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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604007F / E-7
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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	-	0.000	426.776	681.039	0.000	681.039	417.774	296.813	161.546	167.393	Continuing	Continuing
644413: E-7A	-	0.000	426.776	681.039	0.000	681.039	417.774	296.813	161.546	167.393	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This budget line funds the E-7A program. The E-7A program replaces the unsustainable E-3 Airborne Warning and Control System (AWACS). The E-3 AWACS, first fielded in the 1970s, is at the end of its service life, and costly to maintain. The E-7A will be the USAF's principal airborne sensor for detecting, identifying, tracking, and reporting aerial tracks for the Joint Force Air Component Commander (JFACC).

The E-7A will provide multiple benefits and increased capabilities to the USAF and the Joint Services, including but not limited to: 1) ability to detect and track highly maneuverable, small radar cross-section airborne targets (modern and emerging threats); 2) enable greater airborne battlespace awareness through its precise, real-time air picture of sufficient quality to control and direct individual aircraft under a wide range of environmental and operational conditions; and 3) mitigate reliability, operational availability, maintainability, and sustainability issues.

The E-7A is a highly modified Airborne Battle Management and Command and Control aircraft integrating a Boeing 737-700 Next Generation airframe with reinforced Section 46, a Northrop Grumman Multifunction Electronically Scanned Array Radar mounted on the aircraft's Section 46, and two 180-kVA generators added to commercial CFM-56 engines mounted beneath each wing.

FY2024 funding will support continued rapid prototyping of two E-7As. Rapid prototyping consists of completing end items and potential modification components for up to two aircraft to support test and evaluation; development efforts to ensure compliance with US cyber security and program protection standards; development efforts to ensure navigation and communication systems comply with GPS M-Code and Narrowband SATCOM mandates; design and build-out of contractor and government System Integration Laboratories supporting development, integration, and test activities, and provide analysis and products supporting future requirements and airworthiness certification.

The total cost of the E-7A Middle Tier of Acquisition effort is \$2,730.776 million, including RDT&E and procurement of prototype units. E-7A is not fully funded across the Future Years Defense Program. The Department of the Air Force is assessing all options to address the funding shortfalls for MTA programs including additional funding in a future budget request performance trades based on technical maturity, or transition to alternative pathways.

In the previous budget cycle, this effort was referred to as E-3 Replacement, included in PE 0207417F.

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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 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 4.538M is forecasted for civilian pay expenses in this program element.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	426.776	681.039	0.000	681.039
Total Adjustments	0.000	426.776	681.039	0.000	681.039
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	200.000			
• Congressional Directed Transfers	0.000	226.776			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	681.039	0.000	681.039

Change Summary Explanation

FY23 Congressional Add \$200.000M; Congressional Directed Transfer \$226.776M from PE 0207417F to 0604007F

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Title: E-7A	-	426.776	681.039
Description: Funds will be used to continue E-7A rapid prototyping.			
FY 2023 Plans: Award contract to begin work on the following tasks: - acquire long lead items and/or complete end items and potential modification components for up to two aircraft to support test and evaluation - development efforts to ensure compliance with US cyber security and program protection standards - development efforts to ensure navigation and communication systems comply with GPS M-Code and Narrowband SATCOM mandates			

UNCLASSIFIED

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>- design and build-out contractor and government System Integration Laboratories supporting development, integration, and test activities</p> <p>- provide analysis and products supporting future requirements and airworthiness certification</p> <p>Program office will also support Operational Assessment (OA) of coalition systems providing basis for follow-on production/fielding decisions, undertake Depot Source of Repair (DSOR) analysis, and assemble FAA airworthiness certification package.</p> <p>FY 2024 Plans: Continue Rapid Prototyping effort including the following tasks:</p> <ul style="list-style-type: none"> - complete end items and potential modification components for up to two aircraft to support test and evaluation - development efforts to ensure compliance with US cyber security and program protection standards - development efforts to ensure navigation and communication systems comply with GPS M-Code and Narrowband SATCOM mandates - design and build-out contractor and government System Integration Laboratories supporting development, integration, and test activities - provide analysis and products supporting future requirements and airworthiness certification. <p>Program office will also continue to support Operational Assessment (OA) of coalition systems providing basis for follow-on production/fielding decisions, undertake Depot Source of Repair (DSOR) analysis, and assemble FAA airworthiness certification package.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased due to contract award timing and ramped-up rapid prototyping activity. The FY23 funding level reflects a late Q2 contract award. FY24 funding reflects a full 12-months of contract execution.</p>			
Accomplishments/Planned Programs Subtotals	-	426.776	681.039

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks
Other Program Funding
Appn: RDT&E, BA 07, PE 27417F FY2022: \$22.16M
Appn: APAF, BA: 04, WSC E00700, FY2025: \$809.84M, FY2026: \$1319.11M, FY2027: \$1259.00M FY2028: \$1284.16M
Appn: APAF, BA: 06, WSC E00700, FY27: \$83.01M, FY28: \$84.67M
Appn: APAF, BA: 07, WSC E00700, FY27: \$170.65M FY28: \$174.06M

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3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	PE 0604007F / E-7

E. Acquisition Strategy
E-7A Decision Authority is the Secretary of the Air Force, with authority delegated to the the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics. Air Force Life Cycle Management Center (AFLCMC) is the Contracting Authority for the E-7A and provides Contracts, Legal, and Comptroller Support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604007F / E-7	Project (Number/Name) 644413 / E-7A
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
E-7A Rapid Prototyping Contract	SS/CPIF	The Boeing Company : TUKWILA, WA	-	-		379.865	Feb 2023	615.194	Jan 2024	-		615.194	Continuing	Continuing	-
E-7A Platform One Contract	C/CPAF	TBD : TBD	-	-		6.152	Mar 2023	8.164	Mar 2024	-		8.164	Continuing	Continuing	-
Subtotal			-	-		386.017		623.358		-		623.358	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
E-7A Organic Software Support	PO	76th SWES : Tinker, OK	-	-		3.664	Mar 2023	5.422	Jan 2024	-		5.422	Continuing	Continuing	-
E-7A Government Furnished Equipment (GFE)	Various	Not specified. : TBD	-	-		4.490	Mar 2023	-		-		-	Continuing	Continuing	-
Subtotal			-	-		8.154		5.422		-		5.422	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
E-7A Test	Various	Not specified. : TBD	-	-		2.838	Mar 2023	4.935	Jan 2024	-		4.935	Continuing	Continuing	-
Subtotal			-	-		2.838		4.935		-		4.935	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Administration	Various	AWACS Program Office : Hanscom AFB, MA	-	-		29.767	Mar 2023	47.324	Jan 2024	-		47.324	Continuing	Continuing	-

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Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		29.767		47.324		-		47.324	Continuing	Continuing	N/A
Project Cost Totals			-	-		426.776		681.039		-		681.039	Continuing	Continuing	N/A

Remarks
E-7A effort is expected to involve significant amounts of hardware purchases early in development which create a larger than normal amount of termination and liability costs that must be funded.

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

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604007F / E-7	Project (Number/Name) 644413 / E-7A
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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

E-7A PE 0604007F	
E-7A Rapid Prototyping (RP)	
E-7A RP Undefined Contract Action (UCA) Award	
E-7A System Requirements Review	
E-7A Software Development Lab Delivery	
E-7A Government System Integration Lab Delivery	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604007F / E-7	Project (Number/Name) 644413 / E-7A

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
E-7A PE 0604007F				
E-7A Rapid Prototyping (RP)	2	2023	2	2028
E-7A RP Undefinitized Contract Action (UCA) Award	2	2023	2	2023
E-7A System Requirements Review	3	2023	3	2023
E-7A Software Development Lab Delivery	3	2024	3	2024
E-7A Government System Integration Lab Delivery	4	2026	4	2026