing, and release is conducted concurrently via agile development with multiple Program Increments (PIs). Each of the PIs provide full and/or interim capabilities made available to the using command for fielding. <p>FY 2020 Plans:</p> <ul style="list-style-type: none"> - Fielding decision of RC-135 V3.3 - Release Recommendation for E-3/E-8 V2.2 - Continue modernization of the E-3 Dragon and EC-130 - Continuation of CSAR-PK modernization <p>FY 2019 to FY 2020 Increase/Decrease Statement:</p>		15.768	10.405

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force			Date: February 2019		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>		Project (Number/Name) 675380 / <i>Mission Planning Systems (MPS) Modernization</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2018	FY 2019	FY 2020
The increase is due to completion of development for the SMACC RC-135, E-3 Dragon, E-3/E-8 as well as the continued modernization of the SMACC CSAR (As an approved extension of the SMACC CSAR V1.1 program or under the CSAR Pedro King 804 effort.					
Title: Framework (FW) Description: Framework is the core software component that all platforms and common capabilities utilize. It is the bottom layer of the software architecture. It provides the core services such as utilized by both MAF and CAF platforms. FW includes the interfaces required to be integrated into the various platforms and weapons systems. Services being developed include Local Points, Mission Folders, and Moving Map. FY 2019 Plans: N/A, not officially an ACATIII until FY20 FY 2020 Plans: Framework will be classified as a program of record. The Framework program will be an agile development effort with service drops versus the traditional major framework releases. Services that are currently in the FY20 planning stage include vertical obstruction, point exports, UCI route management and Moving Map capabilities. The current FW funding is \$5.645M with \$4.045M coming from the B-1 MPE and \$1.6M coming from JPADS procurement and being reprogrammed into 3600 for FW. FY 2019 to FY 2020 Increase/Decrease Statement: FW will become a line item in the FY20 BES. The funding was realigned from the following programs: JPADS and B-1 in FY20. The out-years will be transferred from JPADS, B-1, F-22, F-15, and MAFPS Modernization. This is not a New Start.			0.000	0.000	4.805
Title: MAF Automated Flight Planning Service (MAFPS)Phase II 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. FY 2019 Plans: - Complete testing and field Release 2. All development is being conducted for these versions via agile development with multiple Sprints. Each of the Sprints provides an interim capability available to the using command should they desire fielding prior to the full completion of application version. Six Sprints are planned for FY19. FY 2020 Plans: - Continue modernization of this next generation flight planning system for Air Mobility Command. FY 2019 to FY 2020 Increase/Decrease Statement:			11.904	1.283	0.681

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>				Project (Number/Name) 675380 / <i>Mission Planning Systems (MPS) Modernization</i>				
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2018	FY 2019	FY 2020
The funding decrease is due to completion of the major development activities in FY19 as the program moves to continued modernization.												
Accomplishments/Planned Programs Subtotals										73.188	54.229	64.444
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost	
• OPAF 03 Line Item 833170: <i>Mission Planning Systems</i>	9.403	8.291	9.300	-	9.300	9.938	9.783	10.586	10.136	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
MPS Modernization consists of multiple capability upgrades across multiple platforms that are developed and fielded using a variety of contracting instruments. The Air Force Life Cycle Management Center at Hanscom AFB AFLCMC/HB) competitively awarded multiple(Indefinite Delivery/Indefinite Quantities) (ID/IQ) contracts for software development. Currently there are five (5) contractors, one of which is Small Business set aside, who are qualified sources. Each Delivery Order (DO) is competed among the five contractors. Efforts to accomplish program activities such as software development, systems engineering and integration, training, and support are competitively awarded using a variety of contract types (e.g. Cost Plus Award Fee (CPAF), Fixed Price (FP), and Fixed Price Incentive Fee (FPIF)). Program Management Administration (PMA) contracts are awarded competitively and consist of various types of contracts at various locations. Mitre, a Federally Funded Research and Development Center(FFRDC) contractor provides technical support on a no fee for service contract.												
Other efforts are accomplished via Purchase Orders (PO) and Military Interdepartmental Purchase Requests (MIPR). For the efforts listed above, the Air Force Life Cycle Management Center at Hanscom AFB (AFLCMC/HB) provides the program management, contracts, legal, and financial management support. The Air Force Program Executive Officer (PEO) for Battle Management (AFPEO/HB) is the Milestone Decision Authority (MDA) for all MPS Modernization projects (with the exception of those efforts that make up MPS Inc 5 for which the Under Secretary of Defense, Acquisition, Technology, and Logistics is the MDA).												
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.												

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems				Project (Number/Name) 675380 / Mission Planning Systems (MPS) Modernization					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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 Software Development (MPEC II)	C/Various	Various : Various	0.000	26.849	Nov 2017	14.658	Nov 2018	24.516	Nov 2019	-		24.516	Continuing	Continuing	-
A-10 Modernization	PO	Organic : Hill AFB, UT	0.000	-		-		-		-		-	0.000	0.000	-
F-16 Modernization	PO	Organic : Hill AFB, UT	0.000	-		-		-		-		-	0.000	0.000	-
EC-130H Modernization	PO	Organic : Robins AFB, GA	0.000	1.031	Jan 2018	1.051	Jan 2019	0.931	Jan 2020	-		0.931	Continuing	Continuing	-
F-22 MilCloud SIL	MIPR	GSA : Washington, DC	0.000	-		-		-		-		-	0.000	0.000	-
MAF AMC Transition Tools	MIPR	AMCOM : Redstone Arsenal, AL	0.000	-		-		-		-		-	0.000	0.000	-
SMACC CSAR Tools	MIPR	Various : Various	0.000	3.173	Jan 2018	2.497	Jan 2019	0.408	Jan 2020	-		0.408	Continuing	Continuing	-
Systems Engineering and Integration	C/CPAF	Leidos, Inc. : Reston, VA	0.000	8.367	Jan 2018	8.535	Jan 2019	9.061	Jan 2020	-		9.061	Continuing	Continuing	-
Framework	C/FPIF	Northrop Grumman : Herndon, VA	0.000	10.835	Jan 2018	8.060	Jan 2019	5.645	Jan 2020	-		5.645	Continuing	Continuing	-
Common Components	C/Various	Various : Various	0.000	6.328	Nov 2017	4.844	Nov 2018	7.007	Nov 2019	-		7.007	Continuing	Continuing	-
Subtotal			0.000	56.583		39.645		47.568		-		47.568	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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	C/T&M	SEI : Pittsburgh, PA	0.000	-		-		-		-		-	0.000	0.000	0.080
Cost Estimating	C/T&M	Tecolote Inc : Goleta, CA	0.000	0.202	Nov 2017	0.021	Nov 2018	0.224	Nov 2019	-		0.224	Continuing	Continuing	-
Subtotal			0.000	0.202		0.021		0.224		-		0.224	Continuing	Continuing	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems				Project (Number/Name) 675380 / Mission Planning Systems (MPS) Modernization					
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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	46TS : Eglin AFB, FL	0.000	4.246	Dec 2017	3.775	Dec 2018	4.433	Dec 2019	-		4.433	Continuing	Continuing	-
Certification and Accreditation	MIPR	JITC : Fort Huachuca, AZ	0.000	0.123	Feb 2018	0.115	Feb 2019	0.117	Feb 2020	-		0.117	Continuing	Continuing	-
Type I Training	C/FP	Summit Technologies Inc : Winter Park, FL	0.000	1.212	Jul 2018	1.004	Jul 2019	1.390	Jul 2020	-		1.390	Continuing	Continuing	-
Field Representative Hardware	C/Various	Various : Various	0.000	0.421	Nov 2017	0.164	Nov 2018	0.442	Nov 2018	-		0.442	Continuing	Continuing	-
Subtotal			0.000	6.002		5.058		6.382		-		6.382	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Technical Support	RO	MITRE Corp : Bedford, MA	0.000	4.066	Oct 2017	0.475	Oct 2018	3.773	Oct 2018	-		3.773	Continuing	Continuing	-
Program Management Administration	Various	Various : Various	0.000	6.335	Nov 2017	9.030	Nov 2018	6.497	Oct 2018	-		6.497	Continuing	Continuing	-
Subtotal			0.000	10.401		9.505		10.270		-		10.270	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	73.188		54.229		64.444		-		64.444	Continuing	Continuing	N/A
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force

Date: February 2019

Appropriation/Budget Activity

3600 / 7

R-1 Program Element (Number/Name)

PE 0208006F / Mission Planning Systems

Project (Number/Name)

675380 / Mission Planning Systems (MPS)
Modernization

	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Mission Planning Systems (MPS) Modernization																												
F-15 v4.1 Fielding																												
F-15 v4.2 Fielding																												
F-15 v5.0 Fielding																												
F-15 v6.0 Fielding																												
F-15 v6.1 Fielding																												
F-16 Blk 40/50 M7.2 Fielding																												
F-22 v13.1 Fielding																												
F-22 v14.0 Fielding																												
F-22 v14.1 Fielding																												
F-22 v14.2 Fielding																												
B-1 Release 9 Fielding																												
B-1 Release 11 Fielding																												
CAF Modernization Continued Integration, Test, and Fielding																												
SMACC E-3/ E-8 Release 2.1 Fielding																												
SMACC E-3/E8 Release 2.2 Fielding																												
SMACC E-3/E8 Release 2.3 Fielding																												
SMACC EC-130H Release 2.0																												
SMACC EC-130H Release 2.1 Fielding																												
SMACC E-3 DRAGON Release 3 Fielding																												
SMACC E-3 DRAGON Release 3.1 Fielding																												
SMACC RC-135 Release 3.3 Fielding																												
SMACC RC-135 Release 3.4 Fielding																												

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force																		Date: February 2019																			
Appropriation/Budget Activity 3600 / 7										R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems										Project (Number/Name) 675380 / Mission Planning Systems (MPS) Modernization																	
										FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
										1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CSAR-PK Development/Integration, Testing, and Releasing																																					
GM 1.4 (KC-46) Release 1 Fielding																																					
AGM Development/Integration, Testing, and Releasing																																					
MAFPS Release 2 Fielding																																					
MAF Modernization Continued Integration, Test, and Fielding																																					

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>	Project (Number/Name) 675380 / <i>Mission Planning Systems (MPS) Modernization</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Mission Planning Systems (MPS) Modernization</i>				
F-15 v4.1 Fielding	3	2018	3	2018
F-15 v4.2 Fielding	1	2019	1	2019
F-15 v5.0 Fielding	4	2019	4	2019
F-15 v6.0 Fielding	3	2020	3	2020
F-15 v6.1 Fielding	2	2021	2	2021
F-16 Blk 40/50 M7.2 Fielding	3	2019	3	2019
F-22 v13.1 Fielding	4	2019	4	2019
F-22 v14.0 Fielding	1	2020	1	2021
F-22 v14.1 Fielding	1	2021	1	2021
F-22 v14.2 Fielding	1	2022	1	2022
B-1 Release 9 Fielding	2	2018	2	2018
B-1 Release 11 Fielding	3	2020	3	2020
CAF Modernization Continued Integration, Test, and Fielding	3	2020	4	2024
SMACC E-3/ E-8 Release 2.1 Fielding	1	2019	1	2019
SMACC E-3/E8 Release 2.2 Fielding	4	2019	4	2019
SMACC E-3/E8 Release 2.3 Fielding	4	2021	4	2021
SMACC EC-130H Release 2.0	2	2019	2	2019
SMACC EC-130H Release 2.1 Fielding	2	2020	2	2020
SMACC E-3 DRAGON Release 3 Fielding	3	2019	3	2019
SMACC E-3 DRAGON Release 3.1 Fielding	3	2020	3	2020
SMACC RC-135 Release 3.3 Fielding	3	2019	3	2020

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019	
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems		Project (Number/Name) 675380 / Mission Planning Systems (MPS) Modernization
		Start		End
Events by Sub Project		Quarter	Year	Quarter Year
SMACC RC-135 Release 3.4 Fielding		4	2020	4 2020
CSAR-PK Development/Integration, Testing, and Releasing		1	2019	4 2022
GM 1.4 (KC-46) Release 1 Fielding		1	2020	1 2020
AGM Development/Integration, Testing, and Releasing		2	2019	3 2021
MAFPS Release 2 Fielding		2	2019	2 2019
MAF Modernization Continued Integration, Test, and Fielding		3	2020	4 2024

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0208006F / Mission Planning Systems				Project (Number/Name) 675385 / MPS Increment 5			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
675385: MPS Increment 5	0.000	0.794	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.794
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Prior costs for Inc 5 were \$59.9M and are included in Project 675380 as those programs were under MPS Modernization. Current Total Cost for Inc 5 in Project 675385 is \$0.818

A. Mission Description and Budget Item Justification

MPS Inc 5 develop and test will be completed in FY19. Inc 5 consists of the following three programs.

- 1) Mobility Air Forces Automated Flight Planning Service (MAFPS);
- 2) Air Mobility Command (AMC) Transition; and
- 3) Special Mission Air Combat Command, Combat Search and Rescue (SMACC CSAR)

These projects, and their associated platforms, comprise the overarching program known as MPS Inc 5.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
Title: MPS Increment 5	0.794	0.000	0.000
Description: MPS Inc 5 continues and completes the development of: 1) Mobility Air Forces Automated Planning Service (MAFPS) system; 2) AMC Transition; and 3) Special Mission Air Combat Command, Combat Search and Rescue (SMACC CSAR).			
FY 2019 Plans: Complete testing and field SMACC CSAR and AMC Transition release 1.3.300. Completion of these efforts will lead to the last acquisition event, the Full Deployment Declaration (FD). FY18 3600 funds were used for the minimal effort which fell into FY19.			
FY 2020 Plans: None. Development will complete in FY19 with the completion of the Full Deployment (FD) Declaration			
FY 2019 to FY 2020 Increase/Decrease Statement: No FY20 development funding - program completed development in FY19.			
Accomplishments/Planned Programs Subtotals	0.794	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>	Project (Number/Name) 675385 / <i>MPS Increment 5</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy <p>MPS Inc 5 consists of multiple capability upgrades across multiple platforms that are developed and fielded using a variety of contracting instruments. It leverages strategies and efforts originally established under MPS Increment IV and MPS Modernization. The Air Force Life Cycle Management Center at Hanscom AFB (AFLCMC/HB) competitively awarded multiple ID/IQ (Indefinite Delivery/Indefinite Quantities) contracts for software development. Currently there are 5 qualified contractors, one of which is Small Business set aside, and each Delivery Order (DO) is competed among the 5 contractors.</p> <p>Efforts to accomplish program activities such as software development, systems engineering and integration, training, and support were competitively awarded using a variety of contract types (e.g. Cost Plus Award Fee (CPAF), Fixed Price (FP), Fixed Price Incentive Fee (FPIF)).</p> <p>Program Management Administration (PMA) contracts were awarded competitively and consist of various types of contracts at various locations.</p> <p>MITRE, a Federally Funded Research and Development Center (FFRDC) contractor provides technical support on a no fee for service contract.</p> <p>Other efforts are accomplished via Purchase Orders (PO) and Military Interdepartmental Purchase Requests (MIPR).</p> <p>For the efforts listed above, the Air Force Life Cycle Management Center at Hanscom AFB (AFLCMC/HB) provides program management, contracting, legal, and financial management support.</p>		
E. Performance Metrics <p>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.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>						Project (Number/Name) 675385 / <i>MPS Increment 5</i>			
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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 Software Development (MPEC II)	C/CPIF	DCS Corporation : Alexandria, VA	0.000	0.026	Nov 2017	-		-		-		-	Continuing	Continuing	0.388
HH-60/HC-130J/N/P Release 1	PO	Organic : Robins AFB, GA	0.000	0.021	Nov 2017	-		-		-		-	Continuing	Continuing	0.169
SM-ACC CSAR Tools	MIPR	Various : Various	0.000	-		-		-		-		-	Continuing	Continuing	0.296
Systems Engineering and Integration	C/CPAF	Leidos, Inc. : Reston, VA	0.000	0.271	Jan 2018	-		-		-		-	Continuing	Continuing	1.202
Air Refueling Tool	C/FFP	Navy Mission Planning Systems : Point Mugu, CA	0.000	-		-		-		-		-	Continuing	Continuing	0.359
Subtotal			0.000	0.318		-		-		-		-	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cost Estimating	C/T&M	Tecolote Inc. : Goleta, CA	0.000	-		-		-		-		-	Continuing	Continuing	0.028
Subtotal			0.000	-		-		-		-		-	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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	46TS : Eglin AFB, FL	0.000	0.104	Dec 2017	-		-		-		-	Continuing	Continuing	0.405
Type I Training	C/FP	Spiral solutions & Technologies, Inc. : Bellevue, NE	0.000	0.104	Jan 2018	-		-		-		-	Continuing	Continuing	0.370
Subtotal			0.000	0.208		-		-		-		-	Continuing	Continuing	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>						Project (Number/Name) 675385 / <i>MPS Increment 5</i>			
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Technical Support	RO	MITRE Corp. : Bedford, MA	0.000	0.170	Nov 2017	-		-		-		-	Continuing	Continuing	0.966
Program Management Administration	C/CPFF	Odyssey Systems Consulting Group, LTD. : Wakefield, MA	0.000	0.098	Nov 2017	-		-		-		-	Continuing	Continuing	0.387
Subtotal			0.000	0.268		-		-		-		-	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.794		0.000		-		-		-	Continuing	Continuing	N/A
Remarks Prior costs for Inc 5 is \$59.9M and are included in Project 675380 as those programs were under MPS Modernization. As well as cost to complete for Inc 5 of \$5.168 are in Project 675380. Total Cost for Inc 5 in Project 675385 is \$5.197 this does not include TWCF (Transportation Capital Working Fund).															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force										Date: February 2019									
Appropriation/Budget Activity										R-1 Program Element (Number/Name)									
3600 / 7										PE 0208006F / Mission Planning Systems									
										Project (Number/Name)									
										675385 / MPS Increment 5									

	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MPS Increment 5																												
AMC Transition (GM Release 1.3.300)																												
CSAR Rel 1.0																												
Full Deployment Declaration																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / <i>Mission Planning Systems</i>	Project (Number/Name) 675385 / <i>MPS Increment 5</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MPS Increment 5</i>				
AMC Transition (GM Release 1.3.300)	1	2019	3	2019
CSAR Rel 1.0	1	2019	1	2019
Full Deployment Declaration	2	2019	4	2019

Note

Complete testing and field CSAR and Global Mobility 1.3.300. This effort was originally programmed and planned in FY18 with FY18 funding. Recent slips have shifted approximately \$300k of effort into FY19. This effort will be budgeted as originally planned.