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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207146F / F-15EX
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	79.866	107.126	83.830	0.000	83.830	0.000	0.000	0.000	0.000	0.000	270.822
670131: <i>F-15EX</i>	-	79.866	107.126	83.830	0.000	83.830	0.000	0.000	0.000	0.000	0.000	270.822
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

A refresh of the F-15C/D fleet is critical to maintaining combat viability (lethality, survivability, and supportability) in support of the 2018 National Defense Strategy. Older F-15C/D aircraft will be replaced to maintain a viable mix of 4th and 5th-generation fighters for the next 20+ years. The F-15EX is based on the 2-seat F-15QA (Qatar) configuration upgraded with USAF-only capabilities, including the Eagle Passive Active Warning and Survivability System (EPAWSS) and the F-15 Operational Flight Program (OFP) software. With two seats, it is multirole-capable and operable by one or two aircrew. F-15EX logistics, maintenance, and training will heavily leverage the existing F-15 infrastructure. F-15EX's will replace F-15C/D aircraft, many of which are beyond their service life and have serious structures risks, wire chafing issues, and obsolete parts. The average F-15C/D is 38 years old and approaching the end of its safe service life; the oldest F-15C was delivered in 1979. Readiness goals are unachievable due to continuous structural inspections, time-consuming repairs, and on-going modernization efforts.

Funds may be used to manufacture aircraft, support equipment, and initial spares to support test activities; integrate hardware and software subsystems; upgrade training systems and systems integration labs; develop training materials and technical manuals; pursue other non-recurring engineering activities to reduce integration and cybersecurity risks, ramp up the production line capacity, prepare for and conduct ground and flight testing, and pursue technology insertion opportunities; resolve Diminishing Manufacturing Sources and Material Shortages (DMSMS) and/or obsolescence issues; fulfill Federal Aviation Administration or other mandates necessary to ensure continued aircrew safety and mission effectiveness; and cover other related requirements to manufacture and sustain the test aircraft.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver F-15EX for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY 2021 \$5.779M was expended and in FY 2022 \$8.412M was forecasted for civilian pay expenses in this program element.

The total cost of the F-15EX Middle Tier of Acquisition effort is \$2,762.3 million, including RDT&E and procurement of prototype units. F-15EX 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.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	159.470	118.126	0.000	0.000	0.000
Current President's Budget	79.866	107.126	83.830	0.000	83.830
Total Adjustments	-79.604	-11.000	83.830	0.000	83.830
• Congressional General Reductions	0.000	-11.000			
• 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	-74.000	0.000			
• SBIR/STTR Transfer	-5.604	0.000			
• Other Adjustments	0.000	0.000	83.830	0.000	83.830

Change Summary Explanation

FY 2021 reprogramming of -\$74M on Above Threshold Reprogramming FY21-11 PA OMNIBUS

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY 2023 cannot be made in a relevant manner.

FY 2022 funding decrease of 11.000M due to Congressional reduction for prior year carryover.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Title: F-15EX	79.866	107.126	83.830
Description: F-15EX will refresh the F-15C/D fleet with new aircraft based on the F-15QA Foreign Military Sales (FMS) configuration being sold to Qatar. The program also incorporates USAF-only capabilities, including the Eagle Passive Active Warning and Survivability System (EPAWSS), the F-15 Operational Flight Program (OFP) software and mandates such as, but not limited to, Global Positioning System (GPS) M-Code, Multi-Functional Information Distribution System-Joint Tactical Radio System (MIDS-JTRS), Second Generation Antijam Tactical UHF Radio for NATO (SATURN), and Mode V Identification Friend or Foe (IFF).			
FY 2022 Plans: Continue OFP integration efforts, including merging F-15EX-unique software back into the common F-15 OFP. Continue upgrading training systems and systems integration labs; developing training materials and technical manuals; and completing other non-recurring engineering activities to reduce integration and cybersecurity risks, conduct ground and flight testing, pursue			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
technology insertion opportunities, and fulfill Federal Aviation Administration (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness. Providing program support to manage and execute F-15EX efforts.			
<i>FY 2023 Plans:</i> Continue OFP integration efforts, including merging F-15EX-unique software back into the common F-15 OFP. Continue upgrading training systems and systems integration labs; developing training materials and technical manuals; and completing other non-recurring engineering activities to reduce integration and cybersecurity risks, conduct ground and flight testing, pursue technology insertion opportunities, and fulfill Federal Aviation Administration (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness. Providing program support to manage and execute F-15EX efforts.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> FY 2023 funding decrease due to a reduction for higher AF priorities.			
Accomplishments/Planned Programs Subtotals	79.866	107.126	83.830

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 F015EX: F-15EX	1,367.147	1,252.359	2,686.348	-	2,686.348	2,697.957	-	-	-	0.000	8,003.811

Remarks

E. Acquisition Strategy

The F-15EX design is based on the F-15QA (Qatar) configuration upgraded with USAF-only capabilities like the Eagle Passive Active Warning and Survivability System (EPAWSS) and the F-15 Operational Flight Program (OFP) software. Since most subsystems are projected to be mature when required for integration into the F-15EX, the acquisition strategy is deemed low risk. To rapidly field the F-15EX, the USAF is focusing engineering activities on integrating existing systems and ramping up the production line capacity. Test activities likewise have also been tailored to focus on integration of F-15QA, EPAWSS, and the F-15 OFP, taking appropriate credit for previous USAF and FMS testing. In addition to the integration of existing USAF-only subsystems and F-15 OFP onto the F-15QA baseline, the F-15EX is pursuing technology insertion options to ensure it remains a complementary platform to 5th-generation assets. Finally, logistics, maintenance, and training activities will heavily leverage the existing F-15 infrastructure.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207146F / F-15EX	Project (Number/Name) 670131 / F-15EX
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
F-15EX	Various	Various : Various	-	67.887	Jul 2021	87.962	Apr 2022	60.275	Mar 2023	-		60.275	0.000	216.124	-
Subtotal			-	67.887		87.962		60.275		-		60.275	0.000	216.124	N/A

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Government Flight Test	Various	Eglin : Various	-	4.600	Jan 2021	8.364	May 2022	12.567	Mar 2023	-		12.567	0.000	25.531	-
Subtotal			-	4.600		8.364		12.567		-		12.567	0.000	25.531	N/A

Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
AFLCMC Civ Pay	Various	AFLCMC CIV PAY : WPAFB & Robins AFBs	-	5.779	Oct 2020	9.400	Oct 2021	9.588	Oct 2022	-		9.588	0.000	24.767	-
Program Management Administration	Various	Various : Various	-	1.600	Oct 2020	1.400	Oct 2021	1.400	Oct 2022	-		1.400	0.000	4.400	-
Subtotal			-	7.379		10.800		10.988		-		10.988	0.000	29.167	N/A

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		-	79.866	107.126	83.830	-	83.830	0.000	270.822	N/A

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force **Date:** April 2022

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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F-15EX</i>				
F-15EX Non-Recurring Engineering (NRE) and Integration	2	2021	4	2023
F-15EX Major Defense Acquisition Program (MDAP) Transition Point (MTP)	3	2022	3	2022
F-15EX Initial Operational Test & Evaluation (IOT&E)	1	2022	3	2023
F-15EX Required Assets Available (RAA)/Initial Operating Capability (IOC)	4	2023	4	2023