Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-437

☒

AH-64E Apache New Build (AH-64E New Build)

As of FY 2020 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

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)
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

Program Information

Program Name

AH-64E Apache New Build (AH-64E New Build)

DoD Component

Army

Responsible Office

COL Talmadge Sheppard
Building 5307
Redstone Arsenal, AL 35898

talmadge.c.sheppard.mil@mail.mil

Phone: 256-313-4200
Fax: 256-313-4497
DSN Phone: 897-4200
DSN Fax:
Date Assigned: February 11, 2018

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acqusition Program Baseline (APB) dated December 16, 2010

Approved APB

Component Acquisition Executive (CAE) Approved Acquisition Program Baseline (APB) dated July 2, 2013

Mission and Description

The AH-64E Apache New Build (AH-64E New Build), hereinafter referred to as AH-64E, is the heavy attack and reconnaissance helicopter of the U.S Army. It is a twin engine, four-blade, tandem seat, attack helicopter with 30-millimeter ammunition, 2.75-inch rockets, laser and radio frequency Hellfire missiles. The AH-64E is the Army's network-centric, multirole weapon supporting the Multi-Domain Battlefield. It provides the capability to simultaneously conduct (or quickly transition between) movement to contact, security, and or attack missions to destroy, defeat, delay, divert, or disrupt enemy forces as part of the Joint/Combined Arms Team. The AH-64E enables the Joint Air/Ground Maneuver Team to dominate the battlespace by providing air-to-ground synergy through real-time Intelligence, Surveillance, and Reconnaissance (ISR) information and responsive precision fires. The AH-64E is an Apache Attack Helicopter modified as required to effectively and efficiently integrate the Longbow Apache well into the 21st century by providing improvements to make it relevant in Multi -Domain operations. It provides a significantly enhanced warfighting capability over the AH-64A and AH-64D. It is capable of day or night employment in adverse weather and obscurants, and can effectively engage and destroy advanced threat weapon systems on the air-land battlefield.

Tactically, the AH-64E provides significant war fighting advantages over the original AH-64D and multiplies the combat effectiveness of the entire fleet. It is fully capable of employing the Longbow Fire Control Radar mission kit, the Modernized Target Acquisition Designation System/Modernized Pilot Night Vision System, the Longbow Hellfire missiles and future improved munitions in addition to the normal complement of AH-64D munitions. Additionally, the AH-64E includes upgraded engines, debuts evolutionary transmission technology and incorporates significant improvements to its main rotor system, which increases power and provides substantial performance gains.

The AH-64E is fully network-centric capable with current digitized forces and enables Multi-Domain operations. This enables interoperability with current and future Tactical Operations Center and Army Battle Command System forces. In addition, this reduces the logistics footprint, enhances deployability, reduces O&S costs, improves AH-64D flight performance and provides a means to effectively utilize already funded technology insertions. The AH-64E has a fully compatible and rapidly re-configurable open system architecture mission processor design, enabling rapid integration of future communication systems and minimizing obsolescence. The Multi-Domain concept drives the demand for network-centric interdependence and Joint integration across the force to new levels. The AH-64E meets these challenges by providing and integrating Command and Control, ISR, and communications connectivity for attack/reconnaissance aviation within Brigade Combat Teams, Divisions, and Corps.

Executive Summary

Program Highlights Since Last Report

The AH-64E New Build requirements are stable and funding is adequate to meet cost and schedule baselines established in the current approved APB. Due to Boeing quality and design issues (transmission, strap pack and M230 weapon system), the program cannot certify that performance is acceptable. While corrective actions are in place, the Army is holding the contractor accountable and did not accept aircraft deliveries from February 2018 to August 2018.

While the Apache program meets all statutory acquisition requirements, there is an increased operational risk resulting from issues with the main transmission, main rotor strap pack, and the M230 gun. These issues are a result of quality and/or design issues from the prime contractor, the Boeing Company, Mesa, Arizona. The Apache Project Office is holding the vendor accountable to resolve these issues and eliminate the increased operational risk.

January 17, 2018: Started fielding to 1-6 Cavalry Regiment, Fort Riley, Kansas.

March 20, 2018: Army Contracting Command (ACC) sent a letter to Boeing rejecting the acceptance of all U.S. AH-64E aircraft until the redesigned Strap Pack is fielded and additional criteria are met.

May 14, 2018: Army adjusted the Army Acquisition Objective from 767 to 812 and Army Procurement to 791 for the AH-64E helicopter.

June 7, 2018: Began fielding the redesigned strap pack to 1-149 Texas National Guard (NG) in Houston, Texas.

August 2018: Since Boeing met the conditions to restart, PM Apache resumed inductions and acceptance of AH-64E Apache Remanufacture and New Build aircraft. The next New Build aircraft are on track for delivery in January 2020.

August 31, 2018: PM Apache, in coordination with ACC, executed a modification to fully fund 31 FY 2018 AH-64E Apache New Build aircraft and funds FY 2019 Advance Procurement for 12 FY 2019 AH-64E Apache New Build aircraft. Total contract obligated is $507,099,999.78. The FY 2019 Defense Appropriations Act includes funding for five additional New Build aircraft in FY 2019.

September 2018: Teams completed retrofit of the redesigned strap pack to all Category 1 Severe Coastal units (Texas NG, Missouri NG, Hawaii NG, Joint Base Lewis-McCord, Korea, and Hunter Army Airfield, Georgia). Retrofit shifted to Category 2 Deployed/Deploying units.

October 2018: FY 2019 Defense Appropriations Act increased funding adding six additional helicopters for a total of 18 AH-64E Apaches for FY 2019.

In November 2018, the Army stopped fielding of the redesigned strap pack and began legacy strap pack collar retrofit starting with severe coastal units. All severe coastal units will have fail safe collars installed by April 2019 and the entire Army fleet by July 2019. The Army will continue holding the contractor accountable to address quality issues.

Note: It is important to understand that the Remanufacture and New Build aircraft are procured using the same contracts, built on the same production line and delivered in the same configuration with the same capabilities.

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**
June 2014	Definitized and awarded Boeing Company FRP contract for Lots 3 and 4. This contract supports production of ten AH-64E Apache New Build helicopters. This production activity supported completion of fielding the second and third units equipped, as well as augmentation of the training fleet.
August 2014	AH-64E Capability Version 4 Follow-on Operational Test & Evaluation successfully concluded on time at Eglin Air Force Base, Florida. This capability is scheduled to be in production Lot 5 in FY 2015
September 2014	Awarded seven additional New Build aircraft as an undefinitized contract action.
November 2014	The First Unit Equipped, 1-229 Attack Reconnaissance Battalion (ARB), successfully completed the first operational combat deployment of the AH-64E.
December 2014	Apache PM initiated the required processes for necessary approvals to enter a multi-year contract to support production from FY 2017 to FY 2021. The Army Acquisition Executive signed the justification and approval.
December 2014	Apache PM delivered ten AH-64E New Build Attack Helicopters of the 56 Army Acquisition Objective.
August 2015	Completed Manned/Unmanned Teaming Expanded capabilities competition and awarded contract. Fire Control Radar Maritime Mode Testing occurred from August through September 2015 at Joint Base Little Creek, Virginia.
September 2015	Apache PM completed fielding to the 2-17 Cavalry (3-101 Attack Reconnaissance Battalion (ARB)), the Army's 4th Unit Equipped with the AH-64E Apaches. Apache PM assisted and managed transfer of 20 AH-64D aircraft from Germany and Forces Command to a new AH-64 unit, the 1-25 ARB in Fort Wainwright, Alaska. Apache PM identified and provided a materiel solution to support Apache AH-64D and AH-64E helicopters for first time stationing in an arctic environment.
February 2016	The first production Lot 5 AH-64E rolled off the Apache line at the Boeing facility in Mesa, Arizona. This aircraft marked the first production AH-64E with Version 4 capability.
April 2016	Definitized the FRP Contract for Lot 3 - Lot 4 New Build aircraft, Quantity of seven aircraft.
January 2017	Apache PM completed fielding of six AH-64E aircraft to Fort Rucker, Alabama.
March 2017	Awarded AH-64E Apache Multi-Year Contract for Lot 7 through Lot 11 for a total of 244 Remanufactured aircraft, providing options to procure additional Remanufacture and New Build aircraft each year.
May 2017	Completed fielding to the 1-227th ARB, Fort Hood, Texas.
May 2017	Army memo increased the AH-64E Apache helicopter AAO by 77 aircraft from 690 to 767 aircraft. The Authorized Procurement Objective remains at 634 Remanufacture aircraft and 56 New Build aircraft.
June 2017	Apache PM fielded nine AH-64E aircraft to Fort Rucker, Alabama.
August 2017	Contract modification of $202.2M awarded on the AH-64E Apache Multi-Year contract for the purchase of AH-64E New Build aircraft.
December 2017	Completed fielding of 24 AH-64E Apache aircraft to Fort Carson, Colorado.

Threshold Breaches

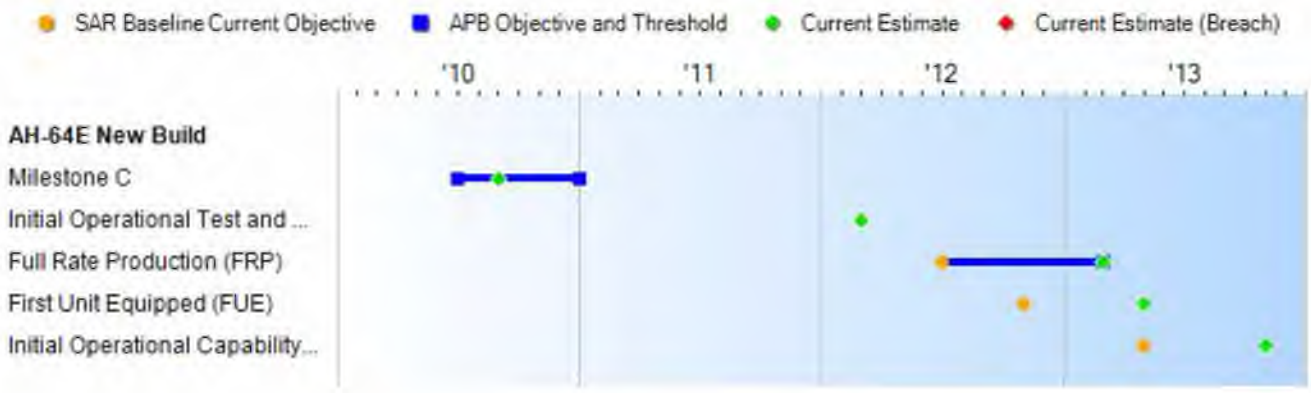
APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☑
Unit Cost	PAUC	☐
	APUC	☐

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

Explanation of Breach

The O&S cost deviation is a direct result of increased Procurement quantities of AH-64E New Build aircraft. The APB Objective/Threshold was originally created for 56 New Build aircraft, however, through FY 2018 the Apache New Build program is authorized and appropriated the funding to procure 74 New Build aircraft based on the ADM for Apache AH-64E Attack Helicopter MDAP – dated January 31, 2019 (Adjustment of the Army Procurement Objective and Army Acquisition Objective for the AH-64E Apache Helicopter).

Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate
Milestone C	Jul 2010	Jul 2010	Jan 2011	Sep 2010
Initial Operational Test and Evaluation (IOT&E)	Mar 2012	N/A	N/A	Mar 2012
Full Rate Production (FRP)	Jul 2012	Jul 2012	Mar 2013	Mar 2013
First Unit Equipped (FUE)	Nov 2012	N/A	N/A	May 2013
Initial Operational Capability (IOC)	May 2013	N/A	N/A	Nov 2013

Change Explanations

None

Performance

Performance Characteristics				
SAR Baseline Production Estimate	**Current APB Production Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
Net Ready				
Fully support execution of all operational activities.	Fully support execution of all operational activities.	Fully support execution of joint critical operational activities	Met Threshold	Fully support execution of all operational activities.
Performance				
6000' PA, 95F OGE Hover (lbs/payload)				
4,100	4,100	3,400	Met Threshold	3,400
Mission Reliability				
MTBF (M) hrs				
Lot 1				
22	22	15.3	Met Objective	24.5
Lot 4				
22	22	17	Met Objective	24.5
MR for 3.5 hr. Flight (%)				
85	85	80	Met Objective	86.7
Survivability				
Safe operation (minutes)				
30	30	30	Met Objective	30
Survive Band IV MANPADS IR Missile Engagement				
IAW JROCM 086-10	IAW JROCM 086-10	IAW JROCM 086-10	Met Objective	IAW JROCM 086-10
Force Protection				
Crewstation armor Survivability (mm)				
IAW JROCM 086-10	IAW JROCM 086-10	IAW JROCM 086-10	Met Objective	IAW JROCM 086-10
Crewstation armor barrier survivability				
IAW JROCM 086-10	IAW JROCM 086-10	IAW JROCM 086-10	Met Objective	IAW JROCM 086-10

Requirements Reference

CPD dated June 1, 2010

Change Explanations

None

Notes

Net Ready KPP compliance is achieved by meeting the information exchange capabilities required by the Integrated Architectures Operational View-1 and is demonstrated by completing Joint Interoperability Certification, Army Interoperability Certification and DoD Information Assurance and Accreditation Process.

Mission Reliability based on Reliability, Availability, and Maintainability data derived from performance of fielded aircraft and scored aircraft data from testing.

Materiel Availability = Operational Availability (Fully Mission Capable Time plus Partially Mission Capable Time)

The cumulative Operational Availability rate of fielded AH-64E aircraft as of the October reporting period for aircraft engaged in combat operations is 85%.

Acronyms and Abbreviations

% - Percent
' - feet
F - Fahrenheit
hr - hour
hrs - hours
IAW - In Accordance With
IR - Infrared
JROCM - Joint Requirements Oversight Council Memorandum
lbs - pounds
MANPADS - Man Portable Air Defense Systems
mm - millimeter
MR - Mission Reliability
MTBF (M) - Mean Time Between Failure (Mission)
OGE - Out of Ground Effect
PA - Pressure Altitude

Track to Budget

Procurement			
Appn		BA	PE
Army	2031	01	0210100A

Line Item	Name
A05133	AH-64 Apache Block IIIB New Build

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2010 $M			BY 2010 $M	TY $M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	0.0	0.0	--	0.0	0.0	0.0	0.0
Flyaway	--	--	--	0.0	--	--	0.0
Recurring	--	--	--	0.0	--	--	0.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Procurement	2307.0	2003.3	2203.6	2076.4	2510.4	2562.6	2404.3
Flyaway	--	--	--	1967.1	--	--	2277.8
Recurring	--	--	--	1958.4	--	--	2267.8
Non Recurring	--	--	--	8.7	--	--	10.0
Support	--	--	--	109.3	--	--	126.5
Other Support	--	--	--	85.4	--	--	99.1
Initial Spares	--	--	--	23.9	--	--	27.4
MILCON	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
Total	2307.0	2003.3	N/A	2076.4	2510.4	2562.6	2404.3

Cost Notes

No revised cost estimate for the program was completed in the previous year.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	56	56	74
Total	56	56	74

Cost and Funding

Funding Summary

Appropriation Summary FY 2020 President's Budget / December 2018 SAR (TY$ M)									
Appropriation	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
RDT&E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Procurement	1893.0	511.3	0.0	0.0	0.0	0.0	0.0	0.0	2404.3
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 2020 Total	1893.0	511.3	0.0	0.0	0.0	0.0	0.0	0.0	2404.3
PB 2019 Total	1318.5	343.3	118.6	184.2	0.0	0.0	0.0	0.0	1964.6
Delta	574.5	168.0	-118.6	-184.2	0.0	0.0	0.0	0.0	439.7

Quantity Summary FY 2020 President's Budget / December 2018 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	56	18	0	0	0	0	0	0	74
PB 2020 Total	0	56	18	0	0	0	0	0	0	74
PB 2019 Total	0	39	12	5	5	0	0	0	0	61
Delta	0	17	6	-5	-5	0	0	0	0	13

Cost and Funding

Annual Funding By Appropriation

Annual Funding 2031 | Procurement | Aircraft Procurement, Army							
		TY $M					
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2012	--	71.6	--	--	71.6	--	71.6
2013	13	294.6	--	--	294.6	30.6	325.2
2014	4	142.0	--	--	142.0	--	142.0
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	--
2017	8	301.3	--	10.0	311.3	19.6	330.9
2018	31	975.6	--	--	975.6	47.7	1023.3
2019	18	482.7	--	--	482.7	28.6	511.3
Subtotal	74	2267.8	--	10.0	2277.8	126.5	2404.3

Annual Funding 2031 | Procurement | Aircraft Procurement, Army							
Fiscal Year	Quantity	BY 2010 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2012	--	67.3	--	--	67.3	--	67.3
2013	13	272.2	--	--	272.2	28.3	300.5
2014	4	129.2	--	--	129.2	--	129.2
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	--
2017	8	261.0	--	8.7	269.7	16.9	286.6
2018	31	827.9	--	--	827.9	40.4	868.3
2019	18	400.8	--	--	400.8	23.7	424.5
Subtotal	74	1958.4	--	8.7	1967.1	109.3	2076.4

Cost Quantity Information 2031 | Procurement | Aircraft Procurement, Army		
Fiscal Year	**Quantity**	**End Item Recurring Flyaway (Aligned With Quantity) BY 2010 $M**
2012	--	--
2013	13	326.3
2014	4	137.5
2015	--	--
2016	--	--
2017	8	224.3
2018	31	839.4
2019	18	430.9
Subtotal	74	1958.4

Low Rate Initial Production

There is no LRIP for this program.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Description
United Arab Emirates	10/31/2018	9	253.8	Fully Implemented
India	10/8/2015	22	41.0	Fully Implemented and Direct Commercial Sales
Saudi Arabia	9/15/2015	12	408.0	Fully Implemented
Saudi Arabia	9/15/2015	12	497.0	Fully Implemented
Qatar	8/10/2014	24	869.1	Fully Implemented
Indonesia	8/26/2013	8	345.3	Fully Implemented
Korea	5/2/2013	36	1075.0	Fully Implemented

Notes

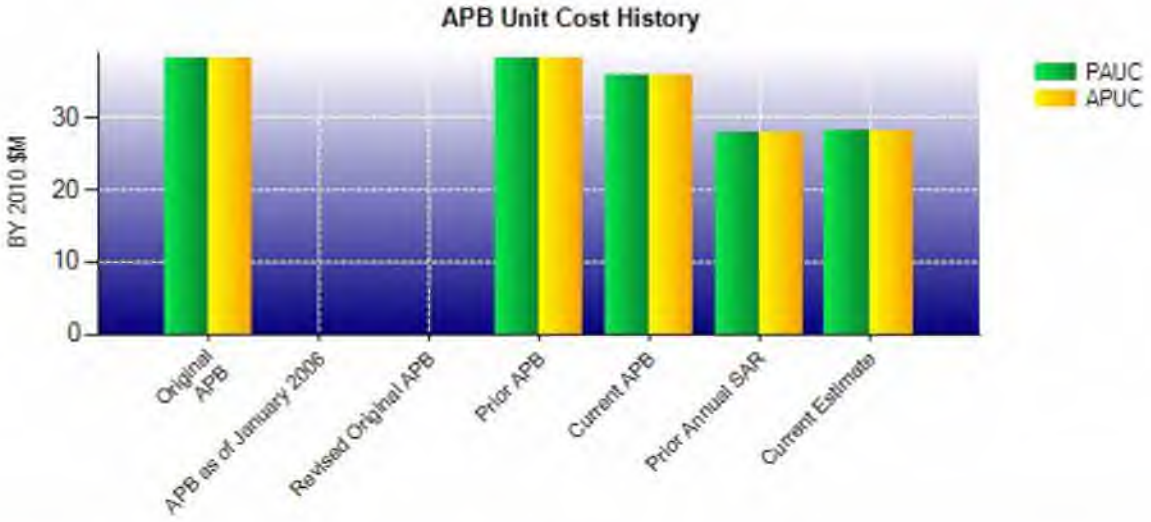
Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 $M Current UCR Baseline (Jul 2013 APB)	BY 2010 $M Current Estimate (Dec 2018 SAR)	% Change
Program Acquisition Unit Cost			
Cost	2003.3	2076.4	
Quantity	56	74	
Unit Cost	35.773	28.059	-21.56
Average Procurement Unit Cost			
Cost	2003.3	2076.4	
Quantity	56	74	
Unit Cost	35.773	28.059	-21.56

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 $M Original UCR Baseline (Dec 2010 APB)	BY 2010 $M Current Estimate (Dec 2018 SAR)	% Change
Program Acquisition Unit Cost			
Cost	2134.6	2076.4	
Quantity	56	74	
Unit Cost	38.118	28.059	-26.39
Average Procurement Unit Cost			
Cost	2134.6	2076.4	
Quantity	56	74	
Unit Cost	38.118	28.059	-26.39



APB Unit Cost History					
Item	Date	BY 2010 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Dec 2010	38.118	38.118	41.539	41.539
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	Dec 2010	38.118	38.118	41.539	41.539
Current APB	Jul 2013	35.773	35.773	45.761	45.761
Prior Annual SAR	Dec 2017	27.934	27.934	32.207	32.207
Current Estimate	Dec 2018	28.059	28.059	32.491	32.491

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
44.829	0.218	2.910	2.301	0.000	-15.681	0.000	-2.086	-12.338	32.491

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
44.829	0.218	2.910	2.301	0.000	-15.681	0.000	-2.086	-12.338	32.491

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	N/A	Jul 2010	Sep 2010
IOC	N/A	N/A	May 2013	Nov 2013
Total Cost (TY $M)	N/A	N/A	2510.4	2404.3
Total Quantity	N/A	N/A	56	74
PAUC	N/A	N/A	44.829	32.491

Cost Variance

Summary TY $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	--	2510.4	--	2510.4
Previous Changes				
Economic	--	+3.1	--	+3.1
Quantity	--	+307.7	--	+307.7
Schedule	--	+132.7	--	+132.7
Engineering	--	--	--	--
Estimating	--	-824.9	--	-824.9
Other	--	--	--	--
Support	--	-164.4	--	-164.4
Subtotal	--	-545.8	--	-545.8
Current Changes				
Economic	--	+13.0	--	+13.0
Quantity	--	+714.6	--	+714.6
Schedule	--	+37.6	--	+37.6
Engineering	--	--	--	--
Estimating	--	-335.5	--	-335.5
Other	--	--	--	--
Support	--	+10.0	--	+10.0
Subtotal	--	+439.7	--	+439.7
Total Changes	--	-106.1	--	-106.1
CE - Cost Variance	--	2404.3	--	2404.3
CE - Cost & Funding	--	2404.3	--	2404.3

Summary BY 2010 $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	--	2307.0	--	2307.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	+225.7	--	+225.7
Schedule	--	+51.5	--	+51.5
Engineering	--	--	--	--
Estimating	--	-727.5	--	-727.5
Other	--	--	--	--
Support	--	-152.7	--	-152.7
Subtotal	--	-603.0	--	-603.0
Current Changes				
Economic	--	--	--	--
Quantity	--	+593.3	--	+593.3
Schedule	--	+48.7	--	+48.7
Engineering	--	--	--	--
Estimating	--	-278.6	--	-278.6
Other	--	--	--	--
Support	--	+9.0	--	+9.0
Subtotal	--	+372.4	--	+372.4
Total Changes	--	-230.6	--	-230.6
CE - Cost Variance	--	2076.4	--	2076.4
CE - Cost & Funding	--	2076.4	--	2076.4

Previous Estimate: December 2017

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+13.0
Total Quantity variance resulting from an increase of 13 AH-64E New Build aircraft from 61 to 74. (Subtotal)	+339.2	+408.5
Quantity variance resulting from an increase of 13 AH-64E New Build aircraft from 61 to 74. (Quantity)	(+593.3)	(+714.6)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+48.7)	(+58.7)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-302.8)	(-364.8)
Additional quantity variance to fully account for the Congressional add of the 13 AH-64E New Build aircraft from 61 to 74. (Estimating) (QR)	+7.9	+9.0
Acceleration of procurement buy profile from FY 2021 to FY 2018. (Schedule)	0.0	-21.1
Revised estimate to reflect FY 2017 actuals. (Estimating)	-2.3	-2.8
Revised estimate to align with FY 2020 PB. (Estimating)	+31.7	+38.7
Adjustment for current and prior escalation. (Estimating)	-7.9	-9.5
Revised estimate due to application of new outyear escalation indices. (Estimating)	-5.2	-6.1
Adjustment for current and prior escalation. (Support)	-0.7	-0.6
Increase in Other Support due to increased quantities. (Support) (QR)	+6.1	+6.4
Increase in Initial Spares due to increased quantities. (Support) (QR)	+3.6	+4.2
Procurement Subtotal	+372.4	+439.7

(QR) Quantity Related

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: FRP
Contractor: The Boeing Company
Contractor Location: 5000 E McDowell Road
Mesa, AZ 85215-9707
Contract Number: W58RGZ-12-C-0055
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: June 29, 2012
Definitization Date: April 08, 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
35.5	35.5	10	245.7	245.7	17	245.7	214.7

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to Original Target Price basis of ten aircraft. The Current Target Price is based on a quantity of 17 aircraft.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FPIF) contract.

General Contract Variance Explanation

Cost and Schedule Variance are not reported for this contract because an EVM waiver was granted by the Army Acquisition Executive on December 6, 2015 due to mature production.

Notes

A modification to add seven New Build aircraft to the Lot 3/4 FRP contract was definitized in April 2016.

This contract is more than 90% complete; therefore, this is the final report for this contract.

Contract Identification

Appropriation: Procurement
Contract Name: AH-64E Apache Multi-Year Contract
Contractor: The Boeing Company
Contractor Location: 5000 E McDowell Road
Mesa, AZ 85215-9707
Contract Number: W58RGZ-16-C-0023
Contract Type: Firm Fixed Price (FFP)
Award Date: March 15, 2017
Definitization Date: March 15, 2017

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
430.9	N/A	22	834.2	N/A	51	834.2	834.2

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to Original Target Price basis of 22 aircraft. The Current Target Price is based on a quantity of 51 aircraft.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Contract Identification

Appropriation: Procurement
Contract Name: MTADS/PNVS Production Services IDIQ
Contractor: Lockheed Martin
Contractor Location: MP-263
5600 W Sand Lake Road
Orlando, FL 32819-8907
Contract Number: W53P1J-17-D-0043
Contract Type: Firm Fixed Price (FFP)
Award Date: April 28, 2017
Definitization Date: April 28, 2017

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
33.9	N/A	8	253.8	N/A	28	4654.9	4654.9

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to multiple Task Orders/Delivery Orders (TO/DO) awarded with New Build funding since the initial contract award.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Notes

This is the first time this contract is being reported.

Quantities are reflective of complete Modernized Target Acquisition Designation Sight (MTADS) /Pilot Night Vision Sensor (PNVS) systems, but multiple Line Replaceable Units / Line Replaceable Modules are contained within a MTADS/PNVS system.

Contract Identification

Appropriation: Procurement
Contract Name: REU/MMA Production & Services IDIQ
Contractor: Longbow Limited Liability (LBL)
Contractor Location: 5600 Sand Lake Road
Orlando, FL
Contract Number: W52P1J-16-D-0055
Contract Type: Firm Fixed Price (FFP), Cost Plus Fixed Fee (CPFF)
Award Date: August 18, 2016
Definitization Date: June 07, 2018

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1.9	N/A	3	20.7	N/A	23	931.2	931.2

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to only one Task Order/Delivery Order (TO/DO) that was awarded with the initial contract. The current contract price includes multiple TO/DO which were awarded.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP/CPFF) contract.

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost or incentive portion does not meet the threshold requirements for EVM reporting.

Notes

This is the first time this contract is being reported.

Contract Identification

Appropriation: Procurement
Contract Name: MUMT Production & Services IDIQ
Contractor: L3 Communication Systems - West
Contractor Location: UT
Contract Number: W52P1J-17-D-0070
Contract Type: Firm Fixed Price (FFP), Cost Plus Fixed Fee (CPFF)
Award Date: August 31, 2017
Definitization Date: August 31, 2017

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
2.8	N/A	9	17.3	N/A	58	226.6	226.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to only one Task Order/Delivery Order (TO/DO) that was awarded with the initial contract. The current contract price includes multiple TO/DO which were awarded.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP/CPFF) contract.

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost or incentive portion does not meet the threshold requirements for EVM reporting.

Notes

This is the first time this contract is being reported.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	17	17	74	22.97%
Total Program Quantity Delivered	17	17	74	22.97%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	2404.3	Years Appropriated	8
Expended to Date	535.4	Percent Years Appropriated	100.00%
Percent Expended	22.27%	Appropriated to Date	2404.3
Total Funding Years	8	Percent Appropriated	100.00%

The above data is current as of March 11, 2019.

Operating and Support Cost

Cost Estimate Details

Date of Estimate: January 16, 2019
Source of Estimate: POE
Quantity to Sustain: 74
Unit of Measure: Aircraft
Service Life per Unit: 20.00 Years
Fiscal Years in Service: FY 2013 - FY 2046

The O&S cost estimate is based upon the OSD CAPE ICE dated August 15, 2012. The estimate was last updated on January 16, 2019 for fact-of-life changes.

Sustainment Strategy

The AH-64E Apache is maintained in a two level maintenance system (field and depot) by a mix of Soldier and civilian maintainers. The strategy assumes the fielding of 74 New Build aircraft, each flying 238.8 hours per year. Aircraft are logistically supported by a mix of organic supply and Contractor Performance Based Logistics activities.

Antecedent Information

The antecedent to the AH-64E Apache is the AH-64D Longbow. The AH-64D Longbow will be in service until 2031. There are currently 396 AH-64D Longbow aircraft in operation.

As of the Milestone C estimate updated January 15, 2013, the AH-64D Longbow was estimated to have a total of 14,847 Fleet Years of operational tempo.

14,847 Fleet Years x $3,420K per operation hour = $50,776.7M (BY 2010 $M); $58,146.7M (TY)

Annual O&S Costs BY2010 $M		
Cost Element	**AH-64E New Build Average Annual Cost Per Aircraft**	**Longbow Apache (Antecedent) Average Annual Cost Per Aircraft**
Unit-Level Manpower	1.180	1.538
Unit Operations	0.136	0.205
Maintenance	0.669	1.148
Sustaining Support	0.691	0.355
Continuing System Improvements	0.057	0.073
Indirect Support	0.040	0.101
Other	0.000	0.000
Total	2.773	3.420

Item	Total O&S Cost $M			
	AH-64E New Build			Longbow Apache (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	3538.1	3891.9	4102.6[1]	50776.7
Then Year	0.0	N/A	6039.7	N/A

[1] APB O&S Cost Breach

The AH-64E New Build estimate updated to reflect fact-of-life changes to the Apache AH-64E support program as of January 16, 2019.

APB O&S cost deviation is a direct result of increased Procurement quantities of AH-64E New Build aircraft. The APB Objective/Threshold was originally created for 56 New Build aircraft, however, through FY 2018 the Apache New Build program is authorized and appropriated the funding to procure 74 New Build aircraft based on the ADM for Apache AH-64E Attack Helicopter MDAP – dated January 31, 2019 (Adjustment of the Army Procurement Object and Army Acquisition Objective for the AH-64E Apache Helicopter).

Equation to Translate Annual Cost to Total Cost

74 Helicopters x 20 Years Operational Life x $2,773K Unitized Cost = $4,104.0M (BY 2010 $M)

The discrepancy in the reported cost and the equation is due to rounding.

O&S Cost Variance		
Category	**BY 2010 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2017 SAR	3243.5	
Programmatic/Planning Factors	691.3	Increase in New Build Procurement quantity.
Cost Estimating Methodology	134.2	Updated methodology for estimating government program office costs during sustainment phase.
Cost Data Update	5.0	Updated spares, reparables, and POL with latest actuals.
Labor Rate	28.6	Army Military-Civilian Costing System Manpower Cost factors changed.
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	859.1	
Current Estimate	4102.6	

Disposal Estimate Details

Date of Estimate:	August 15, 2012
Source of Estimate:	CAPE ICE
Disposal/Demilitarization Total Cost (BY 2010 $M):	46.0

Total Disposal Costs for both the AH-64E Remanufacture and AH-64E New Build aircraft is $46.03M (BY 2010 $M) in accordance with the OSD CAPE ICE dated August 15, 2012.