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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2022 Air Force **Date:** May 2021

<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 0207146F / F-15EX
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	0.000	159.470	118.126	0.000	118.126	-	-	-	-	-	-
670131: <i>F-15EX</i>	-	0.000	159.470	118.126	0.000	118.126	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

**Note**

The total F-15EX RDT&E funding for FY 2020 in the amount of \$404.996M resides in Program 0207134F Project 670131 (\$53.400M) and Project 676020 (\$351.596M).

**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 will be 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 Suite 9.1 Operational Flight Program (OFP) software. With two seats, it will be multirole-capable and operable by one or two aircrew. F-15EX logistics, maintenance, and training will heavily leverage the existing F-15 infrastructure. Many F-15C/Ds are beyond their service life and have serious structures risks, wire chafing issues, and obsolete parts. The average F-15C/D is 37 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 civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY20 no funding was expended for civilian pay expenses in this program element, and in FY21 \$4.913M is forecasted 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.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>
Previous President's Budget	0.000	159.761	0.000	0.000	0.000
Current President's Budget	0.000	159.470	118.126	0.000	118.126
Total Adjustments	0.000	-0.291	118.126	0.000	118.126
• Congressional General Reductions	0.000	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	-0.291	118.126	0.000	118.126

**Change Summary Explanation**

FY22 delta is in response to the Non-Advocate Cost Assessment (NACA), FY 2022 RDT&E funding was added to the program.

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
<b>Title:</b> F-15EX	0.000	159.470	118.126
<b>Description:</b> FY 2020 funding resides in Program 0207134F Project 670131 and Program 0207134F Project 676020. 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 will also incorporate USAF-only capabilities, including the Eagle Passive Active Warning and Survivability System (EPAWSS) and the Suite 9.1 Operational Flight Program (OFP) software.			
<b>FY 2021 Plans:</b> 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, ramp up production line capacity, prepare for and conduct ground and flight testing, and pursue technology insertion opportunities.			
<b>FY 2022 Plans:</b> 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, and pursue technology insertion opportunities.			
<b>FY 2021 to FY 2022 Increase/Decrease Statement:</b>			

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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 0207146F / <i>F-15EX</i>
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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
Decrease due to efforts tapering off as baseline capabilities are tested and verified.			
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	159.470	118.126

<b>D. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• APAF 01 F015E0: <i>F-15EX</i>	621.100	-	-	-	-	-	-	-	-	-	-
• APAF 05 F015EX: <i>F-15EX</i>	-	1,367.147	1,334.822	-	1,334.822	-	-	-	-	-	-

**Remarks**

**E. Acquisition Strategy**

The F-15EX design will be based on the F-15QA (Qatar) configuration upgraded with USAF-only capabilities like the Eagle Passive Active Warning and Survivability System (EPAWSS) and the Suite 9.1 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 plans to focus engineering activities on integrating existing systems and ramping up the production line capacity. Test activities will likewise be tailored to focus on integration of F-15QA, EPAWSS, and the Suite 9.1 OFP, taking appropriate credit for previous USAF and FMS testing. 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 2022 Air Force** **Date:** May 2021

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207146F / F-15EX	<b>Project (Number/Name)</b> 670131 / F-15EX
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<b>Product Development (\$ in Millions)</b>				<b>FY 2020</b>		<b>FY 2021</b>		<b>FY 2022 Base</b>		<b>FY 2022 OCO</b>		<b>FY 2022 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</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>			
F-15EX	Various	Various : Various	-	-		146.470	Jul 2021	97.526	Mar 2022	-		97.526	-	-	-
<b>Subtotal</b>			-	-		146.470		97.526		-		97.526	-	-	N/A

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2020</b>		<b>FY 2021</b>		<b>FY 2022 Base</b>		<b>FY 2022 OCO</b>		<b>FY 2022 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</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>			
Government Flight Test	Various	Eglin: : Various	-	-		4.600	Jan 2021	12.000	Jan 2022	-		12.000	-	-	-
<b>Subtotal</b>			-	-		4.600		12.000		-		12.000	-	-	N/A

<b>Management Services (\$ in Millions)</b>				<b>FY 2020</b>		<b>FY 2021</b>		<b>FY 2022 Base</b>		<b>FY 2022 OCO</b>		<b>FY 2022 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</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>			
AFLCMC Civ Pay	Various	AFLCMC CIV PAY: : WPafb & Robins AFBs	-	-		6.800	Oct 2020	7.000	Oct 2021	-		7.000	-	-	-
Program Management Administration	Various	Various: : Various	-	-		1.600	Oct 2020	1.600	Oct 2021	-		1.600	-	-	-
<b>Subtotal</b>			-	-		8.400		8.600		-		8.600	-	-	N/A

<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
-	-	159.470	118.126	-	118.126	-	-	N/A

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force** **Date:** May 2021

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207146F / <i>F-15EX</i>	<b>Project (Number/Name)</b> 670131 / <i>F-15EX</i>
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
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><i>F-15EX</i></b>	
F-15EX NRE and Integration	[REDACTED]
F-15EX MTP	[REDACTED]
F-15EX IOT&E	[REDACTED]

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2022 Air Force		<b>Date:</b> May 2021
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207146F / <i>F-15EX</i>	<b>Project (Number/Name)</b> 670131 / <i>F-15EX</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>F-15EX</i></b>				
F-15EX NRE and Integration	2	2021	4	2025
F-15EX MTP	2	2022	2	2022
F-15EX IOT&E	1	2022	3	2022