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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Air Force **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0207171F / F-15 EPAWSS
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	1,105.463	65.587	13.982	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1,185.032
657108: EPAWSS DEVELOPMENT	1,105.463	65.587	13.982	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1,185.032
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

**Program MDAP/MAIS Code:** 485

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

The legacy F-15 Tactical Electronic Warfare System (TEWS) is functionally obsolete. It uses 1970's analog technology to combat 1980s-era radar-based ground and air threats. In addition, this aging system is becoming more difficult and expensive to sustain. As a result, the Air Force is replacing TEWS with the F-15 Eagle Passive/Active Warning and Survivability System (EPAWSS). F-15 EPAWSS is an advanced digital electronic warfare system capable of detecting, identifying, locating, denying, degrading, disrupting, and defeating modern and emerging threat systems in contested airspace with dense radio-frequency (RF) background environments. F-15 EPAWSS will provide indication, type, and position of ground-based RF threats as well as the indication, type, and bearing of airborne threats with the situational awareness needed to avoid, engage, or negate the threat. It will also prevent RF threat systems from detecting or acquiring accurate targeting information to complicate and/or negate an enemy threat targeting solution. Finally, EPAWSS will counter RF and infrared threat systems at end-game via electronic countermeasures (jamming), chaff, and/or flares.

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 element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023 \$0.705M was expended for civilian pay expenses in this program element, and in FY2024 \$0.620M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	67.956	13.982	0.000	0.000	0.000
Current President's Budget	65.587	13.982	0.000	0.000	0.000
Total Adjustments	-2.369	0.000	0.000	0.000	0.000
• 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	-2.369	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> Eagle Passive/Active Warning Survivability System (EPAWSS)	65.587	13.982	-
<b>Description:</b> Planned replacement of the existing F-15 Tactical Electronic Warfare System (TEWS).			
<b>FY 2024 Plans:</b> Complete IOT&E, EMD, and Contractor closeout activities in order to proceed to a full rate production decision. Finalize software integration, resolve remaining performance deficiencies, accomplish OT flights, support laboratory equipment upgrades, incorporate additional technical publications, and complete the development phase of the program. Funds may be used to execute and support cyber testing on aircraft hardware, conduct studies, address emerging threats, and leverage potential system enhancement opportunities that improve pilot situational awareness/overall system effectiveness.			
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> Program plans to complete EMD phase and start FRP in FY24. FY24 is the last year of EMD program funding.			
<b>Accomplishments/Planned Programs Subtotals</b>	65.587	13.982	-

<b>D. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• APAF 05 Line Item F15EWS: Aircraft Modification	259.837	280.658	271.970	-	271.970	207.723	118.624	102.513	123.474	0.000	1,364.799
• APAF 07 Line Item 000999: Aircraft Spares and Repair Parts	19.796	0.000	21.945	-	21.945	11.794	0.000	0.000	15.311	0.000	68.846

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

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 07 000075: <i>OTHER PRODUCTION CHARGES (OVERVIEW)</i>	-	11.953	2.040	-	2.040	43.744	28.633	47.784	14.497	0.000	148.651

**Remarks**

**E. Acquisition Strategy**

F-15 EPAWSS replaces the existing radar warning receiver, internal countermeasure system and countermeasure dispenser system. The F-15 EPAWSS technical approach is to leverage mature and proven hardware to field a critically-needed capability as soon as possible. In addition, the program tailored the Milestone C production decision into two decisions: Decision Point #1 was approved in December 2020, constituting entry into the program's production phase, as well as initiating hardware procurement and modification line stand-up. Decision Point #2, approved in June 2022, allowed for hardware installation on operational F-15E aircraft and approved the full rate production (FRP) decision criteria. This tailoring provided the Milestone Decision Authority the ability to accelerate Initial Operational Capability by taking long-lead hardware procurement off the program critical path, reducing the schedule impact of kit lead times.

The prime integrator for this program is Boeing, responsible for selecting its suppliers and accountable for full aircraft-level installed performance. The prime integrator has subcontractor support from BAE Systems, whose responsibilities include development of the onboard electronic warfare subsystem (hardware and software).

The EPAWSS EMD contract initially employed a mix of contract types, the largest being Cost Plus Incentive Fee (CPIF) for development and testing. In 2020, the program office restructured the EMD contract to Firm Fixed Price.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207171F / F-15 EPAWSS	<b>Project (Number/Name)</b> 657108 / EPAWSS DEVELOPMENT
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<b>Product Development (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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-15 EPAWSS TMRR	SS/ Various	Boeing : St. Louis, MO	233.738	-		-		-		-		-	0.000	233.738	-
F-15 EPAWSS EMD	SS/ Various	Boeing : St. Louis, MO	737.509	53.173	Jan 2023	11.620	Jun 2024	-		-		-	0.000	802.302	-
F-15 EPAWSS	Various	Various : Various	38.210	4.446		0.430		-		-		-	0.000	43.086	-
<b>Subtotal</b>			1,009.457	57.619		12.050		-		-		-	0.000	1,079.126	N/A

**Remarks**  
The final line item reference to "various" contract methods and performing activity/location address other government costs for various EMD-specific hardware, equipment modification/installation/shipping efforts, special studies, travel and support personnel that are required to meet program objectives. The specific execution vehicles vary by effort.

<b>Support (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Direct Cite Authority	Allot	Various : Various	4.435	0.705	Oct 2022	0.620	Oct 2023	-		-		-	0.000	5.760	-
<b>Subtotal</b>			4.435	0.705		0.620		-		-		-	0.000	5.760	N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Test and Evaluation	Various	Not specified. : TBD	59.117	6.458	Jun 2023	0.800		-		-		-	0.000	66.375	-
Government Flight Test	Various	Various : Various	28.436	0.000		-		-		-		-	0.000	28.436	-
<b>Subtotal</b>			87.553	6.458		0.800		-		-		-	0.000	94.811	N/A

**Remarks**  
The final line item reference to "various" contract methods and performing activity/location addresses other government costs for T&E (both DT&E & IOT&E) specific test equipment/hardware, test event support, test-related special studies, travel and support personnel that are required to meet program objectives. The specific execution vehicles vary by effort.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207171F / F-15 EPAWSS	<b>Project (Number/Name)</b> 657108 / EPAWSS DEVELOPMENT
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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 Support Costs	Various	Various : Various	4.018	0.805	Mar 2023	0.512	Mar 2024	-		-		-	0.000	5.335	-
<b>Subtotal</b>			4.018	0.805		0.512		-		-		-	0.000	5.335	N/A

**Remarks**  
The final line item reference to "various" contract methods and performing activity/location addresses other government costs for management support of EMD & T&E related activities, creation of special studies documentation, travel, and support personnel that are required to meet program objectives. The execution vehicles vary by effort.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	1,105.463	65.587	13.982	-	-	-	0.000	1,185.032	N/A

**Remarks**  
FINANCIAL PERFORMANCE: F-15 EPAWSS is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs, however, the F-15 EPAWSS Development contract is a Fixed Price contract with progress payments. 10 percent of incurred costs are withheld until the end of the contract, when they are liquidated. Mandatory funding obligations and progress payment withholds will cause the program to lag traditional expenditure benchmarks, painting an inaccurate portrait of overall program health.

Prior Years funding in FY 2013 and FY 2014 of \$15.100M was executed in PE 0207134F.

Prior Years funding in FY 2015 of \$37.726M was executed in PE 0207171F, Project 676038.

In FY 2016, EPAWSS efforts were transferred from Budget Activity 7, Operational Systems Development, PE 0207171F, Project Number 676038 to Budget Activity 5, Engineering and Manufacturing Development, PE 0207171F, Project Number 657108 per OSD direction.

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**Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207171F / F-15 EPAWSS	<b>Project (Number/Name)</b> 657108 / EPAWSS DEVELOPMENT
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
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

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
<b>F-15 EPAWSS</b>																												
Hardware Qualification Testing																												
Software Integration																												
Maintenance/Tech Pubs																												
Integrated Test and Evaluation																												
Configuration Audits & System Verification																												
Initial Operational Test & Evaluation																												
Hardware Test Support Cyber Controls and IT Refresh																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207171F / <i>F-15 EPAWSS</i>	<b>Project (Number/Name)</b> 657108 / <i>EPAWSS DEVELOPMENT</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>F-15 EPAWSS</i></b>				
Hardware Qualification Testing	1	2023	1	2024
Software Integration	1	2023	1	2024
Maintenance/Tech Pubs	1	2023	4	2023
Integrated Test and Evaluation	1	2023	3	2023
Configuration Audits & System Verification	1	2023	4	2023
Initial Operational Test & Evaluation	4	2023	2	2024
Hardware Test Support Cyber Controls and IT Refresh	2	2023	2	2026