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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0305099F I Global Air Traffic Management (GATM)							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	4.219	4.453	4.492	0.000	4.492	4.575	4.654	4.750	4.837	Continuing	Continuing
674689: Global Access Architecture	-	4.219	4.453	4.492	0.000	4.492	4.575	4.654	4.750	4.837	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This program element funds the Air Force Life Cycle Management Center (AFLCMC) Aerospace Management Systems Division (AMSD), the designated Air Force (AF) Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) and Navigation Safety Center of Excellence (COE). The COE provides expertise to Headquarters Air Force, AF major commands (MAJCOM), and weapon system program offices regarding CNS/ATM system technical functions and performance standards for operation in the US National Airspace System (NAS) and international civil airspace. This centralized capability supplements the MAJCOMs and over 50 AF weapon system program offices with resident CNS/ATM technical expertise.

This funding enables the AMSD to monitor and participate in government and industry technical forums responsible for the development and assessment of international civil aviation standards for operations in worldwide airspace. Division personnel analyze civil standards as they are being developed and work to influence them to support Department of Defense (DoD) interests. CNS/ATM experts identify specific technical and engineering criteria and document them in generic performance matrices (GPMs). The COE works with MAJCOM and program office personnel to develop strategies for implementing CNS/ATM requirements on AF weapon systems. Specifically, CNS/ATM experts work with program office systems engineers to tailor the GPMs to apply civil standards to each platform's unique avionics architecture. Once CNS/ATM component integration and testing is completed, COE personnel validate platform CNS/ATM performance against the standards necessary to operate in civil airspace.

The program office manages an Indefinite Delivery/Indefinite Quantity (IDIQ) contract that enables a centralized procurement of CNS/ATM and navigation safety avionics equipment. These contracts are used by aircraft program offices across the DoD, among other federal agencies, and in support of foreign military sales.

This program performs periodic audits required by civil aviation assurance standards on processes used to develop and distribute the Digital Aeronautical Flight Information File (DAFIF) to DoD users. This electronic navigation database, developed and maintained by the National Geospatial Intelligence Agency (NGA), contains critical safety of flight information used by DoD flight crews to fly instrument flight rules procedures worldwide.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver CNS/ATM 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, 0605833F and 0605898F.

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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.								
B. Program Change Summary (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total		
Previous President's Budget		4.354	4.453	4.526	0.000	4.526		
Current President's Budget		4.219	4.453	4.492	0.000	4.492		
Total Adjustments		-0.135	0.000	-0.034	0.000	-0.034		
• Congressional General Reductions		0.000	0.000					
• Congressional Directed Reductions		0.000	0.000					
• Congressional Rescissions		0.000	0.000					
• Congressional Adds		0.000	0.000					
• Congressional Directed Transfers		0.000	0.000					
• Reprogrammings		0.000	0.000					
• SBIR/STTR Transfer		0.000	0.000					
• Other Adjustments		-0.135	0.000	-0.034	0.000	-0.034		
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: CNS/ATM COE Contract Support and Administration of DoD Avionics Equipment Catalog				0.757	0.783	0.796	0.000	0.796
Description: Multiple contract vehicles with multiple avionics vendors that enable centralized procurement of CNS/ATM avionics equipment/components. Supports numerous DoD, US Federal Agency, and Foreign Military Sales program offices. Provide preferred customer pricing and extended warranty.								
FY 2018 Plans: Continue administration of current contracts. Evaluate proposals and award new contracts through February 2019. Ensure availability of avionics components required for Federal Aviation Administration (FAA) mandated ADS-B requirements.								
FY 2019 Base Plans: Continue administration of the catalog and monitor industry for new CNS/ATM Products which could be added to catalog.								
FY 2019 OCO Plans: n/a								
FY 2018 to FY 2019 Increase/Decrease Statement:								

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Funding decreased due to inflation adjustments						
Title: CNS/ATM COE Digital Aeronautical Flight Information File (DAFIF) Management  Description: Perform periodic audits of the processes and procedures utilized by organizations involved in the development and distribution of critical safety of flight electronic databases used by aircrews to fly instrument flight rules procedures worldwide. Ensures the validity of multiple sources of information critical to implementation of international performance based navigation (PBN) standards.  FY 2018 Plans: Continue assisting DoD agencies and the NGA to validate the accuracy of DAFIF data and investigate potential automation tools/capabilities to increase database accuracy. Provide technical and auditing support for the new data chain prototype.  FY 2019 Base Plans: Work with DoD agencies and the FAA to develop performance based procedures required to operate without restriction in the NAS and in international civil aviation environments. Continue to publish procedures and databases with the required degree of accuracy/performance necessary to operate manned and remotely piloted aircraft in NAS.  FY 2019 OCO Plans: n/a  FY 2018 to FY 2019 Increase/Decrease Statement: Funding decreased due to inflation adjustments		1.887	1.880	1.878	0.000	1.878
Title: CNS/ATM COE Generic Performance Matrix (GPM) Development  Description: Participate in technical forums to understand and influence civil aviation standards to incorporate DoD interests. Create new and/or revise the 20 existing GPMs used by AF platform program offices to ensure aircraft comply with civil aviation requirements. Tailor GPMs for program offices to apply standards to unique aircraft avionics architectures. Assist 50+ aircraft program offices with the development of CNS/ATM related test and evaluation plans, the analysis of test/performance data, and the certification of aircraft CNS/ATM performance.  FY 2018 Plans:		1.575	1.790	1.818	0.000	1.818

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
Continue development of performance matrices to ensure AF manned and remotely piloted aircraft are capable and certified to operate in accordance with emerging International Civil Aviation Organization (ICAO) performance based CNS/ATM requirements.						
<b>FY 2019 Base Plans:</b> Continue development of performance matrices to ensure AF manned and remotely piloted aircraft are capable and certified to operate in accordance with emerging ICAO performance based CNS/ATM requirements.						
<b>FY 2019 OCO Plans:</b> n/a						
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Funding decreased due to inflation adjustments						
<b>Accomplishments/Planned Programs Subtotals</b>		4.219	4.453	4.492	0.000	4.492
<b>D. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>Remarks</b>						
<b>E. Acquisition Strategy</b> This program primarily supports the acquisition of contractor advisory and assistance service (A&AS) and other technical support personnel to support the efforts described in Section C. This program also provides for the acquisition of contractor services in support of various program management activities within the COE. All of these services are acquired via the issuance of task/delivery orders against existing contractor support contract vehicles available to the CNS/ATM COE.						
<b>F. Performance Metrics</b> 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 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0305099F / Global Air Traffic Management (GATM)				Project (Number/Name) 674689 / Global Access Architecture					
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
CNS/ATM Center of Excellence: Technical support for CNS/ATM requirement assessments, GPM development, DAFIF navigation data chain audits/certification, and CNS/ATM ID/IQ contract management.	C/T&M	MITRE : Bedford, MA	-	2.351	Oct 2016	2.613	Oct 2017	2.604	Oct 2018	0.000		2.604	Continuing	Continuing	-
CNS/ATM Center of Excellence: Technical support for operational requirement assessments, GPM development, DAFIF navigation data chain audits/certification, and CNS/ATM ID/IQ contract management.	C/CPFF	Oasis Systems : Lexington, MA	-	1.092	Jan 2017	1.061	Dec 2017	1.072	Dec 2018	0.000		1.072	Continuing	Continuing	-
Subtotal			-	3.443		3.674		3.676		0.000		3.676	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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 office support - PMA (Contract Services)	C/T&M	Odyssey Consulting : Bedford, MA	-	0.524	Aug 2017	0.528	Aug 2018	0.539	Aug 2019	0.000		0.539	Continuing	Continuing	-
Program office support - PMA (Contract Svcs)	C/T&M	Tecolote/Quantech : Bedford, MA	-	0.070	Oct 2016	0.070	Oct 2017	0.055	Oct 2018	0.000		0.055	Continuing	Continuing	-
Program office support - PMA (Other Govt Costs)	Various	Various : Bedford, MA	-	0.182	Oct 2016	0.181	Oct 2017	0.222	Oct 2018	-		0.222	Continuing	Continuing	-
Subtotal			-	0.776		0.779		0.816		0.000		0.816	Continuing	Continuing	N/A

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Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305099F / Global Air Traffic Management (GATM)					Project (Number/Name) 674689 / Global Access Architecture					
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	4.219		4.453		4.492		0.000		4.492	Continuing	Continuing	N/A

Remarks

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2019 Air Force															<b>Date:</b> February 2018				
<b>Appropriation/Budget Activity</b> 3600 / 7										<b>R-1 Program Element (Number/Name)</b> PE 0305099F / <i>Global Air Traffic Management (GATM)</i>					<b>Project (Number/Name)</b> 674689 / <i>Global Access Architecture</i>				

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
<b>No project title.</b>																												
Generic Performance Matrix Development																												
DAFIF Management																												
CNS/ATM iGATM I Contract Administration																												
CNS/ATM iGATM II Contract Proposal Evaluations																												
CNS/ATM iGATM II Contract Administration																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Air Force			<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0305099F / <i>Global Air Traffic Management (GATM)</i>	<b>Project (Number/Name)</b> 674689 / <i>Global Access Architecture</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>No project title.</i></b>				
Generic Performance Matrix Development	1	2017	4	2023
DAFIF Management	1	2017	4	2023
CNS/ATM iGATM I Contract Administration	1	2017	1	2017
CNS/ATM iGATM II Contract Proposal Evaluations	1	2017	2	2019
CNS/ATM iGATM II Contract Administration	1	2017	2	2022