



Selected Acquisition Report (SAR)

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



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

As of FY 2017 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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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: August 9, 2012

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 helicopter of the current and future force. It is a twin engine, four-bladed, 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 system within the Future Modular Force (FMF). 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-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 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 its 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 where maximum combat power is delivered to units only 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:

In August 2015, Manned/Unmanned Teaming Expanded capabilities competition was completed and contract awarded. Meanwhile, Fire Control Radar Maritime Mode Testing occurred from August through September 2015 at Joint Base Little Creek, Virginia.

In September 2015, PM Apache completed fielding to the 2-17 Cavalry (3-101 Attack Reconnaissance Battalion (ARB)), the Army's 4th Unit Equipped with the E-model Apaches. PM Apache also 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. PM Apache identified and provided a materiel solution to support Apache AH-64D and AH-64E helicopters for first time stationing in an arctic environment.

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

History of Significant Developments Since Program Initiation:

June 30, 2014: The Boeing Company FRP contract for Lots 3 and 4 was definitized and awarded. 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 14, 2014: AH-64E Capability Version 4 Follow-on Operational Test & Evaluation was successfully concluded on time at Eglin Air Force Base, Florida. This capability is scheduled to be in production Lot 5 in FY 2015.

September 15, 2014: Seven additional New Build aircraft were awarded as an undefinitized contract awarded modification.

November 2014: The First Unit Equipped, 1-229 Attack Reconnaissance Battalion, successfully completed the first operational combat deployment of the AH-64E.

December 23, 2014: Apache PM initiated the required processes and is seeking 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.

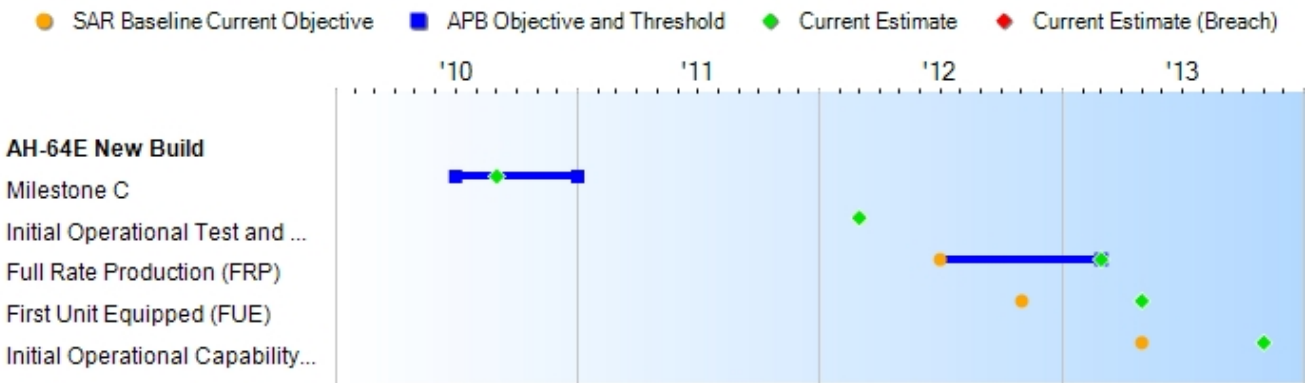
December 31, 2014: Apache program delivered ten AH-64E New Build Attack Helicopters of the 56 Army Acquisition Objective.

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

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	15.3
Lot 4				
22	22	17	Met Objective	17
MR for 3.5 hr. Flight (%)				
85	85	80	Met Objective	80
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

Capability Production Document (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 achieving Joint Interoperability Certification, Army Interoperability Certification, and DoD Information Assurance and Accreditation Process accreditation.

Demonstrated Performance based upon Director, Operational Test and Evaluation assessment of AH-64E Initial Operational Test and Evaluation.

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	2031.9	2510.4	2562.6	2522.7
Flyaway	--	--	--	1864.0	--	--	2311.2
Recurring	--	--	--	1824.7	--	--	2261.2
Non Recurring	--	--	--	39.3	--	--	50.0
Support	--	--	--	167.9	--	--	211.5
Other Support	--	--	--	111.8	--	--	140.4
Initial Spares	--	--	--	56.1	--	--	71.1
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	2031.9	2510.4	2562.6	2522.7

Confidence Level

Confidence Level of cost estimate for current APB: 50%

This estimate, like all previous Cost Analysis Improvement Group (CAIG) and Cost Assessment and Program Evaluation (CAPE) estimates, is built upon a product-oriented work breakdown structure; is based on historical actual cost information to the maximum extent possible; and, most importantly, is based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department has been successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for Major Defense Acquisition Programs (MDAPs). Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about equally likely that the estimate will prove too low or too high for execution of the program described.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	56	56	63
Total	56	56	63

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2017 President's Budget / December 2015 SAR (TY\$ M)									
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
RDT&E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Procurement	538.8	0.0	0.0	0.0	0.0	0.0	0.0	1983.9	2522.7
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 2017 Total	538.8	0.0	0.0	0.0	0.0	0.0	0.0	1983.9	2522.7
PB 2016 Total	538.8	0.0	0.0	0.0	0.0	432.7	350.3	1297.2	2619.0
Delta	0.0	0.0	0.0	0.0	0.0	-432.7	-350.3	686.7	-96.3

Quantity Summary										
FY 2017 President's Budget / December 2015 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	17	0	0	0	0	0	0	46	63
PB 2017 Total	0	17	0	0	0	0	0	0	46	63
PB 2016 Total	0	17	0	0	0	0	7	7	32	63
Delta	0	0	0	0	0	0	-7	-7	14	0

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	--	--	--	--	--	--	--
2018	--	--	--	--	--	--	--
2019	--	--	--	--	--	--	--
2020	--	--	--	--	--	--	--
2021	--	--	--	--	--	--	--
2022	16	710.8	--	50.0	760.8	64.0	824.8
2023	15	575.1	--	--	575.1	57.9	633.0
2024	15	467.1	--	--	467.1	59.0	526.1
Subtotal	63	2261.2	--	50.0	2311.2	211.5	2522.7

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	--	--	--	--	--	--	--
2018	--	--	--	--	--	--	--
2019	--	--	--	--	--	--	--
2020	--	--	--	--	--	--	--
2021	--	--	--	--	--	--	--
2022	16	559.2	--	39.3	598.5	50.4	648.9
2023	15	443.6	--	--	443.6	44.6	488.2
2024	15	353.2	--	--	353.2	44.6	397.8
Subtotal	63	1824.7	--	39.3	1864.0	167.9	2031.9

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	--	--
2018	--	--
2019	--	--
2020	--	--
2021	--	--
2022	16	497.6
2023	15	471.9
2024	15	388.3
Subtotal	63	1824.7

Low Rate Initial Production

There is no LRIP for this program.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
Saudi Arabia	9/15/2015	12	408.3	
Saudi Arabia	9/15/2015	12	496.8	
Qatar	8/10/2014	24	877.7	Fully Implemented.
Indonesia	8/26/2013	8	345.3	Fully Implemented.
Korea	5/2/2013	36	1075.1	Fully Implemented.
Saudi Arabia	11/29/2011	12	420.6	Fully Implemented.
Saudi Arabia	10/17/2011	24	855.7	Fully Implemented.
Saudi Arabia	12/30/2009	12	510.0	Fully Implemented.
Taiwan	12/22/2008	30	1912.0	Fully Implemented.

Notes

Nuclear Costs

None

Unit Cost

Unit Cost Report

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Current UCR Baseline (Jul 2013 APB)	Current Estimate (Dec 2015 SAR)	

Program Acquisition Unit Cost

Cost	2003.3	2031.9	
Quantity	56	63	
Unit Cost	35.773	32.252	-9.84

Average Procurement Unit Cost

Cost	2003.3	2031.9	
Quantity	56	63	
Unit Cost	35.773	32.252	-9.84

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Original UCR Baseline (Dec 2010 APB)	Current Estimate (Dec 2015 SAR)	

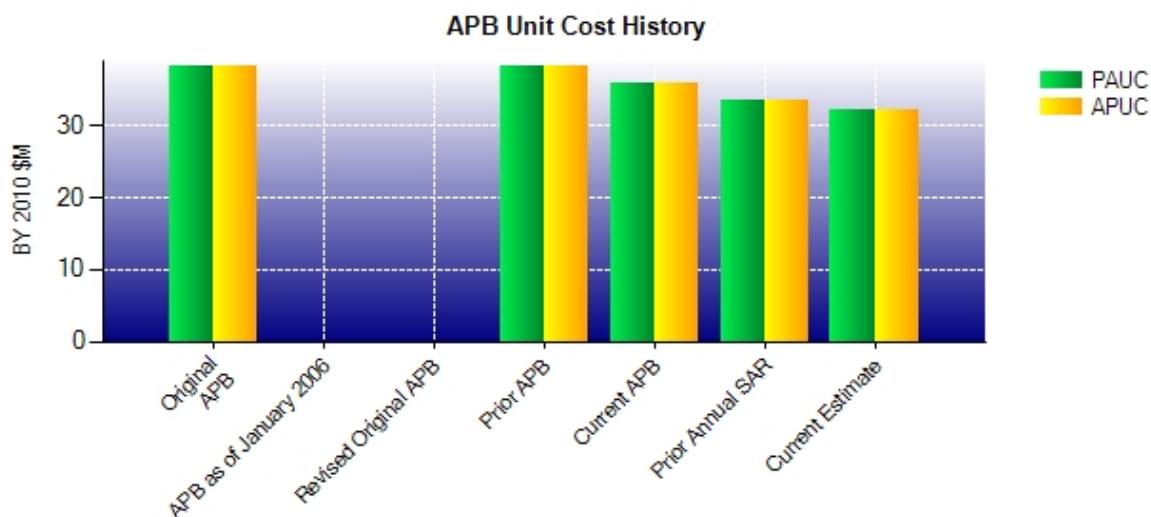
Program Acquisition Unit Cost

Cost	2134.6	2031.9	
Quantity	56	63	
Unit Cost	38.118	32.252	-15.39

Average Procurement Unit Cost

Cost	2134.6	2031.9	
Quantity	56	63	
Unit Cost	38.118	32.252	-15.39

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 2014	33.400	33.400	41.571	41.571
Current Estimate	Dec 2015	32.252	32.252	40.043	40.043

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
44.829	0.135	1.872	4.649	0.000	-10.348	0.000	-1.094	-4.786	40.043

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	0.135	1.872	4.649	0.000	-10.348	0.000	-1.094	-4.786	40.043

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	2522.7
Total Quantity	N/A	N/A	56	63
PAUC	N/A	N/A	44.829	40.043

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	--	2510.4	--	2510.4
Previous Changes				
Economic	--	+26.3	--	+26.3
Quantity	--	+431.7	--	+431.7
Schedule	--	+287.6	--	+287.6
Engineering	--	--	--	--
Estimating	--	-646.6	--	-646.6
Other	--	--	--	--
Support	--	+9.6	--	+9.6
Subtotal	--	+108.6	--	+108.6
Current Changes				
Economic	--	-17.8	--	-17.8
Quantity	--	--	--	--
Schedule	--	+5.3	--	+5.3
Engineering	--	--	--	--
Estimating	--	-5.3	--	-5.3
Other	--	--	--	--
Support	--	-78.5	--	-78.5
Subtotal	--	-96.3	--	-96.3
Total Changes	--	+12.3	--	+12.3
CE - Cost Variance	--	2522.7	--	2522.7
CE - Cost & Funding	--	2522.7	--	2522.7

Summary BY 2010 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	--	2307.0	--	2307.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	+313.5	--	+313.5
Schedule	--	+72.8	--	+72.8
Engineering	--	--	--	--
Estimating	--	-563.9	--	-563.9
Other	--	--	--	--
Support	--	-25.2	--	-25.2
Subtotal	--	-202.8	--	-202.8
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-12.4	--	-12.4
Other	--	--	--	--
Support	--	-59.9	--	-59.9
Subtotal	--	-72.3	--	-72.3
Total Changes	--	-275.1	--	-275.1
CE - Cost Variance	--	2031.9	--	2031.9
CE - Cost & Funding	--	2031.9	--	2031.9

Previous Estimate: December 2014

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-17.8
Adjustment for current and prior escalation. (Estimating)	+1.3	+1.6
Stretch-out of procurement buy profile from FY 2022 to FY 2024 due to funding constraints. (Schedule)	0.0	+5.3
Revised estimate due to changes in estimating methodology. (Estimating)	-13.7	-6.9
Adjustment for current and prior escalation. (Support)	+0.1	0.0
Decrease in Other Support due to updated estimating methodology. (Support)	-58.9	-77.4
Decrease in Initial Spares due to updated estimating methodology. (Support)	-1.1	-1.1
Procurement Subtotal	-72.3	-96.3

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: May 26, 2014

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	288.9	291.4	17	288.9	288.9

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the Original Target Price was based on a quantity 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 variances 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

An undefinitized contract action for seven additional New Build aircraft was awarded as a contract modification on September 15, 2014.

The Initial Contract Quantity was incorrectly reported as nine in prior reports. The Initial Contract Quantity is updated to reflect the correct quantity of 10 in the December 2015 SAR.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	10	10	63	15.87%
Total Program Quantity Delivered	10	10	63	15.87%

Expended and Appropriated (TY \$M)

Total Acquisition Cost	2522.7	Years Appropriated	5
Expended to Date	294.0	Percent Years Appropriated	38.46%
Percent Expended	11.65%	Appropriated to Date	538.8
Total Funding Years	13	Percent Appropriated	21.36%

The above data is current as of March 01, 2016.

Operating and Support Cost

Cost Estimate Details

Date of Estimate: January 14, 2016
Source of Estimate: POE
Quantity to Sustain: 56
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 updated on September 17, 2013; February 24, 2014; January 16, 2015; and January 14, 2016 for fact-of-life changes.

The sustainment quantity of 56 aircraft differs from the acquisition quantity of 63 aircraft by seven aircraft. Those seven aircraft are replacements for battlefield losses.

Sustainment Strategy

The AH-64E Apache is maintained by a mix of soldier and civilian maintainers. The strategy assumes the fielding of 56 New Build aircraft, each flying 203.4 hours per year. The Mean Time Between Failure goal for the aircraft system is 22 hours at maturity once 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	1538.000	1538.000
Unit Operations	206.000	205.000
Maintenance	938.000	1148.000
Sustaining Support	358.000	355.000
Continuing System Improvements	73.000	73.000
Indirect Support	102.000	101.000
Other	0.000	0.000
Total	3215.000	3420.000

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	3601.6	50776.7
Then Year	0.0	N/A	5066.0	N/A

The AH-64E New Build estimate updated to reflect changes in the planned operational fleet schedule resulting from recent contract changes with the program's prime contractor as of January 14, 2016.

Equation to Translate Annual Cost to Total Cost

56 Helicopters * 20 Years Operational Life * \$3215.0M Unitized Cost = \$3601.6M (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 2014 SAR	3543.1	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	54.1	Depot Level Overhaul and Depot Level Spares re-estimated.
Cost Data Update	0.0	
Labor Rate	3.1	Army Military-Civilian Costing System Manpower Cost Factors increased.
Energy Rate	1.3	Updated Cost of Petroleum, Oil, and Lubricants.
Technical Input	0.0	
Other	0.0	
Total Changes	58.5	
Current Estimate	3601.6	

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.