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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	4.390	4.027	4.157	-	4.157	4.263	4.433	4.520	4.607	Continuing	Continuing
674689: Global Access Architecture	-	4.390	4.027	4.157	-	4.157	4.263	4.433	4.520	4.607	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

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

Unfettered access to civil airspace is required for all Air Force (AF) platforms to perform their operational mission.

To meet that requirement, this program funds the AF Life Cycle Management Center (LCMC) Aerospace Management Systems Division (AMSD), a designated AF Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) engineering services support activity. The AMSD provides expertise to the Air Staff, Major Command (MAJCOM), and platform program offices, manned and un-manned, on meeting civil CNS/ATM performance standards necessary to operate in the US National Airspace System (NAS) and international civil airspace. This centralized capability supplements the MAJCOMs and over 50 AF platform program offices with resident technical CNS/ATM expertise.

The AMSD monitors and participates in government/industry technical forums responsible for international civil aviation standards for operations in sovereign airspace worldwide. AMSD analyzes civil developing standards and works to protect AF interest. Once documents are finalized, CNS/ATM experts identify specific technical and engineering criteria for AF stakeholders in Generic Performance Matrices (GPM). The Air Staff and MAJCOMs determine how the AF will address these civil standards for each platform to best perform the specific AF mission. When a material solution is required, CNS/ATM experts consider the platform design; and work with the platform program office to tailor the GPMs as needed to meet civil standards - saving time, reducing cost and risk. Once the integration and testing is completed, the AMSD verifies and validates that CNS/ATM performance meets the standards necessary to operate in civil airspace. This is an iterative process to address both changes in civil airspace standards and shifts in AF military operational requirements.

The AMSD manages Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts for centralized procurement of CNS/ATM and Navigational Safety products. These contracts are used by platform programs across the AF and Department of Defense (DoD), other federal agencies and in support of foreign military sales; they provide the benefits of quantity cost savings, industry-unique warranty clauses and reduced contracting actions by platforms.

The AMSD performs periodic audits on the processes and procedures used to develop and distribute the Digital Aeronautical Flight Information File (DAFIF). This electronic navigation database, created by the National Geospatial Intelligence Agency (NGA), contains safety of flight critical information used by AF and DoD aircrews to fly instrument departure and arrival procedures worldwide. AMSD's unique expertise is recognized and accepted by the NGA, the Federal Aviation Administration (FAA), AF, and other agencies which use the DAFIF database in airborne systems.

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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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		4.461	4.430	4.209	-	4.209
Current President's Budget		4.390	4.027	4.157	-	4.157
Total Adjustments		-0.071	-0.403	-0.052	-	-0.052
• Congressional General Reductions		-0.005	-0.403			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Other Adjustments		-0.066	-	-0.052	-	-0.052
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2013	FY 2014	FY 2015
Title: Contract Support and Administration for DoD Avionics Equipment Catalog				1.216	0.741	0.699
Description: Overarching contract vehicles that are actually individual contracts with multiple avionics vendors for multiple products. To date, current contracts have generated in the excess of \$300M in purchases. Supports DoD, US Federal Agencies and Foreign Military Sales. Provides preferred customer pricing and extended warranty.						
FY 2013 Accomplishments: Generated \$45M in sales. Facilitated DoD compliance with European surveillance, Modes S upgrade requirements. Provided growth capable equipment for Automatic Dependent Surveillance - Broadcast (ADS-B), Area Navigation/Required Navigation Performance (RNAV/RNP) and Mode 5. Issued Request for Proposal (RFP) for follow on CNS/ATM II contracts.						
FY 2014 Plans: Continue administration of current contracts and evaluate proposals and award a limited scope CNS/ATM II contracts. Ensure availability of avionics required for Federal Aviation Administration (FAA) mandated ADS-B requirements						
FY 2015 Plans: Continue to administer catalog and monitor industry for new CNS/ATM products which could be added to the products offered.						
Title: Digital Aeronautical Flight Information File (DAFIF) Management				1.748	1.846	2.081
Description: Perform periodic audits of the processes and procedures utilized by stakeholder organizations involved in the development and distribution of safety of flight critical electronic database used by aircrews to fly instrument procedures						

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
worldwide. Ensure validity of multiple sources of information critical to implementation of international Performance Based Navigation (PBN) standards.  <b>FY 2013 Accomplishments:</b> The AMSD conducted several Type 1 and Type 2 navigation data chain audits to include the National Geospatial Intelligence Agency (NGA). These audits are required to ensure the processing of navigation data for oceanic/remote, and more restrictive navigation requirements, is acceptable for use in Required Navigaton Performance/Area Navigation (RNP/RNAV) airspace. Without successful completion of these audits, the navigation systems on many AF platforms cannot use this data in civil airspace.  <b>FY 2014 Plans:</b> AMSD will re-audit NGA and will work other services and NGA to validate accuracy of data input and investigate improved automation capabilities in order to increase database accuracy. Work with AF Flight Standards Agency Terminal Instrument Approach Procedure Specialist to continue development and publication of Global Positioning System (GPS) based instrument procedures.  <b>FY 2015 Plans:</b> Work with other services and FAA to develop the Performance Based procedures required to operate unrestricted in the US NAS and the international civil airspace environment. Continue the publication of procedures with the required degree of accuracy/ performance required for unrestricted access by manned and Remotely Piloted Aircraft (RPA) in the NAS.				
<b>Title:</b> Generic Performance Matrix (GPM) Development  <b>Description:</b> Participate in technical forums in order to understand and influence standards to protect DoD interests. Create new or revise the 22 GPMs used by AF platform program offices to ensure aircraft comply with civil aviation requirements. Tailor GPMs for customers, including developing Test and Evaluation (T&E) plans, executing and analyzing performance assessments, and certifying data chains for 50+ aircraft and RPA programs.  <b>FY 2013 Accomplishments:</b> Updated seven Generic Performance Matrix (GPMs) and created two new GPMs. Provided standards for platform program offices to equip to meet FAA mandated 1 Jan 2020 ADS-B Out mandate. Authored an ADS-B test plan so AF and DoD platform offices can expedite the acquisition of ADS-B. Developed test plan to evaluate capability of currently flying Global Positioning System (GPS) receivers to meet ADS-B requirements and began testing most fielded version on AF aircraft.  <b>FY 2014 Plans:</b>		1.426	1.440	1.377

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Continue to engage at industry and civil authority technical working groups to influence aviation standards to benefit DoD. Continue to define the standards and help AF and DoD program offices plan and equip to meet worldwide CNS/ATM requirements.				
<b>FY 2015 Plans:</b> Continue development of performance matrices to ensure AF aircraft, manned and unmanned, are compliant with emerging International Civil Aviation Organization Performance Based requirements				
<b>Accomplishments/Planned Programs Subtotals</b>		4.390	4.027	4.157
<b>D. Other Program Funding Summary (\$ in Millions)</b> N/A				
<b>Remarks</b>				
<b>E. Acquisition Strategy</b> AMSD CNS/ATM Acquisition Strategy guides CNS and Navigational Safety equipment purchasing for AF aircraft/RPA single managers. This strategy contributes to systems standardization and interoperability and directly supports the airworthiness of AF aircraft/RPA that operate in national and international air traffic environments. The AMSD will collaborate to provide technical support and expertise, execute system performance assessments, and interface with product/support centers, labs, and DoD research facilities in the execution of assigned tasks. Program research and development agreements, cooperative research and development agreements, and ID/IQ contracts will be competitively awarded.				
<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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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Air Force</b>		<b>Date:</b> March 2014
<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>

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<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0401134F / <i>Large Aircraft IR Countermeasures (LAIRCM)</i>	<b>Project (Number/Name)</b> 674942 / <i>Large Aircraft Infrared Counter Measures (LAIRCM)</i>

