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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2024 Air Force **Date:** March 2023

<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 0401130F / C-17 Aircraft (IF)
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	15.779	25.387	2.753	0.000	2.753	12.373	27.949	82.029	127.232	0.000	293.502
672569: C-17A Aircraft	-	15.779	25.387	2.753	0.000	2.753	12.373	27.949	82.029	127.232	0.000	293.502
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

**Note**  
 This program, BA 7, PE 0401130F, project 672569, Flight Deck Replacement (FDR), is a new start.

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

The four-engine C-17 is the only aircraft capable of routine delivery of outsize cargo (tanks, helicopters, etc.) to short, austere airfields. The aircraft can carry up to 102 troops, 36 litter patients or 18 standard 463-L pallets. The C-17 can perform the entire spectrum of airlift missions and is specifically designed to operate effectively and efficiently in both strategic and theater environments. Not only can the C-17 deliver outsize cargo to austere tactical environments, but it also reduces ground time during air and land operations.

Strategic Airlift provides essential flexibility when responding to contingencies on short notice anywhere in the world. It is a major element of America's national security strategy and constitutes the most responsive means of meeting mobility requirements. Specific tasks associated with the airlift mission include deployment, employment, sustaining support, retrograde, aeromedical evacuation, and combat redeployment. The C-17 will perform this airlift mission well into this century.

C-17 Research, Development, Test & Evaluation (RDT&E) funding efforts support, but are not limited to: Aircraft performance improvements, aircraft mission execution and airspace access mandates (i.e., Communications/Navigation Improvements); flight test activities and facilities; development of solutions for obsolescence and safety of flight issues; systems engineering/program support; support for avionics laboratories; software development, test and integration; block development/change management; developments of solutions for needed upgrades to combat obsolescence and safety of flight issues; and proposal preparation for new projects. Funding supports efforts to include but not limited to Flight Deck Replacement (FDR), Beyond Line of Sight (BLOS), and studies to assess survivability effects of different defensive systems not equipped on C-17 aircraft.

This funding includes Rapid Global Mobility (RGM) platform-related rapid capability development process activities including early planning, analysis and systems engineering activities which provide linkages between operational needs, system performance requirements, technology needs and opportunities, potential lifecycle costs and enabling the technical foundation for material development.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver C-17 weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F,

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0605898F, 0606398F. In FY 2022 \$0.664 million was forecasted for civilian pay expenses in this program element, and in FY 2023 \$0.820 million is forecast for civilian pay expenses in this program element.

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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	16.360	25.387	0.000	0.000	0.000
Current President's Budget	15.779	25.387	2.753	0.000	2.753
Total Adjustments	-0.581	0.000	2.753	0.000	2.753
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-5.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	5.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.581	0.000			
• Other Adjustments	0.000	0.000	2.753	0.000	2.753

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 672569: *C-17A Aircraft*

Congressional Add: *Aircraft Protective Systems Development*

Congressional Add Subtotals for Project: 672569

Congressional Add Totals for all Projects

	<b>FY 2022</b>	<b>FY 2023</b>
	0.000	5.000
	0.000	5.000
	0.000	5.000

**Change Summary Explanation**

FY 2023 funding decreased by \$5.000 million due to Congressional Directed Reduction for "BLOS under-execution and program growth."

FY 2024 funding increased by \$2.753 million to support Flight Deck Replacement and BLOS efforts.

**C. Accomplishments/Planned Programs (\$ in Millions)**

<b>Title:</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Beyond Line of Sight (BLOS)	14.884	18.721	0.200	-	0.200

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**C. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p><b>Description:</b> Beyond Line-Of-Sight (BLOS) modernization modification is a development, integration, and retrofit program for C-17 communications. BLOS modifies and improves hardware and software for voice and data communications on the C-17. The program will modify both integrated aircraft avionics as well as back-end mission communications and could utilize both military and commercial satellite systems to extend communication ranges. The current efforts include but are not limited to Aero-I/Aero-H modernizations and Comm Mod. It includes support for on-going flight test, software labs, and system engineering.</p> <p><b>FY 2023 Plans:</b> BLOS program efforts continue with Test &amp; Evaluation activities and certification efforts, as well as TO verification and training, aircraft cyber assessments and quick reaction support/test activities.</p> <p><b>FY 2024 Base Plans:</b> BLOS program efforts continue Test &amp; Evaluation activities and certification efforts.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding decreased due anticipated completion of the BLOS developmental efforts.</p>					
<p><b>Title:</b> Roll-On Conference Capsule (ROCC)</p> <p><b>Description:</b> ROCC is a program to replace current Silver Bullet Capsules and includes development/design. Effort will allow US Government senior leaders and staff to work, communicate, and rest in airworthy capsules during long range missions into threat areas, with the protection of the C-17A Globemaster III's defensive systems capability. Specifically, the development phase of the ROCC, (formerly referred to as the Silver Bullet Replacement (SBR) program) will require non-recurring engineering, manufacture of the first article and testing. Support for flight test, software labs, system engineering, program management and engineering/acquisition studies not related to requirements generation are included in the overall cost.</p> <p><b>FY 2023 Plans:</b> Continuation of ROCC development efforts to include mitigation actions for head injury risk and seat structure risk, integration test, software labs, system engineering, and certification activities.</p> <p><b>FY 2024 Base Plans:</b> Continued ROCC developmental and testing activities.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b></p>	0.895	1.666	0.000	-	0.000

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Funding decreased due to anticipated completion of ROCC developmental and testing activities.					
<b>Title:</b> Flight Deck Replacement (FDR)  <b>Description:</b> Flight Deck Replacement (FDR) is a development, integration, and retrofit program seeking to modernize the C-17 flight deck. The program replaces the obsolete mission flight computer (core integrated processors (CIP)), multi-function displays (MFD), standby engine displays (SED), video integrated processor (VIP), and provides updates for the affected simulators/trainers/labs. The program's capabilities provide an open systems architecture enabling future modular "plug and play", advancing C-17 flight deck components to current industry standards. Effort previously referred to as "Flight Deck Modernization/Upgrade (FDM/FDU)". FDR is the terminology going forward.  <b>FY 2023 Plans:</b> N/A  <b>FY 2024 Base Plans:</b> Funding will support pre-acquisition award activities.  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding increased due to ramp up of contract award activities.	-	0.000	2.553	0.000	2.553
<b>Accomplishments/Planned Programs Subtotals</b>	15.779	20.387	2.753	0.000	2.753

	<b>FY 2022</b>	<b>FY 2023</b>
<b>Congressional Add:</b> Aircraft Protective Systems Development  <b>FY 2022 Accomplishments:</b> Will perform study to assess survivability benefits and secondary effects of different defensive systems not equipped on C-17 aircraft.	0.000	5.000

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	<b>FY 2022</b>	<b>FY 2023</b>
Study options include, but are not limited to: Self-contained Pod Mounted RF protection, Integrated Pod Mounted RF protection, fully-integrated federated system or Engine Infrared Suppression		
<b>FY 2023 Plans:</b> Study support in FY23.		
<b>Congressional Adds Subtotals</b>	0.000	5.000

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

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item C01700: C-17A	54.649	142.653	140.560	-	140.560	100.013	134.375	134.373	123.025	0.000	829.648
• APAF 06 Line Item 000999: <i>Initial Spares/Repair Parts</i>	11.090	10.707	11.637	-	11.637	26.398	1.808	4.659	7.978	0.000	74.277

**Remarks**

**E. Acquisition Strategy**

The C-17 Acquisition Strategy is based on several separate contracts to support the entire scope of the C-17 weapon system. Globemaster Operational Enhancement (GLOBE) is an indefinite delivery, indefinite quantity (IDIQ) contract used to purchase services and research articles (through delivery orders) to support all RDT&E with our prime contractor. In addition, purchase orders are used to support flight test activities within the projects at Edwards AFB. Additional contract vehicles could be utilized as required.



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**Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0401130F / C-17 Aircraft (IF)	<b>Project (Number/Name)</b> 672569 / C-17A Aircraft
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FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
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>C-17</b>	
Beyond Line of Sight (BLOS)	
Roll-On Conference Capsules (ROCC)	
Flight Deck Replacement (FDR)	
Aircraft Protective Systems Development	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Air Force		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0401130F / C-17 Aircraft (IF)	<b>Project (Number/Name)</b> 672569 / C-17A Aircraft

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>C-17</b>				
Beyond Line of Sight (BLOS)	1	2022	4	2024
Roll-On Conference Capsules (ROCC)	1	2022	4	2023
Flight Deck Replacement (FDR)	2	2024	4	2028
Aircraft Protective Systems Development	4	2023	4	2024