

UNCLASSIFIED



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-485



Increment 1 Only

F-15 Eagle Passive Active Warning Survivability System (F-15 EPAWSS)

As of FY 2019 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

UNCLASSIFIED

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Sensitivity Originator

No originator info Available at this time.

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

F-15 Eagle Passive Active Warning Survivability System (F-15 EPAWSS)

DoD Component

Air Force

Program Executive Officer Fighters and Bombers

F-15 Division

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References

SAR Baseline (Development Estimate)

Component Acquisition Executive (CAE) Approved Acquisition Program Baseline (APB) dated November 2, 2016

Approved APB

Component Acquisition Executive (CAE) Approved Acquisition Program Baseline (APB) dated November 2, 2016

Mission and Description

The F-15 is the most versatile fighter in the world today. A mainstay in both air to air and air to ground operations both domestic and abroad, upgrades to the F-15C/E are critical to maintaining its viability past 2040. The proliferation of fourth generation enemy aircraft, sophisticated "double-digit" anti-aircraft missile systems and other enemy systems pose a significant threat to F-15 survivability. The F-15 Eagle Passive Active Warning and Survivability System (EPAWSS) program replaces the existing functionally obsolete F-15 self-protection system. The F-15 EPAWSS is an electronic warfare system which includes electronic detection and identification, internal countermeasures, associated antennas, and countermeasures dispensing. The F-15 EPAWSS upgrade will significantly improve the F-15's capability to autonomously and automatically detect, identify and locate radio frequency (RF) threats as well as provide the ability to deny, degrade, deceive, disrupt and defeat RF and electro-optical / infrared threat systems in contested and unplanned operations within highly contested environments.

Executive Summary

Program Highlights Since Last Report

BACKGROUND: F-15 EPAWSS is an ACAT IC program entering the formal acquisition reporting process at the EMD phase. The MDA authorized entry into EMD on November 2, 2016. The program concluded a successful system Critical Design Review with Boeing (Defense, Space and Security) on February 21, 2017, 37 days ahead of schedule. Milestone C is planned in FY 2019. Production will be via LRIP and FRP contracts awarded at a future date.

The program APB baseline includes modifying both F-15E and F-15C aircraft fleets. However, the Air Force decided not to fund F-15C production in the FY 2018 PB. This drove the APB deviation reported in the 2016 Annual SAR. The program office provided a deviation report to the MDA in July 2017.

CURRENT STATUS: The program delivered the first two Group A modification kits to the Eglin Air Force Base modification site and achieved a major success by inducting the first two development test aircraft in December 2017 and January 2018 as scheduled. The first EMD prototype unit was delivered in place at BAE Systems in February 2018 and is supporting system integration activities.

There are no significant software related issues with this program at this time.

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
July 2015	July 23, 2015: Completed successful Milestone A review with DAE.
August 2015	August 14, 2015: The DAE signed an ADM approving Milestone A, authorizing entry into the Technology Maturation and Risk Reduction (TMRR) Phase and release of the Request for Proposal for EMD, and delegated the program to the Air Force.
September 2015	September 30, 2015: The TMRR contract was awarded to the Boeing Company to begin the risk reduction phase.
July 2016	July 15, 2016: Preliminary Design Review was successfully completed.
September 2016	September 23, 2016: Completed successful Milestone B review with MDA.
November 2016	November 2, 2016: The MDA signed an ADM approving Milestone B and authorizing entry into the EMD Phase.
November 2016	November 3, 2016: Issued Undefined Contract Action to begin development phase.
December 2016	December 16, 2016: Defined EMD contract.
February 2017	February 21, 2017: Critical Design Review successfully completed.
May 2017	May 29, 2017: Group A Modification Kit design complete
June 2017	June 29, 2017: Integrated Baseline Review complete
December 2017	December 4, 2017: Initial Group A modification kits delivered to Eglin Air Force Base.
December 2017	December 5, 2017: 1st Test Aircraft (F-15E #1) inducted for modification at Eglin Air Force Base.
January 2018	January 22, 2018: 2nd Test Aircraft (F-15C # 1) inducted for modification at Eglin Air Force Base.

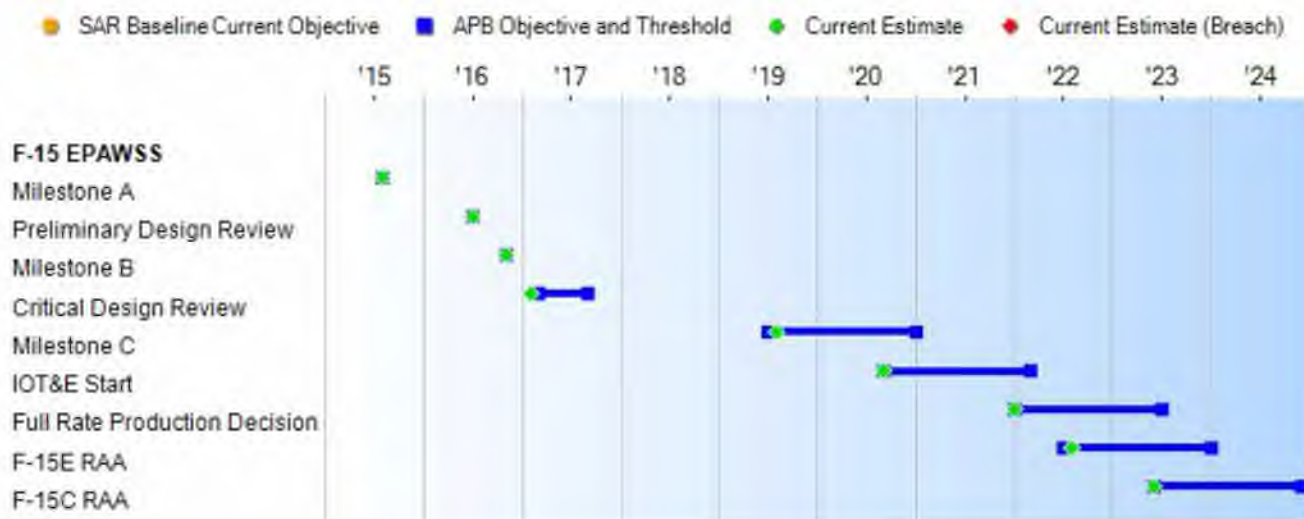
Threshold Breaches

APB Breaches		
Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
O&S Cost		<input type="checkbox"/>
Unit Cost	PAUC	<input checked="" type="checkbox"/>
	APUC	<input type="checkbox"/>

Explanation of Breach
The program APB baseline includes modifying both F-15E and F-15C aircraft fleets. However, the Air Force decided not to fund F-15C production in the FY 2018 PB. This drove the APB deviation previously reported in the 2016 Annual SAR. The program office provided a deviation report to the MDA in July 2017.

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
Milestone A	Aug 2015	Aug 2015	Aug 2015	Aug 2015
Preliminary Design Review	Jul 2016	Jul 2016	Jul 2016	Jul 2016
Milestone B	Nov 2016	Nov 2016	Nov 2016	Nov 2016
Critical Design Review	Mar 2017	Mar 2017	Sep 2017	Feb 2017
Milestone C	Jul 2019	Jul 2019	Jan 2021	Aug 2019
IOT&E Start	Sep 2020	Sep 2020	Mar 2022	Sep 2020
Full Rate Production Decision	Jan 2022	Jan 2022	Jul 2023	Jan 2022
F-15E RAA	Jul 2022	Jul 2022	Jan 2024	Aug 2022
F-15C RAA	Jun 2023	Jun 2023	Dec 2024	Jun 2023

Change Explanations

None

Notes

- Milestone B:** Briefing held September 23, 2016
- Critical Design Review:** Review completed February 21, 2017
- Milestone C & IOT&E Start:** 2016 SPO SRA/DT Flight test risk to Milestone C
- Full Rate Production Decision:** Includes Val/Ver; shaped by 2016 SPO SRA and 12 months DT flight test risk
- F-15E RAA:** Includes Val/Ver; shaped by 2016 SPO SRA and 12 months DT flight test risk. RAA is being used as a surrogate for IOC; RAA: 24 F-15E aircraft modified along with delivery of training equipment and material, support equipment, spares, technical data, and mission planning/Mission Data File Generator software

6. F-15C RAA: The F-15C aircraft production modifications (F-15C RAA with 18 aircraft modified) were not funded in the FY18 Presidents Budget. However, these aircraft are still included in the approved APB.

Acronyms and Abbreviations

AFCAA - Air Force Cost Analysis Agency

DT - Development Test

IOT&E - Initial Operational Test and Evaluation

RAA - Required Assets Available

SPO - System Program Office

SRA - Schedule Risk Assessment

Val / Ver - Validation and Verification

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Sustainment (Ao and Am)				
Ao = 99% Am = 90%	Ao = 99% Am = 90%	Ao = 97% Am = 88%	TBD	Ao = 99% Am = 90%

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference

CDD dated September 18, 2014

Change Explanations

None

Acronyms and Abbreviations

Am - Materiel Availability

Ao - Aircraft Availability

Track to Budget

General Notes

This section contains Government Budget and cost estimates.

RDT&E

Appn	BA	PE	
Air Force	3600	05	0207171F
	Project	Name	
	657108	EPAWSS Development (Shared)	
Air Force	3600	07	0207171F
	Project	Name	
	676038	EPAWSS Development (Sunk)	

Procurement

Appn	BA	PE	
Air Force	3010	06	0207171F
	Line Item	Name	
	000999	Initial Spares/Repair Parts (Shared)	
Air Force	3010	05	0207171F
	Line Item	Name	
	F15EWS	F-15 EPAW	

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2016 \$M			BY 2016 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	876.5	876.5	964.2	850.2	911.3	911.3	882.1
Procurement	3375.0	3375.0	3712.5	1746.1	4114.2	4114.2	2112.7
Flyaway	--	--	--	1418.5	--	--	1709.5
Recurring	--	--	--	1418.5	--	--	1709.5
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	327.6	--	--	403.2
Other Support	--	--	--	268.1	--	--	331.1
Initial Spares	--	--	--	59.5	--	--	72.1
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	4251.5	4251.5	N/A	2596.3	5025.5	5025.5	2994.8

Current APB Cost Estimate Reference

SCP dated September 09, 2016

Cost Notes

The program APB reflects Increment 1 only.

The program APB includes modifying both F-15E and F-15C aircraft fleets. However, the Air Force decided not to fund F-15C production in the FY 2018 PB. This drove the APB deviation reported in the 2016 Annual SAR. The Program office provided a deviation report to the MDA in July 2017.

In accordance with Section 842 of the National Defense Authorization Act for FY 2017, which amended title 10 U.S.C. § 2334, the Director of Cost Assessment and Program Evaluation, and the Secretary of the military department concerned or the head of the Defense Agency concerned, must issue guidance requiring a discussion of risk, the potential impacts of risk on program costs, and approaches to mitigate risk in cost estimates for MDAPs and major subprograms. The information required by the guidance is to be reported in each SAR. This guidance is not yet available; therefore, the information on cost risk was not contained in the most recent SAR.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	0	0	4
Procurement	413	413	217
Total	413	413	221

Quantity Notes

The F-15 EPAWSS is an electronic warfare system which includes electronic detection and identification, internal countermeasures, associated antennas, and countermeasures dispensing. Air Force reduced EPAWSS production quantities by 192 systems with the decision to defund F-15C production. Quantities reflect funding allocated in the FY 2018 PB. The production quantity of 217 systems includes four systems to modify the four F-15E test aircraft to the production configuration. As a result of the elimination of the production funding for the F-15C aircraft, the four F-15C test aircraft modified during EMD will not be upgraded to the production configuration and are included in the RDT&E quantity.

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2019 President's Budget / December 2017 SAR (TY\$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	467.9	209.8	137.1	67.3	0.0	0.0	0.0	0.0	882.1
Procurement	0.0	0.0	151.7	153.2	150.5	319.0	269.4	1068.9	2112.7
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2019 Total	467.9	209.8	288.8	220.5	150.5	319.0	269.4	1068.9	2994.8
PB 2018 Total	477.1	209.8	328.3	104.0	124.8	321.7	261.1	1178.4	3005.2
Delta	-9.2	0.0	-39.5	116.5	25.7	-2.7	8.3	-109.5	-10.4

Quantity Summary										
FY 2019 President's Budget / December 2017 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Development	4	0	0	0	0	0	0	0	0	4
Production	0	0	0	14	12	14	27	27	123	217
PB 2019 Total	4	0	0	14	12	14	27	27	123	221
PB 2018 Total	4	0	0	14	4	11	27	29	132	221
Delta	0	0	0	0	8	3	0	-2	-9	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2013	--	--	--	--	--	--	4.7
2014	--	--	--	--	--	--	9.6
2015	--	--	--	--	--	--	37.7
2016	--	--	--	--	--	--	174.4
2017	--	--	--	--	--	--	241.5
2018	--	--	--	--	--	--	209.8
2019	--	--	--	--	--	--	137.1
2020	--	--	--	--	--	--	67.3
Subtotal	4	--	--	--	--	--	882.1

Annual Funding								
3600 RDT&E Research, Development, Test, and Evaluation, Air Force								
Fiscal Year	Quantity	BY 2016 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2013	--	--	--	--	--	--	--	4.8
2014	--	--	--	--	--	--	--	9.7
2015	--	--	--	--	--	--	--	37.8
2016	--	--	--	--	--	--	--	172.4
2017	--	--	--	--	--	--	--	234.6
2018	--	--	--	--	--	--	--	200.4
2019	--	--	--	--	--	--	--	128.6
2020	--	--	--	--	--	--	--	61.9
Subtotal	4	--	--	--	--	--	--	850.2

Annual Funding							
3010 Procurement Aircraft Procurement, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2019	14	133.1	--	--	133.1	18.6	151.7
2020	12	138.9	--	--	138.9	14.3	153.2
2021	14	115.7	--	--	115.7	34.8	150.5
2022	27	284.6	--	--	284.6	34.4	319.0
2023	27	222.9	--	--	222.9	46.5	269.4
2024	26	165.3	--	--	165.3	44.2	209.5
2025	20	125.7	--	--	125.7	39.8	165.5
2026	20	127.6	--	--	127.6	38.6	166.2
2027	18	120.5	--	--	120.5	33.4	153.9
2028	23	154.2	--	--	154.2	33.7	187.9
2029	16	121.0	--	--	121.0	35.5	156.5
2030	--	--	--	--	--	29.4	29.4
Subtotal	217	1709.5	--	--	1709.5	403.2	2112.7

Annual Funding							
3010 Procurement Aircraft Procurement, Air Force							
Fiscal Year	Quantity	BY 2016 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2019	14	121.2	--	--	121.2	16.9	138.1
2020	12	124.0	--	--	124.0	12.7	136.7
2021	14	101.2	--	--	101.2	30.5	131.7
2022	27	244.1	--	--	244.1	29.6	273.7
2023	27	187.5	--	--	187.5	39.1	226.6
2024	26	136.3	--	--	136.3	36.4	172.7
2025	20	101.6	--	--	101.6	32.2	133.8
2026	20	101.1	--	--	101.1	30.6	131.7
2027	18	93.6	--	--	93.6	26.0	119.6
2028	23	117.5	--	--	117.5	25.6	143.1
2029	16	90.4	--	--	90.4	26.5	116.9
2030	--	--	--	--	--	21.5	21.5
Subtotal	217	1418.5	--	--	1418.5	327.6	1746.1

Procurement in FY 2019 through FY 2023 reflects the FY 2019 PB budget submittal reflecting the FY 2018 PB which removed funding for modifying 192 F-15C aircraft. The FY 2019 PB includes re-phasing adjustments to align procurement funding across the FYDP.

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	11/2/2016	11/2/2016
Approved Quantity	78	78
Reference	Milestone B ADM	Milestone B ADM
Start Year	2019	2019
End Year	2023	2023

The Current Total LRIP Quantity is more than 10% of the total production quantity in order to meet the IOC CDD requirements.

The Current Total LRIP Quantity is more than 10% of the total production quantity in order to meet the E-model IOC CDD requirement of 24 aircraft (1 Squadron) and C-model IOC CDD requirement of 18 aircraft (1 Squadron) while providing spares and continued production until the FRP Decision. The Milestone B ADM assigned a total LRIP Quantity of 78 kits.

Foreign Military Sales

None

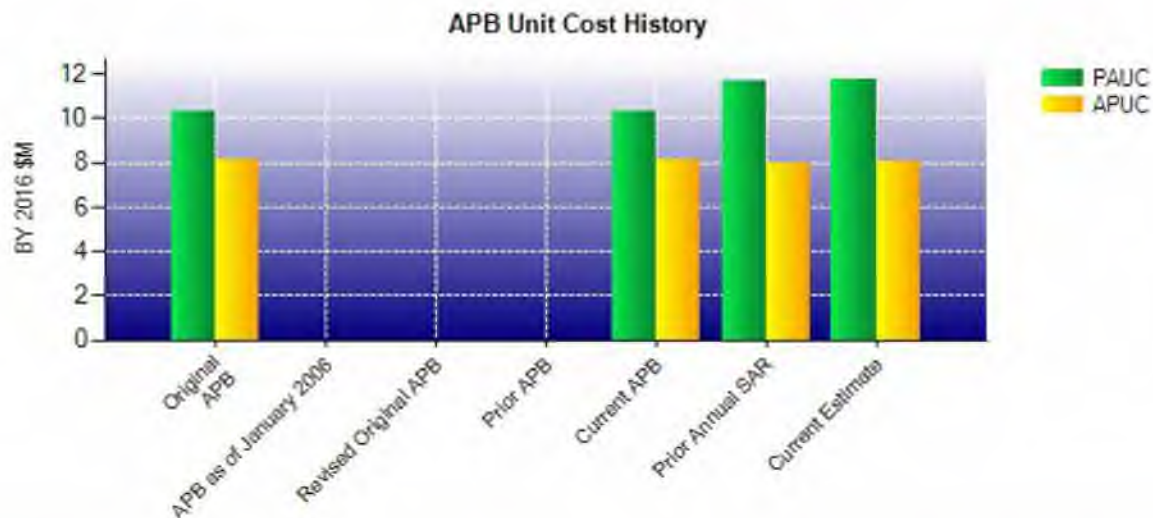
Nuclear Costs

The program does not use Department of Energy nuclear resources.

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2016 \$M	BY 2016 \$M	% Change
	Current UCR Baseline (Nov 2016 APB)	Current Estimate (Dec 2017 SAR)	
Program Acquisition Unit Cost			
Cost	4251.5	2596.3	
Quantity	413	221	
Unit Cost	10.294	11.748 ¹	+14.12
Average Procurement Unit Cost			
Cost	3375.0	1746.1	
Quantity	413	217	
Unit Cost	8.172	8.047	-1.53
Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2016 \$M	BY 2016 \$M	% Change
	Original UCR Baseline (Nov 2016 APB)	Current Estimate (Dec 2017 SAR)	
Program Acquisition Unit Cost			
Cost	4251.5	2596.3	
Quantity	413	221	
Unit Cost	10.294	11.748	+14.12
Average Procurement Unit Cost			
Cost	3375.0	1746.1	
Quantity	413	217	
Unit Cost	8.172	8.047	-1.53

¹ APB Unit Cost Breach



APB Unit Cost History					
Item	Date	BY 2016 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Nov 2016	10.294	8.172	12.168	9.962
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	Nov 2016	10.294	8.172	12.168	9.962
Prior Annual SAR	Dec 2016	11.681	7.948	13.598	9.735
Current Estimate	Dec 2017	11.748	8.047	13.551	9.736

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
12.168	-0.034	2.751	0.161	0.000	-1.066	0.000	-0.429	1.383	13.551

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
9.962	-0.024	1.033	0.164	0.000	-0.962	0.000	-0.437	-0.226	9.736

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	Aug 2015	N/A	Aug 2015
Milestone B	N/A	Nov 2016	N/A	Nov 2016
Milestone C	N/A	Jul 2019	N/A	Aug 2019
IOC	N/A	Jul 2022	N/A	Aug 2022
Total Cost (TY \$M)	N/A	5025.5	N/A	2994.8
Total Quantity	N/A	413	N/A	221
PAUC	N/A	12.168	N/A	13.551

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	911.3	4114.2	--	5025.5
Previous Changes				
Economic	+2.0	+8.4	--	+10.4
Quantity	--	-1728.4	--	-1728.4
Schedule	--	+72.8	--	+72.8
Engineering	--	--	--	--
Estimating	-20.5	-271.8	--	-292.3
Other	--	--	--	--
Support	--	-82.8	--	-82.8
Subtotal	-18.5	-2001.8	--	-2020.3
Current Changes				
Economic	-4.3	-13.6	--	-17.9
Quantity	--	--	--	--
Schedule	--	-37.2	--	-37.2
Engineering	--	--	--	--
Estimating	-6.4	+63.1	--	+56.7
Other	--	--	--	--
Support	--	-12.0	--	-12.0
Subtotal	-10.7	+0.3	--	-10.4
Total Changes	-29.2	-2001.5	--	-2030.7
CE - Cost Variance	882.1	2112.7	--	2994.8
CE - Cost & Funding	882.1	2112.7	--	2994.8

Summary BY 2016 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	876.5	3375.0	--	4251.5
Previous Changes				
Economic	--	--	--	--
Quantity	--	-1366.7	--	-1366.7
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-19.9	-205.7	--	-225.6
Other	--	--	--	--
Support	--	-77.8	--	-77.8
Subtotal	-19.9	-1650.2	--	-1670.1
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	-22.6	--	-22.6
Engineering	--	--	--	--
Estimating	-6.4	+53.4	--	+47.0
Other	--	--	--	--
Support	--	-9.5	--	-9.5
Subtotal	-6.4	+21.3	--	+14.9
Total Changes	-26.3	-1628.9	--	-1655.2
CE - Cost Variance	850.2	1746.1	--	2596.3
CE - Cost & Funding	850.2	1746.1	--	2596.3

Previous Estimate: December 2016

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-4.3
Revised estimate for Small Business Innovative Research withhold for FY 2017 Budget Authority. (Estimating)	-8.9	-9.2
Revised estimate due to application of new outyear escalation indices. (Estimating)	+0.2	+0.4
Adjustment for current and prior escalation. (Estimating)	+2.3	+2.4
RDT&E Subtotal	-6.4	-10.7

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-13.6
Acceleration of procurement buy profile resulting in the movement of 11 systems from FY 2023 through FY 2028 to FY 2021. (Schedule)	0.0	-8.3
Additional schedule variance due to the acceleration of the procurement buy profile. (Schedule)	-22.6	-28.9
Revised estimate to update Depot Standup cost for FY 2020 to FY 2023. (Estimating)	+35.5	+41.2
Revised estimate to align with FY 2019 PB. (Estimating)	+8.9	+10.4
Revised estimate due to application of new outyear escalation indices. (Estimating)	+9.0	+11.5
Decrease in Other Support driven by application of new outyear escalation indices. (Support)	-10.5	-13.0
Increase in Initial Spares is a result of the updated buy schedule. (Support)	+1.0	+1.0
Procurement Subtotal	+21.3	+0.3

Contracts

General Notes

Nonconforming markings on intellectual property by prime contractor and suppliers which are inconsistent with the competition data rights are adding concern regarding the program's ability to execute its long term sustainment strategy of conducting organic depot level repair and software sustainment (litigation is ongoing).

Contract Identification

Appropriation: RDT&E
Contract Name: F-15 EPAWSS EMD
Contractor: Boeing (Defense, Space, and Security)
Contractor Location: 6200 JS McDonnell BLVD
 Saint Louis, MO 63134
Contract Number: FA8634-17-C-2650
Contract Type: Cost Plus Incentive Fee (CPIF), Cost Plus Fixed Fee (CPFF)
Award Date: November 03, 2016
Definitization Date: December 16, 2016

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
478.8	N/A	0	478.8	N/A	4	478.8	478.8

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2017)	-7.7	-12.8
Previous Cumulative Variances	0.0	0.0
Net Change	-7.7	-12.8

Cost and Schedule Variance Explanations

The unfavorable cumulative cost variance is due to Boeing's Group B Electronic Warfare provider BAE Systems. It is taking longer than planned to deliver first articles which is delaying Group B software integration activities and the overall EPAWSS system's integration testing and driving negative cost variance.

The unfavorable cumulative schedule variance is due to Boeing's Group B Electronic Warfare provider is BAE Systems. It is taking longer than planned to deliver first articles which is delaying Group B software integration activities and the overall EPAWSS integration testing. As a workaround, BAE / Boeing is leveraging both capital and prototype hardware from the Technology Maturation and Risk Reduction phase of the program. This allows continual development progress, but at a reduced rate.

Notes

Four F-15E and Four F-15C aircraft will be modified during EMD and used for development flight testing. The four F-15E aircraft test systems will be upgraded to the production configuration and are included in the total production quantity of 217. The four F-15C aircraft test systems will not be upgraded to the production configuration and are included in the total RDT&E quantity of four.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	4	0.00%
Production	0	0	217	0.00%
Total Program Quantity Delivered	0	0	221	0.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	2994.8	Years Appropriated	6
Expended to Date	379.3	Percent Years Appropriated	33.33%
Percent Expended	12.67%	Appropriated to Date	677.7
Total Funding Years	18	Percent Appropriated	22.63%

The above data is current as of February 12, 2018.

Operating and Support Cost

Cost Estimate Details

Date of Estimate: September 09, 2016
Source of Estimate: SCP
Quantity to Sustain: 217
Unit of Measure: System
Service Life per Unit: 28.00 Years
Fiscal Years in Service: FY 2021 - FY 2048

System: The F-15 EPAWSS is an electronic warfare system which includes electronic detection and identification, internal countermeasures, associated antennas, and countermeasures dispensing. Four F-15C development units will not be sustained.

Sustainment Strategy

The sustainment strategy is based on United States Air Force organic two-level (Organizational and Depot) maintenance. Per the Source of Repair Assignment decision, the F-15 EPAWSS is designated as a core capability. Warner-Robins Air Logistics Complex is the designated depot for both the hardware and software maintenance. The sustainment strategy implements maintenance and logistics support concepts that emphasize increased reliability, operational availability, and a reduced logistics footprint.

Antecedent Information

The Antecedent System is the F-15 Tactical Electronic Warfare System (TEWS) consisting of electronic detection and identification, internal countermeasures, and countermeasures dispensing. TEWS Source: Air Force Total Ownership Cost Supply Distribution Table FY 2011 - FY 2015.

Annual O&S Costs BY2016 \$K		
Cost Element	F-15 EPAWSS Average Annual Cost Per System	F-15 TEWS (Antecedent) Average Annual Cost Per System
Unit-Level Manpower	0.000	0.000
Unit Operations	0.000	0.000
Maintenance	102.902	244.630
Sustaining Support	4.608	10.950
Continuing System Improvements	19.703	46.840
Indirect Support	0.000	0.000
Other	0.000	0.000
Total	127.213	302.420

The EPAWSS and TEWS O&S costs are not completely comparable. Portions of the TEWS system O&S costs are not included in the Annual Costs table because they are not included in the available historical costs.

Item	Total O&S Cost \$M			
	F-15 EPAWSS			F-15 TEWS (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	1456.2	1601.8	772.9	1837.5
Then Year	2159.4	N/A	1146.5	N/A

The current estimate is significantly less than the APB values because of the F-15C reduction.

Equation to Translate Annual Cost to Total Cost

Total O&S costs = The annual O&S costs per aircraft * 28 years of service * 217 aircraft

O&S Cost Variance		
Category	BY 2016 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2016 SAR	772.9	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	772.9	

Disposal Estimate Details

Date of Estimate: September 09, 2016
Source of Estimate: SCP
Disposal/Demilitarization Total Cost (BY 2016 \$M): Total costs for disposal of all System are 0.0

F-15 EPAWSS disposal cost is assumed to be embedded in the overall F-15 weapon system disposal cost.