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## Selected Acquisition Report (SAR)

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



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

As of FY 2019 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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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**

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

**DoD Component**

Army

## Responsible Office

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**Date Assigned:** February 11, 2018

## References

**SAR Baseline (Production Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition 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, multi-role weapon supporting the Multi-Domain Battlefield. It provides the capability to simultaneously conduct (or quickly transition between) close combat, mobile strike, armed reconnaissance, manned-unmanned teaming, security and vertical maneuver missions across the full spectrum of warfare from Stability and Support Operations to Major Combat Operations, when required, in day, night, obscured battlefield and adverse weather conditions. The AH-64E enables the Joint Air/Ground Maneuver Team to dominate the battle space by providing air-to-ground synergy through real-time Intelligence, Surveillance and Reconnaissance (ISR) information and responsive precision fires. The AH-64E is linked to Joint and Combined Arms Air/Ground Maneuver Teams via Enhanced Digital Communications, Unmanned Aircraft Systems Data Links and Joint networking waveforms.

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 Future Modular Force (FMF) operations. It provides a significantly enhanced warfighting capability over the AH-64A and AH-64D. It is capable of being employed day or night 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 will be 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 FMF-equipped forces. 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 AH-64E operates within the future force system-of-systems environment in which maximum combat power is delivered to units in coherent packages of systems with synergistic interdependence. The FMF 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 escapements and design issues (transmission, strap pack and M230 weapon system), we 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 in February 2018 due to a quality escapement related to the Improved Data Modem.

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 escapements 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 2017: Apache PM completed fielding of six AH-64E aircraft to Fort Rucker, Alabama.

March 15, 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 up to 30 New Build aircraft per year, limited by available production capacity at time of option exercise.

May 2017: Completed fielding to the 6th Unit Equipped, 1-227th ARB, Fort Hood, Texas.

May 2, 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 and July 2017: Apache PM fielded nine AH-64E aircraft to Fort Rucker, Alabama.

August 31, 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 12, 2017: Completed fielding of 24 AH-64E Apache aircraft to Fort Carson, Colorado.

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

**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, 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.

# Threshold Breaches

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

<b>Nunn-McCurdy Breaches</b>		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None



## 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

(Ch-1) The Mission Reliability Current Estimate revised to reflect latest unit data.



**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.

Demonstrated performance for Materiel Availability and Reliability of New Build aircraft is assessed to be equal to the performance of the AH-64E fleet of 178 aircraft.

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 (FMC) Time plus Partially Mission Capable (PMC) Time).

The cumulative Operational Availability rate of fielded AH-64E aircraft as of the November reporting period for aircraft engaged in combat operations is 86%.

**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	1704.0	2510.4	2562.6	1964.6
Flyaway	--	--	--	1603.7	--	--	1848.8
Recurring	--	--	--	1595.0	--	--	1838.8
Non Recurring	--	--	--	8.7	--	--	10.0
Support	--	--	--	100.3	--	--	115.8
Other Support	--	--	--	79.9	--	--	92.5
Initial Spares	--	--	--	20.4	--	--	23.3
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	1704.0	2510.4	2562.6	1964.6

#### Cost Notes

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 is not contained in this SAR.

Beginning in FY 2019, the Army realigned direct civilian personnel pay costs from RDT&E and Procurement investment accounts to O&M to provide additional transparency and auditability.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	56	56	61
Total	56	56	61

## 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Procurement	872.5	446.0	343.3	118.6	184.2	0.0	0.0	0.0	1964.6
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	872.5	446.0	343.3	118.6	184.2	0.0	0.0	0.0	1964.6
PB 2018 Total	872.6	446.0	357.2	119.6	185.9	0.0	0.0	0.0	1981.3
Delta	-0.1	0.0	-13.9	-1.0	-1.7	0.0	0.0	0.0	-16.7

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	0	0	0	0	0	0	0	0	0	0
Production	0	25	14	12	5	5	0	0	0	61
PB 2019 Total	0	25	14	12	5	5	0	0	0	61
PB 2018 Total	0	24	13	12	5	5	0	0	0	59
Delta	0	1	1	0	0	0	0	0	0	2



## Cost and Funding

### Annual Funding By Appropriation

Annual Funding							
2031   Procurement   Aircraft Procurement, Army							
Fiscal Year	Quantity	TY \$M					
		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	304.1	--	10.0	314.1	19.6	333.7
2018	14	419.7	--	--	419.7	26.3	446.0
2019	12	323.5	--	--	323.5	19.8	343.3
2020	5	110.6	--	--	110.6	8.0	118.6
2021	5	172.7	--	--	172.7	11.5	184.2
Subtotal	61	1838.8	--	10.0	1848.8	115.8	1964.6

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	272.3	--	--	272.3	28.3	300.6
2014	4	129.4	--	--	129.4	--	129.4
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	--
2017	8	265.3	--	8.7	274.0	17.1	291.1
2018	14	359.4	--	--	359.4	22.5	381.9
2019	12	271.2	--	--	271.2	16.6	287.8
2020	5	90.9	--	--	90.9	6.6	97.5
2021	5	139.2	--	--	139.2	9.2	148.4
Subtotal	61	1595.0	--	8.7	1603.7	100.3	1704.0

Cost Quantity Information		
2031   Procurement   Aircraft Procurement, Army		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2010 \$M
2012	--	--
2013	13	338.5
2014	4	128.4
2015	--	--
2016	--	--
2017	8	224.2
2018	14	338.5
2019	12	296.4
2020	5	145.5
2021	5	123.5
Subtotal	61	1595.0

## **Low Rate Initial Production**

There is no LRIP for this program.

## Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
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	878.0	Fully Implemented.
Indonesia	8/26/2013	8	345.0	Fully Implemented.
Korea	5/2/2013	36	1075.0	Fully Implemented.

### Notes

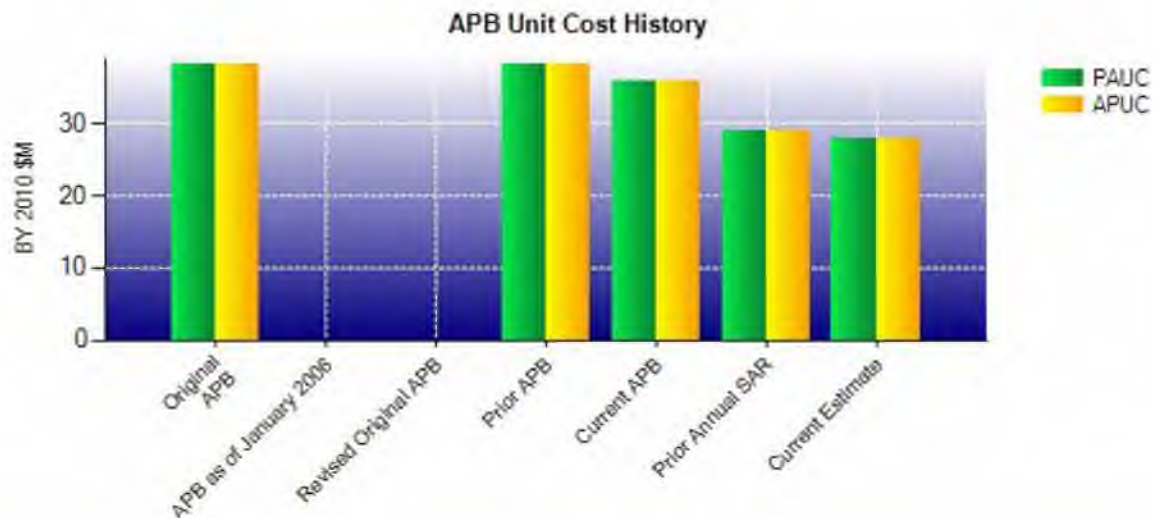
## Nuclear Costs

None



## Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 \$M	BY 2010 \$M	% Change
	Current UCR Baseline (Jul 2013 APB)	Current Estimate (Dec 2017 SAR)	
Program Acquisition Unit Cost			
Cost	2003.3	1704.0	
Quantity	56	61	
Unit Cost	35.773	27.934	-21.91
Average Procurement Unit Cost			
Cost	2003.3	1704.0	
Quantity	56	61	
Unit Cost	35.773	27.934	-21.91
Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 \$M	BY 2010 \$M	% Change
	Original UCR Baseline (Dec 2010 APB)	Current Estimate (Dec 2017 SAR)	
Program Acquisition Unit Cost			
Cost	2134.6	1704.0	
Quantity	56	61	
Unit Cost	38.118	27.934	-26.72
Average Procurement Unit Cost			
Cost	2134.6	1704.0	
Quantity	56	61	
Unit Cost	38.118	27.934	-26.72



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 2016	28.968	28.968	33.581	33.581
Current Estimate	Dec 2017	27.934	27.934	32.207	32.207

### 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	0.051	1.370	2.175	0.000	-13.523	0.000	-2.695	-12.622	32.207

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	0.051	1.370	2.175	0.000	-13.523	0.000	-2.695	-12.622	32.207

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	1964.6
Total Quantity	N/A	N/A	56	61
PAUC	N/A	N/A	44.829	32.207



**Cost Variance**

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	--	2510.4	--	2510.4
Previous Changes				
Economic	--	+13.6	--	+13.6
Quantity	--	+196.6	--	+196.6
Schedule	--	+127.4	--	+127.4
Engineering	--	--	--	--
Estimating	--	-710.0	--	-710.0
Other	--	--	--	--
Support	--	-156.7	--	-156.7
Subtotal	--	-529.1	--	-529.1
Current Changes				
Economic	--	-10.5	--	-10.5
Quantity	--	+111.1	--	+111.1
Schedule	--	+5.3	--	+5.3
Engineering	--	--	--	--
Estimating	--	-114.9	--	-114.9
Other	--	--	--	--
Support	--	-7.7	--	-7.7
Subtotal	--	-16.7	--	-16.7
Total Changes	--	-545.8	--	-545.8
CE - Cost Variance	--	1964.6	--	1964.6
CE - Cost & Funding	--	1964.6	--	1964.6

Summary BY 2010 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	--	2307.0	--	2307.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	+136.2	--	+136.2
Schedule	--	+43.6	--	+43.6
Engineering	--	--	--	--
Estimating	--	-631.3	--	-631.3
Other	--	--	--	--
Support	--	-146.4	--	-146.4
Subtotal	--	-597.9	--	-597.9
Current Changes				
Economic	--	--	--	--
Quantity	--	+89.5	--	+89.5
Schedule	--	+7.9	--	+7.9
Engineering	--	--	--	--
Estimating	--	-96.2	--	-96.2
Other	--	--	--	--
Support	--	-6.3	--	-6.3
Subtotal	--	-5.1	--	-5.1
Total Changes	--	-603.0	--	-603.0
CE - Cost Variance	--	1704.0	--	1704.0
CE - Cost & Funding	--	1704.0	--	1704.0

Previous Estimate: December 2016

Procurement		\$M	
Current Change Explanations		Base Year	Then Year
Revised escalation indices. (Economic)		N/A	-10.5
Acceleration of procurement buy profile from FY 2017 to FY 2021. (Schedule)		0.0	-4.5
Total Quantity variance resulting from an increase of two AH-64E New Build aircraft from 59 to 61. (Subtotal)		+53.6	+66.5
Quantity variance resulting from an increase of two AH-64E New Build aircraft from 59 to 61. (Quantity)		(+89.5)	(+111.1)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)		(+7.9)	(+9.8)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)		(-43.8)	(-54.4)
Revised estimate to reflect actuals. (Estimating)		-55.2	-63.6
Estimate updated to align with FY 2019 PB. (Estimating)		-2.3	-2.5
Adjustment for current and prior escalation. (Estimating)		+5.1	+5.6
Adjustment for current and prior escalation. (Support)		+0.1	+0.4
Other Support is spread across all Apache funding lines. (Support)		-6.7	-8.1
Increase in Initial Spares to reflect application of new outyear escalation indices. (Support)		+0.3	0.0
Procurement Subtotal		-5.1	-16.7

(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	245.7	

### 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 the program being a mature production or non-developmental services program.

### 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	430.9	N/A	22	430.9	430.9

**Cost and Schedule Variance Explanations**

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

**Notes**

The quantity reported in December 2016 SAR was incorrect, the contract currently exercised options for 22 New Build aircraft.

## Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	17	17	61	27.87%
Total Program Quantity Delivered	17	17	61	27.87%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	1964.6	Years Appropriated	7
Expended to Date	486.0	Percent Years Appropriated	70.00%
Percent Expended	24.74%	Appropriated to Date	1318.5
Total Funding Years	10	Percent Appropriated	67.11%

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

## Operating and Support Cost

### Cost Estimate Details

**Date of Estimate:** January 24, 2018  
**Source of Estimate:** POE  
**Quantity to Sustain:** 61  
**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 24, 2018 for fact-of-life changes.

### Sustainment Strategy

The AH-64E Apache is maintained by a mix of soldier and civilian maintainers. The strategy assumes the fielding of 61 New Build aircraft, each flying 238.8 hours per year. The Mean Time Between Failure goal for the aircraft system is 22 hours at maturity once the total program reaches 50,000 operational hours.

### Antecedent Information

The antecedent to the AH-64E Apache is the AH-64D Longbow. The AH-64D Longbow will be in service until 2046. There are currently 633 AH-64D Longbow aircraft in operation. The AH-64D Longbow will have a total of 14,847 Fleet Years of operational tempo. Longbow antecedent data is derived from the Milestone C estimate updated January 15, 2013.

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 \$K		
Cost Element	AH-64E New Build Average Annual Cost Per Aircraft	Longbow Apache (Antecedent) Average Annual Cost Per Aircraft
Unit-Level Manpower	1161.000	1538.000
Unit Operations	126.400	205.000
Maintenance	659.200	1148.000
Sustaining Support	600.400	355.000
Continuing System Improvements	72.500	73.000
Indirect Support	39.200	101.000
Other	0.000	0.000
Total	2658.700	3420.000



Item	Total O&S Cost \$M			
	AH-64E New Build			Longbow Apache (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
<b>Base Year</b>	3538.1	3891.9	3243.5	50776.7
<b>Then Year</b>	0.0	N/A	4567.0	N/A

The AH-64E New Build estimate updated to reflect fact-of-life changes to the Apache AH-64E support program as of January 24, 2018.

#### Equation to Translate Annual Cost to Total Cost

61 Helicopters x 20 Years Operational Life x \$2,658.7K Unitized Cost = \$3,243.6M (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 2016 SAR	3173.5	
Programmatic/Planning Factors	283.3	Increase in New Build Procurement quantity.
Cost Estimating Methodology	14.0	Re-estimated Systems Engineering Program Management.
Cost Data Update	-216.3	Updated SSTS, spares and reparable, and POL with latest actuals.
Labor Rate	-11.0	Army Military-Civilian Costing System Manpower Cost Factors and SSTS changed.
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	70.0	
Current Estimate	3243.5	

#### Disposal Estimate Details

**Date of Estimate:** August 15, 2012  
**Source of Estimate:** CAPE ICE  
**Disposal/Demilitarization Total Cost (BY 2010 \$M):** Total costs for disposal of all Aircraft are 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.