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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0207412F I Control and Reporting Center (CRC)							
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	-	12.854	2.450	6.413	0.000	6.413	9.414	16.070	9.779	9.956	Continuing	Continuing
67485L: Theater Air Control System Imp (TACSI)	-	12.854	2.450	6.413	0.000	6.413	9.414	16.070	9.779	9.956	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**  
This program, BA 7, PE 0207412F, project 67485L, CRC Modernization Phase 2, is a new start.

## **A. Mission Description and Budget Item Justification** CONTROL AND REPORTING CENTER (CRC)

The CRC is a mobile, ground-based theater air control system (TACS) surveillance and battle management command and control (BMC2) element. It is a customizable, modular, transportable, and persistent weapon system employed at the tactical level to support air and surface operations to provide direct command and control to all air assets in an assigned Area of Responsibility (AOR) and to report back to the Joint Force Air Combat Commander (JFACC). The CRC is a family of systems which include: AN/TYQ-23A(V)1 Tactical Air Operations Module (TAOM), AN/TSC-147 Joint Tactical Information Distribution System (JTIDS) Module (JM) (to be replaced by Link 16 Upgrade Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)), AN/TRC-213/214 Remote Radio Secure Voice System (RRSVS), and the AN/TPS-75 Radar, CRC's organic radar, which will be replaced by the Three Dimensional Expeditionary Long Range Radar (3DELRR) (PE0207455). Air Combat Command (ACC) CRC Capability Roadmap provides for the modernization of this family of systems and will be programmed into phased updates through 2037.

CRC Phase 1 addresses, but is not limited to, AN/TYQ-23A(V)1 OM Multiple Source Correlator Tracker (MSCT) software upgrades, Diminishing Manufacturing Sources and Material Shortages (DMSMS).

CRC Phase 2 development efforts include AN/TRC-213/214 RRSVS radio modernization upgrade and Ground Moving Target Indicator MSCT software upgrades. Phase 2 is a New Start.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0207412F.

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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Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0207412F I Control and Reporting Center (CRC)						
B. Program Change Summary (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total		
Previous President's Budget		13.292	2.450	0.009	0.000	0.009		
Current President's Budget		12.854	2.450	6.413	0.000	6.413		
Total Adjustments		-0.438	0.000	6.404	0.000	6.404		
• Congressional General Reductions		-0.438	0.000					
• Congressional Directed Reductions		0.000	0.000					
• Congressional Rescissions		0.000	0.000					
• Congressional Adds		0.000	0.000					
• Congressional Directed Transfers		0.000	0.000					
• Reprogrammings		0.000	0.000					
• SBIR/STTR Transfer		0.000	0.000					
• Other Adjustments		0.000	0.000	6.404	0.000	6.404		
Change Summary Explanation								
FY19 - Air Force increased funding into CRC for Phase 2 efforts								
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: CRC Modernization Phase 1				12.854	2.450	0.000	0.000	0.000
Description: CRC Modernization continues Phase 1 (Multiple Source Correlator Tracker (MSCT) software upgrades and 3 Dimensional Expeditionary Long Range Radar(3DELRR) Integration, Secret Internet Protocol Network (SIPR integration) and JM Link 16 Upgrade) will meet AOR user requirements for the CRC system.								
FY 2018 Plans:								
- Provides for 3DELRR Integration testing, cyber security updates, future phase updates planning and program support.								
FY 2019 Base Plans:								
N/A								
FY 2019 OCO Plans:								
N/A								
FY 2018 to FY 2019 Increase/Decrease Statement:								
Air Force added funding for CRC Phase 2 efforts.								
Title: CRC Modernization Phase 2				-	0.000	6.413	-	6.413

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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>					<b>R-1 Program Element (Number/Name)</b> PE 0207412F <i>I Control and Reporting Center (CRC)</i>						
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>											
					<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>		
<b>Description:</b> TRC-213/214 Radio Modernization will be upgraded from Serial to IP comm upgrade and Ground Moving Target Indicators (GMTI) MSCT software will be upgraded.											
<b>FY 2018 Plans:</b> N/A											
<b>FY 2019 Base Plans:</b> - Will begin development of CRC Phase 2 capability. TRC-213/214 Radio Modernization will be upgraded from Serial to IP comm upgrade and Ground Moving Target Indicators (GMTI) MSCT software will be upgraded.											
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Air Force added funding for CRC Phase 2 efforts.											
<b>Accomplishments/Planned Programs Subtotals</b>					12.854	2.450	6.413	0.000	6.413		
<b>D. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</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>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPAF 03 Line Item	1.163	28.203	19.989	-	19.989	11.852	13.393	18.879	8.579	Continuing	Continuing
833040: <i>Theater Air Control Sys Improvements</i>											
<b>Remarks</b>											
<b>E. Acquisition Strategy</b>											
The CRC Capability Roadmap provides for the modernization of the CRC family of systems and will be programmed into phased updates through 2023 to further advance current and future battlespace awareness and tactical battle management command and control capabilities. A variety of contract and organic vehicles will be used depending on type of effort and skills required. Management strategy relies on Air Force Program Executive Office for Battle Management (AFPEO BM) as the Milestone Decision Authority and the Air Force Life Cycle Management Center (AFLCMC) as the Contracting Authority.											
<b>F. Performance Metrics</b>											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0207412F / Control and Reporting Center (CRC)				Project (Number/Name) 67485L / Theater Air Control System Imp (TACSI)					
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
CRC Modernization Phase 1	C/Various	Various : Various, UT	-	12.066	Jan 2017	1.700	Feb 2018	-		-		-	Continuing	Continuing	-
CRC Modernization Phase 2	C/Various	Various : Various, MD	-	-		-		5.493	Jul 2019	-		5.493	Continuing	Continuing	-
Subtotal			-	12.066		1.700		5.493		-		5.493	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
Test Support	PO	Various : Various, MA	-	0.488	Jun 2017	0.450	Feb 2018	0.620	Feb 2019	-		0.620	Continuing	Continuing	-
Subtotal			-	0.488		0.450		0.620		-		0.620	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration - Hill AFB	Various	Hill AFB : Hill AFB, UT	-	0.300	Jan 2017	0.300	Jan 2018	0.300	Feb 2019	-		0.300	Continuing	Continuing	-
Subtotal			-	0.300		0.300		0.300		-		0.300	Continuing	Continuing	N/A
Remarks Task orders against ETAAS and EPAAS; organic depot as well															
			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			-	12.854		2.450		6.413		-		6.413	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 0207412F / <i>Control and Reporting Center (CRC)</i>			<b>Project (Number/Name)</b> 67485L / <i>Theater Air Control System Imp (TACSI)</i>

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>CRC Modernization Phase 1</b>																												
CRC Modernization Phase 1																												
JM Link 16 Upgrades Prototypes																												
Test OM Mod Increment 1 5X & SIPRnet Software Integration																												
JM Link 16 Kit DT/OT																												
Integrate and Test Future Organic Baseline Radar (3DELRR)																												
Continue to Integrate and Test Future Organic Radar (3DELRR)																												
<b>CRC Modernization Phase 2</b>																												
Development & Integration																												

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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 0207412F / <i>Control and Reporting Center (CRC)</i>	<b>Project (Number/Name)</b> 67485L / <i>Theater Air Control System Imp (TACSI)</i>	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>CRC Modernization Phase 1</i></b>				
CRC Modernization Phase 1	3	2017	4	2018
JM Link 16 Upgrades Prototypes	3	2017	3	2017
Test OM Mod Increment 1 5X & SIPRnet Software Integration	2	2017	1	2018
JM Link 16 Kit DT/OT	4	2017	1	2018
Integrate and Test Future Organic Baseline Radar (3DELRR)	4	2017	2	2018
Continue to Integrate and Test Future Organic Radar (3DELRR)	2	2018	4	2018
<b><i>CRC Modernization Phase 2</i></b>				
Development & Integration	4	2019	4	2023