

# UNCLASSIFIED

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 0207410F I Air & Space Operations Center (AOC)							
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	0.000	29.916	26.956	106.102	0.000	106.102	113.050	102.429	93.920	90.166	Continuing	Continuing
674596: AOC WS Modifications	0.000	4.854	7.700	106.102	0.000	106.102	113.050	102.429	93.920	90.166	Continuing	Continuing
675218: Applications Development	0.000	15.755	15.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	31.184
675220: Unit Level	0.000	6.975	3.827	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.802
675221: Personnel Recovery Command and Control (PRC2)	0.000	2.332	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.332

## Note

This program, BA 7, PE 0207410F, project 674596, Multi-Domain Command and Control (MDC2) Development, is a new start.

In FY 2019, 0207410F, Air & Space Operations Center (AOC), Project Number 675218, Applications Development, and Project Number 675220, Unit Level, were transferred to PE 0305015F, C2 Air Operations Suite - C2 Information Services (C2AOS-C2IS), Project Number 675218, Applications Development, and Project Number 675220, Unit Level, in order to improve transparency of development programs.

## A. Mission Description and Budget Item Justification

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; to include the utilization of commercial cloud environment providers with hosting equipment provided by the program. 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.

Unit Level: 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.

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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.						
This program element may include necessary civilian pay expenses required to manage, execute, and deliver AOC WS, Applications Development, Unit Level and PRC2 capabilities. 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.						
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget		37.621	26.956	8.673	0.000	8.673
Current President's Budget		29.916	26.956	106.102	0.000	106.102
Total Adjustments		-7.705	0.000	97.429	0.000	97.429
• Congressional General Reductions		0.000	0.000			
• Congressional Directed Reductions		-7.278	0.000			
• Congressional Rescissions		0.000	0.000			
• Congressional Adds		0.000	0.000			
• Congressional Directed Transfers		0.350	0.000			
• Reprogrammings		0.000	0.000			
• SBIR/STTR Transfer		-0.777	0.000			
• Other Adjustments		0.000	0.000	97.429	0.000	97.429
Change Summary Explanation						
FY 2017 funding decreased \$7.278M due to AOC WS Modification new start early to need.						
FY 2019 funding increased \$97.429M due to new program structure; adds funds to continuously integrate service/joint applications into baseline via Agile DevOps 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.						

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
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 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
674596: AOC WS Modifications	0.000	4.854	7.700	106.102	0.000	106.102	113.050	102.429	93.920	90.166	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note This program, BA 7, PE 0207410F, project 674596, Multi-Domain Command and Control (MDC2) Development, is a new start.												
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 2019, funding increased development capacity needed for AOC WS Modifications and are required to enable the retirement of Theater Battle Management Core System Force Level (TBMCS FL) and the legacy AOC 10.1 system while moving the AOC baseline toward a cloud-based commercially managed Infrastructure and Platform as a Service (IaaS/PaaS) hosting platform/environment. Also, 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; to include the utilization of commercial cloud environment providers with hosting equipment provided by the program. Additionally, in FY 2019 AOC WS Modifications activities evolve the AOC through Agile Software Development and Operations (DevOps) 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 (CCMDs), cyber requirements, and next generation weapon systems/weapons. Furthermore, in FY 2019 AOC WS Modifications funding increased to support the Multi-Domain Command and Control (MDC2) capability, a multi-node concept which connects existing DevOps environments in order to achieve MDC2 objectives. It serves as a warfighter-centric focal point for USAF-organic rapid software development, experimentation, testing, and operationalization of MDC2 capabilities. It will explore advanced technology and leverage agile acquisition to rapidly operationalize MDC2 tools and capabilities.  This program element may include necessary civilian pay expenses required to manage, execute, and deliver AOC WS 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.  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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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force				Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<p><b>Title:</b> AOC WS Modifications Development</p> <p><b>Description:</b> Conduct AOC WS infrastructure development and mission capability integration. Leverage agile development methodology to 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 with agile continuous integration and continuous development (CI/CD) processes. Conduct system maintenance and interoperability updates utilizing CI/CD.</p> <p><b>FY 2018 Plans:</b></p> <ul style="list-style-type: none"><li>- Conduct combined Developmental Testing (DT) of the five projects (Airspace Management Application - Airspace Information Service [ASMA-ASIS], Request Information Services for Command and Control [RISC2], C2 of Integrated Air Missile Defense [IAMD] Planner, Air Tasking Order Management System [ATOMS], and Air Execution Information System [AXIS])</li><li>- Plan for combined Operational Testing (OT)</li><li>- Continue to modify to 10.1 legacy system to cloud-enabled environment; migrating or developing applications to perform in the cloud environment</li><li>- Continue to evolve the AOC through Agile DevOps development, integration, and test of progressively improving capabilities in support of mission requirements</li></ul> <p><b>FY 2019 Base Plans:</b></p> <ul style="list-style-type: none"><li>- Continue combined DT of the five projects (ASMA-ASIS, RISC2, C2 of IAMD, ATOMS, and AXIS)</li><li>- Continue planning for combined OT</li><li>- Continue to modify to 10.1 legacy system to cloud-enabled environment; migrating or developing applications to perform in the cloud environment</li><li>- Continue to evolve the AOC through Agile DevOps development, integration, and test of progressively improving capabilities in support of mission requirements</li></ul> <p><b>FY 2019 OCO Plans:</b></p> <p>N/A</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b></p> <p>Funding increased due to new program structure; adds funds to continuously integrate service/joint apps into baseline and for the utilization of commercial cloud environment providers with hosting equipment provided by the program.</p>		4.854	6.416	90.764	0.000	90.764
<p><b>Title:</b> AOC WS Modifications Test and Evaluation</p>		0.000	1.128	0.300	0.000	0.300

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<p><b>Description:</b> Plan and implement appropriate comprehensive contractor testing (integration and test, functional testing, security testing, etc.), Developmental Test and Evaluation (DT&amp;E), and Operational Test and Evaluation (OT&amp;E) on AOC WS modification baseline updates, to include test planning, test conduct, and documentation review as necessary.</p> <p><b>FY 2018 Plans:</b> - Conduct frequent contractor and developmental testing, including Warfighter Assessment Workshops, Risk Reduction Events, Information Assurance Assessments, etc.</p> <p><b>FY 2019 Base Plans:</b> - Conduct DT and OT events of 10.1.16 and the integration of C2AOS-C2IS and its applications</p> <p><b>FY 2019 OCO Plans:</b> N/A</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Funding decreased due to type/frequency of testing using Agile DevOps methodology.</p>						
<p><b>Title:</b> AOC WS Modifications Training</p> <p><b>Description:</b> 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 course ware / material development, instructor training, class / Computer Based Training conduct, and training surveys / analysis / updates / enhanced simulation capabilities.</p> <p><b>FY 2018 Plans:</b> - Training in advance of FY 2019 10.1.16 DT/OT testing events</p> <p><b>FY 2019 Base Plans:</b> - Training in support of 10.1.16 DT/OT testing events</p> <p><b>FY 2019 OCO Plans:</b> N/A</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b></p>		0.000	0.156	0.150	0.000	0.150

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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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Cost decrease due to reduced training costs.											
Title: Multi-Domain Command and Control (MDC2) Development							0.000	0.000	14.888	0.000	14.888
Description: Development of enduring capability for a scalable operational infrastructure and data architecture to acquire and develop MDC2 capability; procure/lease a virtualized (cloud-based) data structure for all relevant information (mission data, business data, applications, enterprise services, etc.). Experiment, explore, and develop innovative C2 tools designed for multi-domain; multi-level security tools and capabilities to enhance C2 interoperability and data sharing for the 2030 and beyond fight. Utilize for program support and other activities that may include, but are not limited to experiments, infrastructure/architecture needs, coding, technical analysis, etc.											
FY 2018 Plans: N/A											
FY 2019 Base Plans: - Begin to evolve the MDC2 capability through Agile DevOps development, integration, and test of progressively improving capabilities in support of mission requirements											
FY 2019 OCO Plans: N/A											
FY 2018 to FY 2019 Increase/Decrease Statement: Funding increased due to new start effort.											
Accomplishments/Planned Programs Subtotals							4.854	7.700	106.102	0.000	106.102
C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• OPAF 03 Line Item 834520: Theater Battle Mgt C2 System	5.674	4.976	2.923	-	2.923	5.514	5.284	4.739	4.823	Continuing	Continuing
• OPAF 03 Line Item 834530: Air and Space Operations Ctr-WPN SYS	15.325	25.533	40.066	-	40.066	40.583	5.190	5.228	5.247	Continuing	Continuing
Remarks											

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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>D. Acquisition Strategy</b> The acquisition strategy builds on the agile development and modification of 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, sought to evolve the AOC to a Net-Centric environment, compliant with DoD SOA standards but proved late to need using legacy approaches. The AOC WS Modifications program, using commercial best practices of agile Dev Ops Development 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 Apr 2017, 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 Engineer. Activities are also accomplished via Military Interdepartmental Purchase Requests (MIPR). Additionally, significant technical expertise will be provided by MITRE and Engineering & Technology Acquisition Support Services contractors as well as commercial industry partners.		
<b>E. 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 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 674596 / AOC WS Modifications					
Product Development (\$ 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
AOC WS Modifications Development	C/CPFF	Raytheon : Waltham, MA	-	1.500	Apr 2017	1.092	Oct 2017	35.458	Oct 2018	-		35.458	Continuing	Continuing	-
AOC WS Modifications	MIPR	Pivotal : Multiple	-	0.000		0.000		47.210	Oct 2018	-		47.210	Continuing	Continuing	-
Multi-Domain Command and Control (MDC2)	MIPR	Various : Multiple	-	0.000		0.000		14.888	Apr 2019	-		14.888	Continuing	Continuing	-
Subtotal			-	1.500		1.092		97.556		-		97.556	Continuing	Continuing	N/A
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
AOC WS Modifications Training	C/TBD	Various : Various	-	-		0.150	Jul 2018	0.150	Dec 2018	-		0.150	Continuing	Continuing	-
Subtotal			-	-		0.150		0.150		-		0.150	Continuing	Continuing	N/A
Test and Evaluation (\$ 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
AOC WS Modifications Test	Various	Various : Various	-	-		1.128	Mar 2018	0.300	Nov 2018	-		0.300	Continuing	Continuing	-
Subtotal			-	-		1.128		0.300		-		0.300	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
Engineering Services	Various	Various : Various	-	0.624	Oct 2016	3.472	Oct 2017	3.500	Oct 2018	-		3.500	Continuing	Continuing	-
Program Management Administration	C/Various	Various : Various	-	2.730	Nov 2016	1.858	Nov 2017	4.596	Nov 2018	-		4.596	Continuing	Continuing	-



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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</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 0207410F / Air & Space Operations Center (AOC)				<b>Project (Number/Name)</b> 674596 / AOC WS Modifications				

  

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
<b>Subtotal</b>			-	3.354		5.330		8.096		-		8.096	Continuing	Continuing	N/A

  

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	-	4.854	7.700	106.102	-	106.102	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 0207410F / Air & Space Operations Center (AOC)			<b>Project (Number/Name)</b> 674596 / AOC WS Modifications

	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>AOC WS Modifications</b>																												
AOC WS Modifications Phase 1																												
AOC WS Modifications Phase 2																												
AOC WS Modifications Phase 3																												
AOC WS Modifications Phase 4																												
AOC WS Modifications Phase 5																												
AOC WS Modifications Phase 6																												
<b>AOC WS Modifications Testing</b>																												
AOC 10.1.16 DT/OT Test																												
<b>Multi-Domain Command and Control (MDC2)</b>																												
MDC2 Development																												

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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 0207410F / Air & Space Operations Center (AOC)	<b>Project (Number/Name)</b> 674596 / AOC WS Modifications	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>AOC WS Modifications</b>				
AOC WS Modifications Phase 1	4	2017	3	2018
AOC WS Modifications Phase 2	3	2018	1	2019
AOC WS Modifications Phase 3	2	2019	1	2020
AOC WS Modifications Phase 4	2	2020	1	2021
AOC WS Modifications Phase 5	2	2021	1	2022
AOC WS Modifications Phase 6	2	2022	1	2023
<b>AOC WS Modifications Testing</b>				
AOC 10.1.16 DT/OT Test	2	2018	3	2019
<b>Multi-Domain Command and Control (MDC2)</b>				
MDC2 Development	3	2019	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
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 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
675218: Applications Development	0.000	15.755	15.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	31.184
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## Note

In FY 2019, 0207410F, Air & Space Operations Center (AOC), Project Number 675218, Applications Development, was transferred to PE 0305015F, C2 Air Operations Suite - C2 Information Services (C2AOS-C2IS), Project Number 675218, Applications Development, in order to improve transparency of development programs.

## A. Mission Description and Budget Item Justification

In FY 2018, C2AOS-C2IS Modifications was a new start.

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 and matures 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.

No FY 2019 funding requested; FY 2019 project efforts are detailed in PE 0305015F, C2AOS-C2IS.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Applications Development 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.

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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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force				Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: C2AOS-C2IS Development		14.444	13.588	0.000	0.000	0.000
Description: C2AOS-C2IS Development effort 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 Theater Battle Management Core System (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) and Network Enabled Weapons (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 2018 Plans: - Accomplish bug fixes from testing and integration events - Prioritize Baseline Change Requests (BCR) - Conduct integration activities - Maintain cybersecurity posture - Support integration into AOC WS - Conduct C2AOS-C2IS Developmental Test (DT) - Turn Software (S/W) over to AOC for integration						
FY 2019 Base Plans: See PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675218, Applications Development.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: Funding decreased due to transfer to PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675218, Applications Development.						
Title: C2AOS-C2IS Modifications		0.000	0.300	0.000	0.000	0.000
Description: The C2AOS-C2IS Modifications effort updates the fielded C2AOS-C2IS baseline to remain interoperable, certified, supportable, and compliant through the development, integration, testing, fielding, of new						

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force			Date: February 2018			
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
capabilities and upgrades. C2AOS-C2IS Modifications fine tunes capabilities for C2 of 5th and 4th Generation Fighter Platforms, maintains Information Assurance (IA) posture via cyber updates, and updates user interfaces as needed.  <b>FY 2018 Plans:</b> - Prioritize and work requirements for modification contract - Develop modification contract documentation, perform market research  <b>FY 2019 Base Plans:</b> See PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675218, Applications Development.  <b>FY 2019 OCO Plans:</b> N/A  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Funding decreased due to transfer to PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675218, Applications Development.						
<b>Title:</b> Test and Evaluation  <b>Description:</b> Test and Evaluation  <b>FY 2018 Plans:</b> - Conduct C2AOS-C2IS Risk Reduction Integration Event (RRIE) - Conduct C2AOS-C2IS DT - Prepare for C2AOS-C2IS and AOC combined DT and Operational Test (OT)  <b>FY 2019 Base Plans:</b> See PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675218, Applications Development.  <b>FY 2019 OCO Plans:</b> N/A  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b>		1.311	1.541	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</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 0207410F / <i>Air &amp; Space Operations Center (AOC)</i>		<b>Project (Number/Name)</b> 675218 / <i>Applications Development</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>				<b>FY 2017</b>	<b>FY 2018</b>
Funding decreased due to transfer to PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675218, Applications Development.					
<b>Accomplishments/Planned Programs Subtotals</b>				15.755	15.429
				0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A					
<b>Remarks</b>					
<b>D. Acquisition Strategy</b> 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.					
<b>E. 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 0207410F / Air & Space Operations Center (AOC)				Project (Number/Name) 675218 / Applications Development					
Product Development (\$ 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
Air Tasking Order Management System (ATOMS)	C/FPIF	Lockheed Martin : Colorado Springs, CO	-	2.876	Dec 2016	-		-		-		-	0.000	2.876	-
Request Information Services for Command and Control (RISC2)	C/Various	Leidos, Inc. : Reston, VA	-	0.091	Nov 2016	-		-		-		-	0.000	0.091	-
Air Space Management Application-Air Space Information Service (ASMA-ASIS)	C/Various	Leidos, Inc. : Reston, VA	-	0.131	Dec 2016	-		-		-		-	0.000	0.131	-
Command and Control of Integrated Air and Missile Defense (C2 of IAMD)	C/Various	Lockheed Martin : Colorado Springs, CO	-	0.347	Jan 2017	-		-		-		-	0.000	0.347	-
Air Execution Infomation System (AXIS)	C/CPFF	Leidos, Inc. : Reston, VA	-	1.488	Dec 2016	-		-		-		-	0.000	1.488	-
C2AOS-C2IS Test and Integration 1	C/T&M	Leidos,Inc. : Reston, VA	-	1.538	Mar 2017	2.272	Jan 2018	-		-		-	0.000	3.810	-
C2AOS-C2IS Test and Integration 2	C/T&M	Lockheed Martin : Colorado Springs, CO	-	1.697	Feb 2017	5.597	Nov 2017	-		-		-	0.000	7.294	-
Mobility Enterprise Information Services (MEIS)	MIPR	DISA : Scott AFB, IL	-	0.855	Apr 2017	0.442	Jan 2018	-		-		-	0.000	1.297	-
Red Hat SW Development Support	C/FFP	Carahsoft Technology Corp : Reston, VA	-	0.439	Nov 2017	-		-		-		-	0.000	0.439	-
Subtotal			-	9.462		8.311		-		-		-	0.000	17.773	N/A
Remarks FINANCIAL PERFORMANCE: ATOMS is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs 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: PB 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)						Project (Number/Name) 675218 / Applications Development			
Test and Evaluation (\$ 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
Test Support (Joint)	MIPR	Joint Interoperability Test Command : Fort Huachucha, AZ	-	-		0.058	Jan 2018	-		-		-	0.000	0.058	-
Lead Developmental Test and Evaluation Organization	PO	96th Test Wing : Eglin AFB, FL	-	1.311	Mar 2017	1.483	Feb 2018	-		-		-	0.000	2.794	-
Subtotal			-	1.311		1.541		-		-		-	0.000	2.852	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
Systems Engineering	SS/ Various	MITRE : Bedford, MA	-	3.051	Oct 2016	2.777	Oct 2017	-		-		-	0.000	5.828	-
Program Management Administration	C/Various	Various : Hanscom AFB, MA	-	1.815	Oct 2016	2.290	Oct 2017	-		-		-	0.000	4.105	-
Program Management Administration Modification	C/Various	Various : Hanscom AFB, MA	-	-		0.300	Jul 2018	-		-		-	0.000	0.300	-
Cyber Support	MIPR	Various : Hanscom AFB, MA	-	0.116	Jul 2017	0.210	Jan 2018	-		-		-	0.000	0.326	-
Subtotal			-	4.982		5.577		-		-		-	0.000	10.559	N/A
			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			-	15.755		15.429		-		-		-	0.000	31.184	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 0207410F / Air & Space Operations Center (AOC)										<b>Project (Number/Name)</b> 675218 / Applications Development				

	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>Applications Development</b>																												
C2AOS-C2IS Test and Integration 1 (TI1) - Leidos																												
C2AOS-C2IS Test and Integration 2 (TI2) - Lockheed Martin																												
C2AOS-C2IS Modifications																												

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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 0207410F / <i>Air &amp; Space Operations Center (AOC)</i>	<b>Project (Number/Name)</b> 675218 / <i>Applications Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Applications Development</i></b>				
C2AOS-C2IS Test and Integration 1 (TI1) - Leidos	2	2017	4	2018
C2AOS-C2IS Test and Integration 2 (TI2) - Lockheed Martin	2	2017	4	2018
C2AOS-C2IS Modifications	4	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
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 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
675220: Unit Level	0.000	6.975	3.827	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.802
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note In FY 2019, 0207410F, Air & Space Operations Center (AOC), Project Number 675220, Unit Level, was transferred to PE 0305015F, C2 Air Operations Suite - C2 Information Services (C2AOS-C2IS), Project Number 675220, Unit Level, in order to improve transparency of development programs.												
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.  No FY 2019 funding requested; FY 2019 project efforts are detailed in PE 0305015F, C2AOS-C2IS.  This program element may include necessary civilian pay expenses required to manage, execute, and deliver Unit Level capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828, 0605829F, 0605830F, 0605832F, and 0605898F.  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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Software Development								6.787	3.257	0.000	0.000	0.000
Description: UC2 capabilities development/integration.												
FY 2018 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force									Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Complete development of UC2 Rel 1.3 and field  <b>FY 2019 Base Plans:</b> See PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675220, Unit Level.  <b>FY 2019 OCO Plans:</b> N/A  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Funding decreased due to transfer to PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675220, Unit Level.											
<b>Title:</b> Testing and Test Support  <b>Description:</b> UC2 Testing and test support activities.  <b>FY 2018 Plans:</b> - Support UC2 Warfighter Assessments - Complete testing of UC2 Rel 1.3  <b>FY 2019 Base Plans:</b> See PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675220, Unit Level.  <b>FY 2019 OCO Plans:</b> N/A  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Funding decreased due to transfer to PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project Number 675220, Unit Level.							0.188	0.570	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals							6.975	3.827	0.000	0.000	0.000
C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• OPAF 03 Line Item 834520: Theater Battle Management C2 System	3.293	3.384	3.420	-	3.420	3.481	3.544	3.608	3.671	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</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 0207410F / <i>Air &amp; Space Operations Center (AOC)</i>			<b>Project (Number/Name)</b> 675220 / <i>Unit Level</i>	

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

<u>Line Item</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u> <u>Base</u>	<u>FY 2019</u> <u>OCO</u>	<u>FY 2019</u> <u>Total</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
<b>Remarks</b>											

**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-3, RDT&E Project Cost Analysis: PB 2019 Air Force													Date: February 2018		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)					
3600 / 7					PE 0207410F / Air & Space Operations Center (AOC)					675220 / Unit Level					
<b>Product Development (\$ in Millions)</b>				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
Unit Command & Control (UC2)	C/CPFF	Leidos Inc. : Reston, VA	-	5.204	Jan 2017	1.874	Jan 2018	-		-		-	0.000	7.078	10.530
<b>Subtotal</b>			-	5.204		1.874		-		-		-	0.000	7.078	N/A
<b>Test and Evaluation (\$ in Millions)</b>				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
Test Support	PO	46TS : Eglin AFB, FL	-	0.188	Dec 2016	0.570	Dec 2017	-		-		-	0.000	0.758	-
<b>Subtotal</b>			-	0.188		0.570		-		-		-	0.000	0.758	N/A
<b>Management Services (\$ in Millions)</b>				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
Systems Engineering	C/CPAF	MITRE : Bedford, MA	-	0.712	Oct 2016	0.659	Oct 2017	-		-		-	0.000	1.371	-
Program Management Administration	C/Various	Various : Hanscom AFB, MA	-	0.749	Nov 2016	0.542	Nov 2017	-		-		-	0.000	1.291	-
Cyber Support	MIPR	Various : Hanscom AFB, MA	0.000	0.122	Dec 2016	0.182	Dec 2017	-		-		-	0.000	0.304	-
<b>Subtotal</b>			0.000	1.583		1.383		-		-		-	0.000	2.966	N/A
			Prior Years	FY 2017	FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract	
<b>Project Cost Totals</b>			0.000	6.975	3.827		-		-		-	0.000	10.802	N/A	
<b>Remarks</b>															

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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 0207410F / Air & Space Operations Center (AOC)			<b>Project (Number/Name)</b> 675220 / Unit Level

	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>Unit Command and Control (UC2)</b>																												
UC2 Rel 1.1 Fielding																												
UC2 Rel 1.1.1 Development																												
UC2 Rel 1.1.1 Testing																												
UC2 Rel 1.1.1 Fielding																												
UC2 Rel 1.2 Development																												
UC2 Rel 1.2 Testing																												
UC2 Rel 1.2 Fielding																												
UC2 Rel 1.3 Development																												
UC2 Rel 1.3 Testing																												
UC2 Rel 1.3 Fielding																												



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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 0207410F / Air & Space Operations Center (AOC)	<b>Project (Number/Name)</b> 675220 / Unit Level	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Unit Command and Control (UC2)</b>				
UC2 Rel 1.1 Fielding	3	2017	3	2017
UC2 Rel 1.1.1 Development	1	2017	1	2017
UC2 Rel 1.1.1 Testing	1	2017	3	2017
UC2 Rel 1.1.1 Fielding	3	2017	3	2017
UC2 Rel 1.2 Development	1	2017	4	2017
UC2 Rel 1.2 Testing	3	2017	1	2018
UC2 Rel 1.2 Fielding	2	2018	4	2018
UC2 Rel 1.3 Development	4	2017	3	2018
UC2 Rel 1.3 Testing	2	2018	4	2018
UC2 Rel 1.3 Fielding	4	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
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 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
675221: Personnel Recovery Command and Control (PRC2)	0.000	2.332	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.332
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## 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.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver PRC2 capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828, 0605829F, 0605830F, 0605832F, and 0605898F.

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)

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<b>Title:</b> Personnel Recovery Command and Control (PRC2)	1.998	0.000	0.000	0.000	0.000
<b>Description:</b> PRC2 is developing and delivering tools and services for planning and managing search and rescue efforts, and disseminating related information.					
<b>FY 2018 Plans:</b>					

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force				Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
See PE 0305984F, Personnel Recovery Command & Ctrl (PRC2), Project Number 675221, Personnel Recovery Command and Control (PRC2). <b>FY 2019 Base Plans:</b> See PE 0305984F, Personnel Recovery Command & Ctrl (PRC2), Project Number 675221, Personnel Recovery Command and Control (PRC2). <b>FY 2019 OCO Plans:</b> N/A <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> N/A						
<b>Title:</b> Test and Evaluation <b>Description:</b> Test and Evaluation <b>FY 2018 Plans:</b> See PE 0305984F, Personnel Recovery Command & Ctrl (PRC2), Project Number 675221, Personnel Recovery Command and Control (PRC2). <b>FY 2019 Base Plans:</b> See PE 0305984F, Personnel Recovery Command & Ctrl (PRC2), Project Number 675221, Personnel Recovery Command and Control (PRC2). <b>FY 2019 OCO Plans:</b> N/A <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> N/A		0.334	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		2.332	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018	
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 2019	FY 2019	FY 2019					Cost To	
Line Item	FY 2017	FY 2018	Base	OCO	Total	FY 2020	FY 2021	FY 2022	FY 2023	Complete	Total Cost
• OPAF 03 Line Item	1.252	1.286	1.301	-	1.301	1.323	1.347	1.372	1.396	Continuing	Continuing
834520: Theater Battle Management C2 System											
Remarks											
D. Acquisition Strategy											
<p>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.</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>											

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</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 0207410F / Air & Space Operations Center (AOC)				<b>Project (Number/Name)</b> 675221 / Personnel Recovery Command and Control (PRC2)					
<b>Product Development (\$ 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>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PRC2 Follow on Development	PO	Ogden ALC : Hill AFB, UT	-	1.598	Dec 2016	0.000		-		-		-	0.000	1.598	-
<b>Subtotal</b>			-	1.598		0.000		-		-		-	0.000	1.598	N/A
<b>Test and Evaluation (\$ 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>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test and Evaluation.	PO	46th Test Squadron : Eglin AFB, FL	-	0.334	Oct 2016	0.000		-		-		-	0.000	0.334	-
<b>Subtotal</b>			-	0.334		0.000		-		-		-	0.000	0.334	N/A
<b>Management Services (\$ 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>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Administration	C/Various	Various : Hill AFB, UT	-	0.400	Dec 2016	0.000		-		-		-	0.000	0.400	-
<b>Subtotal</b>			-	0.400		0.000		-		-		-	0.000	0.400	N/A
			<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>			-	2.332	0.000		-		-		-	0.000	2.332	N/A	
<b>Remarks</b>															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force																				Date: February 2018									
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)									

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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 0207410F / <i>Air &amp; Space Operations Center (AOC)</i>	<b>Project (Number/Name)</b> 675221 / <i>Personnel Recovery Command and Control (PRC2)</i>

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Personnel Recovery Command and Control (PRC2)</i></b>				
Personnel Recovery Mission Manager (PRMM) Ver 2.0.0 Development (formerly PRC2 Inc 5 Build 5.0.0 MM Inc 2)	1	2017	3	2017
PRMM Ver 2.0.0 Testing (formerly PRC2 Inc 5 Build 5.0.0 MM Inc 2)	4	2017	4	2017