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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force **Date:** May 2017

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207410F / <i>Air & Space Operations Center (AOC)</i>
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COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	20.588	37.621	26.956	0.000	26.956	8.673	7.872	13.287	13.595	Continuing	Continuing
674596: <i>AOC WS Modifications</i>	0.000	0.000	12.278	7.700	0.000	7.700	0.000	0.000	0.000	0.000	0.000	19.978
675218: <i>Applications Development</i>	0.000	15.052	15.285	15.429	0.000	15.429	7.653	6.831	7.932	8.094	Continuing	Continuing
675220: <i>Unit Level</i>	0.000	3.187	7.666	3.827	0.000	3.827	1.020	1.041	5.355	5.501	Continuing	Continuing
675221: <i>Personnel Recovery Command and Control (PRC2)</i>	0.000	2.349	2.392	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

This program, BA 07 PE 0207410F, project 675218, C2AOS-C2IS Modifications, is a new start.

In FY 2018, PE 0207410F, Air & Space Operations Center (AOC), Project Number 675221, Personnel Recovery Command and Control (PRC2), efforts were transferred to PE 0305984F, Personnel Recovery Command & Ctrl (PRC2), Project Number 675221, Personnel Recovery Command and Control (PRC2), in order to improve visibility on Service's fair share of development funding for this joint interest program.

A. Mission Description and Budget Item Justification

In FY 2017, AOC WS Modifications was a new start.

In FY 2017, C2AOS-C2IS Modifications was a new start. This effort was delayed one year as a result of the AOC 10.2 Critical Change which delayed integration into current AOC WS baseline.

The Air and Space Operations Center Weapon System (AOC WS) program element provides development of Command and Control (C2) capabilities across the entire spectrum of air and space operations from the strategic to the tactical level. There are four funded projects within the AOC WS program element:

AOC WS Modifications allow for the consolidation to a single baseline across the AOC WS enterprise and provide required modifications and pathfinder efforts for the AOC WS to remain interoperable, certified, supportable, and compliant through the development, integration, testing, fielding, and sustainment of new capabilities and upgrades. Modifications are required for the AOC WS to keep pace with evolving Government Off the Shelf (GOTS) components, integrated Commercial Off the Shelf (COTS) components, Department of Defense (DoD) directives, and changes in the underlying Information Technology (IT) environment, as well as to deliver effective training solutions for the user.

Applications Development provides worldwide operational level C2 capabilities, which include: air battle planning, management, and execution; operational level C2 of Integrated Air and Missile Defense (C2 of IAMD); in support of DoD, Coalition Partners, and other government agencies.

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Unit Command and Control (UC2) provides both scheduling and mission preparation activities at the wing and squadron level, and the capabilities to report and track the success of each mission and influence decisions of future Air Battle Planning.						
Personnel Recovery Command and Control (PRC2) provides an adaptive, networked, decentralized and situationally-appropriate personnel recovery C2 system which supports personnel accountability and recovery missions worldwide. PRC2 delivers a globally accessible, collaborative, interoperable and integrated system to prevent, prepare for and respond to isolating events across the Range of Military Operations in the joint/coalition operating environment. The system collects, stores and delivers personnel/identity biometric data, emergency locator beacon registrations, isolated personnel reports, evasion plans of action, incident reports and other information management capabilities for predictive, preventive and personnel vulnerability analysis/assessment in support of Personnel Recovery across DoD and other national and international entities.						
BA7 - 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget		21.102	37.621	17.761	0.000	17.761
Current President's Budget		20.588	37.621	26.956	0.000	26.956
Total Adjustments		-0.514	0.000	9.195	0.000	9.195
• 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		-0.514	0.000			
• Other Adjustments		0.000	0.000	9.195	0.000	9.195
Change Summary Explanation						
FY 2018 funding increased \$7.700M in AOC WS Modifications to accelerate C2AOS-C2IS integration on AOC 10.1; increased \$7.900M to Applications Development to fund completion of C2AOS-C2IS development efforts; increased \$0.040M for reprogramming of non-pay inflation rates; decreased \$4.000M in Unit Level as Unit Command and Control (UC2) Rel 1.3 efforts complete; transferred \$2.445M from PRC2 to new PE 0305984F.						

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 674596 / AOC WS Modifications			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
674596: AOC WS Modifications	0.000	0.000	12.278	7.700	0.000	7.700	0.000	0.000	0.000	0.000	0.000	19.978
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note FY 2018: Funding increased \$7.700M in AOC WS Modifications to accelerate C2AOS-C2IS integration on AOC 10.1.												
A. Mission Description and Budget Item Justification The Air Operations Center Weapon System (AOC WS), AN/USQ-163 Falconer, the senior element of the Theater Air Control System (TACS), is the weapon system the Commander, Air Force Forces (COMAFFOR) provides the Combined/Joint Force Air Component Commander (C/JFACC) for planning, executing, and assessing theater-wide air and space operations. The C/JFACC provides air, space and cyber support to the Combined/Joint Forces Commander (C/JFC) by coordinating, deconflicting and assessing the progress of various weapon systems to advance the C/JFC's campaign. The AOC WS develops operations strategy and planning documents. The weapon system also disseminates tasking orders; executes day-to-day peacetime and combat air, space and cyber operations; and provides rapid reaction to immediate situations by exercising positive control of friendly forces. In FY 2017, AOC WS Modifications was a new start. In FY18, AOC WS Modifications are required to enable the retirement of Theater Battle Management Core System Force Level (TBMCS FL) and the legacy AOC 10.1 system. Further, AOC WS Modifications are required for the AOC to keep pace with evolving COTS/GOTS components, DoD directives, changes in the underlying IT environment, and to remain interoperable, certified, supportable, and compliant through the development, integration, testing, fielding, training, and sustainment of new capabilities and upgrades to the AOC WS. Additionally, in FY18 AOC WS Modification activities evolve the AOC through development, integration, and test of progressively improving capabilities in support of mission requirements at Geographic and Global (formerly Functional) AOCs, as well as Support and Manpower Augmentation units, keeping the AOC current and interoperable with the Combatant Commands (CCMD), cyber requirements, and next generation weapon systems/weapons. BA7 - 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. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: AOC WS Modifications Development									0.000	10.228	6.416	
Description: Conduct AOC WS infrastructure development and mission capability integration. Develop, integrate, and test modification updates to the AOC WS leveraging a robust, open, Net-Centric infrastructure with a Service Oriented Architecture (SOA). Develop, test, and deliver effective training solutions. Conduct system maintenance and interoperability updates.												

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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)	Project (Number/Name) 674596 / AOC WS Modifications	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017
FY 2016 Accomplishments: N/A			
FY 2017 Plans: - Integrate C2 Air Operations Suite - C2 Information Services (C2AOS-C2IS) into the AOC WS to enable retirement of TBMCS FL - Integrate 3rd party GOTS mission application updates (e.g., C2AOS-C2IS, Global Command and Control-Joint (GCCS-J), Master Air Attack Plan Tool Kit (MAAPTK), etc.) - This includes infrastructure updates (e.g., Agile Core Services, etc.) and modifying automated business process (Mission Threads) implementations			
FY 2018 Plans: - Conduct combined DT of the five projects (ASMA-ASIS, RISC2, C2 of IAMD, ATOMS, and AXIS) - Plan for combined OT			
Title: AOC WS Modifications Test and Evaluation Description: Plan and implement comprehensive contractor testing (integration and test, functional testing, security testing, etc.), Developmental Test and Evaluation (DT&E), and Operational Test and Evaluation (OT&E) on AOC WS modification baseline updates, to include test planning, test conduct, and documentation review.		0.000	1.800
FY 2016 Accomplishments: N/A			
FY 2017 Plans: - Conduct frequent contractor and developmental testing, including Warfighter Assessment Workshops, Risk Reduction Events, Information Assurance Assessments, etc.			
FY 2018 Plans: - Conduct frequent contractor and developmental testing, including Warfighter Assessment Workshops, Risk Reduction Events, Information Assurance Assessments, etc.			
Title: AOC WS Modifications Training Description: Plan and conduct AOC WS modification training analysis, planning, and development, to include both contractor-developed capabilities and supplemental training for contractor modified 3rd party capabilities. This includes development of effective training solutions and baseline updates to provide more effective training capabilities. This also includes curriculum and courseware / material development, instructor training, class / Computer Based Training conduct, and training surveys / analysis / updates / enhanced simulation capabilities.		0.000	0.250
			0.156

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
FY 2016 Accomplishments: N/A			
FY 2017 Plans: - Plan and conduct training updates to reflect baseline changes (3rd party applications, infrastructure, automated business processes, etc.) and operational training needs			
FY 2018 Plans: - Integrate C2 Air Operations Suite - C2 Information Services (C2AOS-C2IS) into the AOC WS to enable retirement of TBMCS FL - Integrate 3rd party GOTS mission application updates (e.g., C2AOS-C2IS, Global Command and Control-Joint (GCCS-J), Master Air Attack Plan Tool Kit (MAAPTK), etc.) - This includes infrastructure updates (e.g., Agile Core Services, etc.) and modifying automated business process (Mission Threads) implementations			
Accomplishments/Planned Programs Subtotals	0.000	12.278	7.700

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u> <u>Base</u>	<u>FY 2018</u> <u>OCO</u>	<u>FY 2018</u> <u>Total</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF: BA03: Line Item # 834520: Theater Battle Mgt C2 System	3.139	5.114	4.976	0.000	4.976	4.526	4.606	4.690	4.775	Continuing	Continuing
• OPAF: BA03: Line Item # 834530: Air and Space Operations Ctr-WPN SYS	9.993	15.474	25.553	0.000	25.553	36.081	36.527	37.270	42.163	Continuing	Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy builds on existing capabilities using evolutionary acquisition to standardize and modify the AOC WS. The initial capability was AOC WS Increment 10.0, which fielded the 10.0 configuration to five operational sites, plus a Help Desk and a Formal Training Unit. The second increment, Increment 10.1, upgraded these locations to an integrated baseline and fielded the baseline to additional operational and reserve units worldwide. The AOC 10.2, evolves the AOC to a Net-Centric environment, compliant with DoD SOA standards. The AOC WS Modifications program builds upon these evolutionary weapon system updates to develop, integrate, test, train, deliver, and sustain new capabilities and baseline updates to the AOC WS. The AOC WS Modifications program will leverage an AOC WS Long-Term Modification and Sustainment (LTM&S) contract, awarded in 3QFY17, which will provide for government led integration of the AOC WS enterprise. The AOC WS Program Management Office (PMO) will provide technical oversight to the AOC WS Modification program, led by a Government AOC Weapon System (WS) Chief

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Engineer. Additionally, significant technical expertise will be provided by MITRE, MIT Lincoln Laboratory, and Engineering & Technology Acquisition Support Services contractors.

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-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 675218 / Applications Development			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675218: Applications Development	0.000	15.052	15.285	15.429	0.000	15.429	7.653	6.831	7.932	8.094	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 07 PE 0207410F, project 675218, C2AOS-C2IS Modifications, is a new start.

FY 2018: Funding increased \$7.900M in Applications Development to fund completion of C2AOS-C2IS development efforts.

A. Mission Description and Budget Item Justification

This project funds operational development necessary to acquire and modify segments of Air Force's (AF) Command and Control (C2) capabilities and services. Applications Development provides worldwide operational capabilities for AF C2 in support of DoD, Coalition Partners, and other government agencies. These efforts focus on support of the Joint Forces Air Component Commander (JFACC) that provides air, space and cyber support as presented to the AOC and to other AF and Joint Services C2 systems. Application Development efforts deliver capabilities identified in the Joint Command and Control (JC2) Capability Development Document (CDD) (2013). These activities include C2 Air Operations Suite - C2 Information Services (C2AOS-C2IS) needs identified in the Capability Definition Package (CDP) (2012). C2AOS-C2IS creates web-enabled information services to expose air operations data using standardized schemas, such as those developed by the Air Operations Community of Interest. C2AOS-C2IS also develops, matures, fields, and maintains modular net-centric C2 applications for air battle planning, execution, and management functions. These applications include Network Enabled Weapons (NEW); the remainder of the CDP and Theater Battle Management Core Systems - Force Level (TBMCS FL) functionality; services to support air mission and Friendly Order of Battle execution, Alerting, Publish and Subscribe, Content Management and Reporting; and integration with a JC2 Reference Architecture (RA) host infrastructure environment.

Activities also include studies and analysis to support both current and future program planning and execution.

In FY 2017, C2AOS-C2IS Modifications was a new start. This effort was delayed one year as a result of the AOC 10.2 Critical Change which delayed integration into current AOC WS baseline.

In FY18, core development activities will be complete and focus will be on testing, addressing discrepancies discovered during testing, Information Assurance (IA), and the start of modernization planning for 4th/5th generation fighter platforms.

BA7 - 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.

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
Title: C2AOS-C2IS Development Description: C2AOS-C2IS Development program develops modular net-centric C2 applications for air battle planning, execution and management functions and creates web-enabled information services to expose air operations data in TBMCS applications and systems using standardized schemas including Capability Packages (CP) 1, 2, & 3 - CP 1: Air Tasking Order Management System (ATOMS), Request Information Services for Command and Control (RISC2) & NEW - CP 2: C2 of Integrated Air Missile Defense (IAMD) Planner and Airspace Management Application - Airspace Information Service (ASMA-ASIS) - CP 3: Air Execution Information System (AXIS) FY 2016 Accomplishments: - Continued development of ATOMS (Rel 4), RISC2, ASMA-ASIS and C2 of IAMD (Rel 3) - Conducted Contractor and Development Tests (DT) for ASMA-ASIS, RISC2, and C2 of IAMD (Rel 3) - Awarded contract for AXIS (Rel 1) FY 2017 Plans: - Complete DT on ASMA-ASIS, RISC2, and C2 of IAMD (Rel 3) - Accomplish bug fixes from testing of ASMA-ASIS, RISC2, C2 of IAMD (Rel 3) and ATOMS (Rel 4) - Conduct ATOMS (Rel 4) Contractor and DT - Prioritize Baseline Change Requests (BCR) - Conduct integration activities - Complete development, conduct Contractor and DT of AXIS (Rel 1) - Maintain IA posture - Support integration into AOC WS - Award Test and Integration contracts FY 2018 Plans: - Conduct combined DT - Continue integration activities, bug fixes, BCR, and IA posture - Support integration into AOC WS		13.042	13.971	13.388
Title: C2AOS-C2IS Modifications Description: The C2AOS-C2IS Modifications program updates the fielded C2AOS-C2IS baseline to remain interoperable, certified, supportable, and compliant through the development, integration, testing, fielding, of new capabilities and upgrades. C2AOS-C2IS Modifications fine tunes capabilities for C2 of 4th and 5th Generation Fighter Platforms, maintains IA posture via		0.000	0.000	0.300

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017	
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)	Project (Number/Name) 675218 / Applications Development	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017
cyber updates, and updates user interfaces as needed. C2AOS-C2IS Modifications FY17 new start effort was delayed one year due to delay of integration into AOC WS.			
FY 2016 Accomplishments: N/A			
FY 2017 Plans: N/A			
FY 2018 Plans: - Prioritize and work requirements for modification contract - Release Request for Proposal for C2AOS-C2IS modification contract			
Title: Test and Evaluation		2.010	1.314
Description: Test and Evaluation			
FY 2016 Accomplishments: - Participated in multiple Warfighter Assessments (WA), Risk Reduction Testing (RRT) and DT events and regression testing - Prepared for combined DT and Operational Test (OT)			
FY 2017 Plans: - Conduct integration tests, RRTs, and regression testing - Conduct AXIS (Rel 1) and ATOMS (Rel 4) DT - Conduct C2AOS RRT - Prepare for combined DT of the five projects (ASMA-ASIS, RISC2, C2 of IAMD, ATOMS and AXIS) - Prepare for OT			
FY 2018 Plans: - Conduct combined DT of the five projects (ASMA-ASIS, RISC2, C2 of IAMD, ATOMS, and AXIS) - Plan for combined OT			
Accomplishments/Planned Programs Subtotals		15.052	15.285
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)	Project (Number/Name) 675218 / Applications Development
D. Acquisition Strategy Projects will be awarded following full and open competition and will use an evolutionary acquisition strategy based on incremental development leveraging the C2 Applications and Information Services Development Indefinite Delivery/Indefinite Quantity contract. The Air Force Life Cycle Management Center, Operations C2 Division manages the integration of C2AOS-C2IS efforts into the AOC WS.		
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: FY 2018 Air Force												Date: May 2017			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 675218 / Applications Development					
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Air Tasking Order Management System (ATOMS)	C/Various	Lockheed Martin : Colorado Springs, CO	0.000	3.169	Mar 2016	2.876	Dec 2016	0.000		0.000		0.000	0.000	6.045	-
Request Information Services for Command and Control (RISC2)	C/Various	Leidos, Inc. : Reston, VA	0.000	0.776	Jan 2016	0.119	Nov 2016	0.000		0.000		0.000	0.000	0.895	-
Air Space Management Application-Air Space Information Service (ASMA-ASIS)	C/Various	Leidos, Inc. : Reston, VA	0.000	1.009	Mar 2016	0.131	Dec 2016	0.000		0.000		0.000	0.000	1.140	-
Command and Control of Integrated Air and Missile Defense (C2 of IAMD)	C/Various	Lockheed Martin : Colorado Springs, CO	0.000	0.573	May 2016	0.347	Jan 2017	0.000		0.000		0.000	0.000	0.920	-
Air Execution Infomation System (AXIS)	C/CPFF	Leidos, Inc. : Reston, VA	0.000	1.809	Jun 2016	1.648	Dec 2016	0.000		0.000		0.000	Continuing	Continuing	-
Test and Integration 1	C/T&M	Leidos,Inc. : Reston, VA	0.000	0.000	Dec 2016	1.075	Mar 2017	2.556	Oct 2017	0.000		2.556	Continuing	Continuing	-
Test and Integration 2	C/T&M	Lockheed Martin : Colorado Springs, CO	0.000	0.000	Feb 2017	2.184	Feb 2017	4.385	Oct 2017	0.000		4.385	Continuing	Continuing	-
Mobility Enterprise Information Services (MEIS)	MIPR	DISA : Scott AFB, IL	0.000	0.000		0.665	Mar 2017	0.766	Oct 2017	0.000		0.766	0.000	1.431	-
Modification	C/TBD	TBD : TBD	0.000	0.000		0.000		0.300	Nov 2017	0.000		0.300	Continuing	Continuing	-
Subtotal			0.000	7.336		9.045		8.007		0.000		8.007	-	-	-
Remarks															
FINANCIAL PERFORMANCE: ATOMS is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs, however, the ATOMS development contract is a FPIF contract with progress payments. Twenty percent (20%) of incurred costs are withheld until the end of the contract, when they are liquidated. Mandatory funding obligations and progress payment withholds will cause the program to lag traditional expenditure benchmarks, painting an inaccurate portrait of overall program health.															

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force													Date: May 2017		
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 675218 / Applications Development					
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Subtotal			-	-		-		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Test Support (Joint)	MIPR	Joint Interoperability Test Command : Fort Huachuca, AZ	0.000	0.028	Apr 2016	0.012	Oct 2017	0.037	Jan 2018	0.000		0.037	0.000	0.077	-
Lead Developmental Test and Evaluation Organization	PO	46th Test Squadron : Eglin AFB, FL	0.000	1.982	Jan 2016	1.302	Mar 2017	1.704	Jan 2018	0.000		1.704	0.000	4.988	-
Subtotal			0.000	2.010		1.314		1.741		0.000		1.741	0.000	5.065	-
Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Systems Engineering	SS/ Various	MITRE : Bedford, MA	0.000	3.129	Oct 2015	3.051	Oct 2016	3.106	Oct 2017	0.000		3.106	0.000	9.286	-
Program Management Administration	C/Various	Various : Hanscom AFB, MA	0.000	2.302	Oct 2015	1.777	Oct 2016	2.395	Oct 2017	0.000		2.395	0.000	6.474	-
Cyber Support	MIPR	Various : Hanscom AFB, MA	0.000	0.275	Mar 2016	0.098	Jul 2017	0.180	Oct 2017	0.000		0.180	0.000	0.553	-
Subtotal			0.000	5.706		4.926		5.681		0.000		5.681	0.000	16.313	-
			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	15.052		15.285		15.429		0.000		15.429	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force			Date: May 2017		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)			Project (Number/Name) 675218 / Applications Development

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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
ATOMS CP 1 Rel 4 Development																												
ATOMS CP 1 Rel 4 Integration and Test																												
RISC2 CP 1 Development																												
RISC2 CP 1 Integration and Test																												
C2 of IAMD Planner CP 2 Rel 3 Development																												
C2 of IAMD Planner CP 2 Rel 3 Integration and Test																												
ASMA-ASIS CP 2 Development																												
ASMA-ASIS CP 2 Integration and Test																												
AXIS CP 3 Rel 1 Development																												
AXIS CP 3 Rel 1 Integration and Test																												
Test and Integration 1 (TI1) - Leidos																												
Test and Integration 2 (TI2) - Lockheed Martin																												
C2AOS-C2IS Modifications program																												

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)	Project (Number/Name) 675218 / Applications Development	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ATOMS CP 1 Rel 4 Development	1	2016	4	2017
ATOMS CP 1 Rel 4 Integration and Test	2	2017	4	2017
RISC2 CP 1 Development	1	2016	2	2017
RISC2 CP 1 Integration and Test	3	2016	2	2017
C2 of IAMD Planner CP 2 Rel 3 Development	1	2016	2	2017
C2 of IAMD Planner CP 2 Rel 3 Integration and Test	3	2016	2	2017
ASMA-ASIS CP 2 Development	1	2016	2	2017
ASMA-ASIS CP 2 Integration and Test	3	2016	2	2017
AXIS CP 3 Rel 1 Development	3	2016	4	2017
AXIS CP 3 Rel 1 Integration and Test	3	2017	4	2017
Test and Integration 1 (TI1) - Leidos	2	2017	3	2019
Test and Integration 2 (TI2) - Lockheed Martin	2	2017	3	2019
C2AOS-C2IS Modifications program	2	2018	4	2022

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 675220 / Unit Level			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675220: Unit Level	0.000	3.187	7.666	3.827	0.000	3.827	1.020	1.041	5.355	5.501	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note FY 2018: Funding decreased \$4.000M in Unit Level as Unit Command and Control (UC2) Rel 1.3 efforts complete.												
A. Mission Description and Budget Item Justification Project funds are used to develop and integrate Unit Command and Control (UC2) as an evolving sequence of increasing software capabilities that support the execution of the air battle plan and the air tasking order message received from the AOC. UC2 operations software systems meet needs identified in the TBMCS Operational Requirements Document (ORD) (2001), the UC2 Baseline System Requirements Document (SRD) by providing both the scheduling and mission preparation activities at the wing, group and squadron level, and the capabilities to report and track the success of each mission and influence decisions on future air battle planning. UC2 is fielded to the Wing Operations Center (WOC), the Maintenance Operations Center (MOC), the Emergency Operations Center (EOC), Crisis Action Team (CAT), and many other work-centers. Activities also include studies and analysis to support both current and future program planning and execution. In FY18, core development activities will be to complete development of UC2 1.3 which will allow UC2 to be accessed on mobile platforms. Additional FY18 activities will include resolving deficiencies discovered during developmental tests (DT), maintaining information assurance (IA) posture, and ensuring integration and testing of UC2 interfaces with other applications. BA7 - 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. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: Software Development									2.547	7.478	3.257	
Description: UL/UC2 and UC2 capabilities development/integration.												
FY 2016 Accomplishments: - Completed development of UC2 Rel 1.1 - Started development of UC2 Rel 1.1.1												

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force								Date: May 2017			
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 675220 / Unit Level			
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2016	FY 2017	FY 2018	
<p>- Started development of UC2 Rel 1.2 which completes the resource management modernization, provides modernization of base situational awareness map, and adds/modernizes the interfaces.</p> <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> - Complete development of UC2 Rel 1.1.1 - Complete development of UC2 Rel 1.2 - Start development of UC2 Rel 1.3 <p>FY 2018 Plans:</p> <ul style="list-style-type: none"> - Complete development of UC2 Rel 1.3 											
<p>Title: Testing and Test Support</p> <p>Description: UC2 Testing and test support activities.</p> <p>FY 2016 Accomplishments:</p> <ul style="list-style-type: none"> - Supported UC2 Warfighter Assessments - Completed testing of UC2 Rel 1.1 <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> - Support UC2 Warfighter Assessments - Complete testing of UC2 Rel 1.1.1 - Complete testing of UC2 Rel 1.2 <p>FY 2018 Plans:</p> <ul style="list-style-type: none"> - Support UC2 Warfighter Assessments - Complete testing of UC2 Rel 1.3 								0.640	0.188	0.570	
Accomplishments/Planned Programs Subtotals								3.187	7.666	3.827	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 834520: Theater Battle Management C2 System	3.079	3.293	3.384	0.000	3.384	3.444	3.507	3.570	3.635	Continuing	Continuing
Remarks											

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)	Project (Number/Name) 675220 / Unit Level
D. Acquisition Strategy Projects will be awarded following full and open competition and will use an evolutionary acquisition strategy based on incremental development while incorporating agile development and testing principals. The contracting strategy is Cost Plus Fixed Fee. The acquisition and contracting strategies were approved by Program Executive Officer, Battle Management, on 20 March, 2014.		
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-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 675221 / Personnel Recovery Command and Control (PRC2)			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675221: Personnel Recovery Command and Control (PRC2)	0.000	2.349	2.392	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note												
In FY 2018, PE 0207410F, Air & Space Operations Center (AOC), Project Number 675221, Personnel Recovery Command and Control (PRC2), efforts were transferred to PE 0305984F, Personnel Recovery Command & Ctrl (PRC2), Project Number 675221, Personnel Recovery Command and Control (PRC2), in order to improve visibility on Service's fair share of development funding for this joint interest program.												
A. Mission Description and Budget Item Justification												
This project funds operational development necessary to acquire, modify, and sustain a segment of Air Force's C2 capabilities and services associated with Personnel Recovery. The Personnel Recovery Command and Control (PRC2) program develops and delivers tools and services for planning, collaborating and managing search and rescue efforts, as well as disseminating related information to all personnel recovery mission coordinators across the PR network. PRC2 provides an adaptive and networked system, delivering timely situational awareness information supporting personnel accountability and recovery mission management worldwide. PRC2 delivers a globally accessible, collaborative, interoperable and integrated set of capabilities to prevent, prepare for and respond to joint/coalition military personnel recovery activities, and civilian rescue missions. The Joint Personnel Recovery (JPR) Initial Capability Document (ICD) (2012) articulates capabilities needed for PRC2.												
The system collects, stores and delivers personnel/identity biometric data, emergency locator beacon registrations, isolated personnel reports, evasion plans of action, incident reports and other information management capabilities. The information is used for predictive, preventive and personnel vulnerability analysis and assessment in support of Personnel Recovery across Department of Defense and other national and international entities.												
Activities also include studies and analysis to support both current program planning and execution, as well as future program planning.												
In FY 2018, PE 0207410F, Air & Space Operations Center (AOC), Project Number 675221, Personnel Recovery Command and Control (PRC2), efforts were transferred to PE 0305984F, Personnel Recovery Command & Ctrl (PRC2), Project Number 675221, Personnel Recovery Command and Control (PRC2), in order to improve visibility on Service's fair share of development funding for this joint interest program.												
BA7 - 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. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: Personnel Recovery Command and Control (PRC2)									2.149	2.058	0.000	

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017	
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)	Project (Number/Name) 675221 / Personnel Recovery Command and Control (PRC2)	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017
Description: PRC2 is developing and delivering tools and services for planning and managing search and rescue efforts, and disseminating related information. FY 2016 Accomplishments: - Completed development and fielded PRMS 4.0 (formerly PRC2 Inc 4 Build 4.0.0 Virtualization) and PRMM Version 2 (formerly PRC2 Inc 5 Build 5.0.0 Mission Manager Inc 2) capability - Focused follow on activities for concept and risk reduction to support the development of Mission Manager in the Joint environment FY 2017 Plans: - Field PRMS 4.0 (formerly PRC2 inc 4 build 4.0.0 virtualization) - Complete development and field PRMM version 2.0.0 (formerly PRC2 Inc 5.0.0 Mission Manager Inc 2) - Start development of PRMM version 3.0.0 (formerly PRMM version 2.0.0) - Start development of PRMS version 5.0 FY 2018 Plans: N/A			
Title: Test and Evaluation Description: Test and Evaluation FY 2016 Accomplishments: - Focused Test and Evaluation activities to field PRMS Version 4.0 (formerly PRC2 Inc 4 Build 4.0.1 and 4.0.2 Maintenance Releases) and PRMM Version 2.0 (formerly PRC2 Inc 5 Build 5.0.1 Maintenance Release) capability FY 2017 Plans: - Test and evaluation focuses of activities to field PRMM version 2.0.0 (formerly PRC2 Inc 5.0.0 Mission Manager Inc 2) FY 2018 Plans: N/A		0.200	0.334
Accomplishments/Planned Programs Subtotals		2.349	0.000

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017	
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 675221 / Personnel Recovery Command and Control (PRC2)			
C. Other Program Funding Summary (\$ in Millions)											
			FY 2018	FY 2018	FY 2018					Cost To	
Line Item	FY 2016	FY 2017	Base	OCO	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total Cost
• OPAF: BA03: Line Item # 834520: Theater Battle Management C2 System	1.255	1.252	1.286	0.000	1.286	1.310	1.333	1.357	1.392	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
PRC2 product support is provided to the program office by the 517th Software Maintenance Squadron (517 SMXS), Hill AFB Utah, in accordance with a memorandum of agreement and on a fee for service basis. This strategy to utilize the 517 SMXS for agile product development and sustainment was reviewed and approved by the Air Force Program Executive Officer for Battle Management, and implemented in mid-FY 2014. The work done by the 517 SMXS includes, but is not limited to, modernization development, sustainment support services, and software maintenance of the PRC2 system.											
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.											