



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-202



AH-64E Apache Remanufacture (AH-64E Remanufacture)

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations for MDAP Programs	3
Program Information	5
Responsible Office	5
References	5
Mission and Description	6
Executive Summary	7
Threshold Breaches	9
Schedule	10
Performance	12
Track to Budget	14
Cost and Funding	15
Low Rate Initial Production	22
Foreign Military Sales	23
Nuclear Costs	23
Unit Cost	24
Cost Variance	27
Contracts	30
Deliveries and Expenditures	35
Operating and Support Cost	36

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 Remanufacture (AH-64E Remanufacture)

DoD Component

Army

Responsible Office

COL Jeffrey Hager
Project Manager
Building 5307
Redstone Arsenal, AL 35898-5000

jeffrey.hager@peoavn.army.mil

Phone: 256-313-4200

Fax: 256-313-4147

DSN Phone: 897-4200

DSN Fax:

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

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated November 26, 2012

Mission and Description

The AH-64E Apache Remanufacture (AH-64E Remanufacture), 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 obscuration, 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 model 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: On June 30, 2014, the Boeing Company FRP contract for Lot 3 and Lot 4 was definitized and awarded. This contract supports remanufacture of 72 AH-64E Apache helicopters. This production activity supported completion of fielding the second and third units equipped, as well as augmentation of the training fleet.

The Army Acquisition Executive (AAE) approved a Justification and Approval (J&A) for sole source procurement for Lot 5 and Lot 6 production contract on May 14, 2014. A proposal was received September 15, 2014 and an Undefinitized Contract Action is now estimated to be awarded 2nd Quarter FY 2015.

AH-64E Remanufacture Capability Version 4 Follow-on Operational Test & Evaluation was successfully concluded on time on August 14, 2014 at Eglin Air Force Base, Florida. This capability is scheduled to be delivered in 2016.

The Apache Project Management Office (PMO) initiated the required processes and is seeking necessary approvals to enter a multi-year contract to support production from 2017 through 2021. The AAE signed the J&A on December 23, 2014.

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

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

History of Significant Developments Since Program Initiation:

Item of note: Before its establishment as a stand-alone ACAT IC program, the AH-64E Remanufacture Program was derived from the ACAT ID program known as Apache Block III.

June 28, 2006: The Apache Block III Program completed a successful Milestone B review with the DAE.

July 10, 2006: The DAE signed an ADM approving Milestone B, authorizing the Apache Block III program to enter System Development and Demonstration (SDD), and designating it an ACAT ID program.

July 14, 2006: The Apache PM awarded an SDD contract to the Boeing Company to begin the development effort for Apache Block III.

March 7, 2007: A follow-on ADM was approved authorizing a LRIP quantity of 59 aircraft and granting the Army authority to procure long-lead items beginning in FY 2009. The APB schedule milestones were established for both the Preliminary Design Review and the Critical Design Review.

April 19, 2007: Milestones for PDR were successfully completed.

January 30, 2008: Milestones for CDR were successfully completed.

November 2009: The Limited User Test was executed successfully.

December 2009: Resource Management Decisions 802 and 700 directed the PM to increase the total procurement quantity by 56 Apache Block III aircraft as new build airframes and was included in the FY 2011 PB at a total of \$2.6B. This change was implemented to support an increase in the training base capacity and to establish a new heavy combat aviation brigade in the active component. This change was significant due to the fact that the baseline program was fundamentally a remanufacture production program by design. These additional aircraft procurements would be new build aircraft at a unit cost significantly higher than the remanufacture unit cost. The increased unit cost, compounded with minor fact-of-life changes throughout the program, caused a Nunn-McCurdy unit cost breach to the APUC as reflected in the December 2009 SAR. The DAE supported a rapid Nunn-McCurdy process in response.

June 1, 2010: Rapid Nunn-McCurdy was completed, resulting in an ADM certifying the progress to Milestone C and formally separating it into two MDAPs for cost and reporting purposes: the Apache Block IIIA (AB3A) and Apache Block IIIB (AB3B) programs.

September 27, 2010: A successful Milestone C DAB was completed authorizing LRIP and advance procurement actions for FRP.

October 22, 2010: An LRIP contract was awarded procuring a total of 51 AH-64E Remanufacture aircraft.

October – November 2011: The first Apache AH-64E Remanufacture production delivery occurred on October 24, 2011, with a formal roll-out ceremony on November 2, 2011.

April 2012: The Initial Operational Test and Evaluation for the Apache AH-64E Remanufacture production aircraft was completed.

August 16, 2012: Another DAB was held and approved FRP for the AH-64E Apache Remanufacture program and authorized up to twelve LRIP aircraft for the AH-64E Apache New Build program in FY 2013. The DAE issued an ADM approving the designation of the AH-64E Apache Remanufacture and AH-64E Apache New Build programs as ACAT IC after approval of the AH-64E Remanufacture APB.

November 26, 2012: The DAE approved the APB.

January 2013: The PMO received approval for the Mission Design Series change for Apache Block III and was formally designated AH-64E Remanufacture. The AB3A and AB3B programs were subsequently renamed the AH-64E Apache Remanufacture and the AH-64E Apache New Build programs respectively.

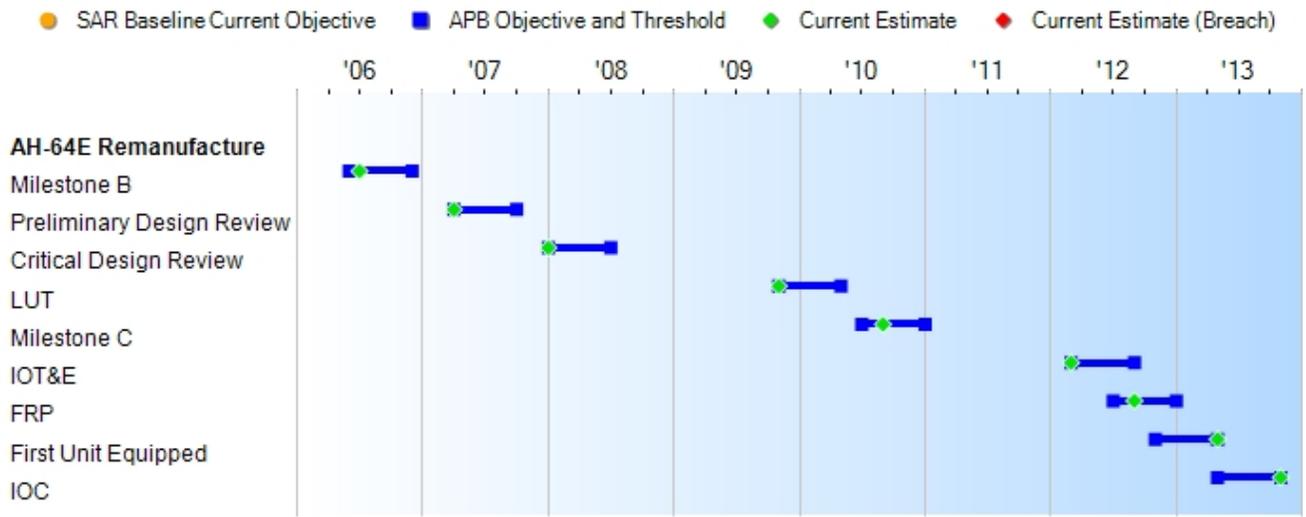
December 31, 2014: The Apache PMO has delivered 83 AH-64E Remanufactured Attack Helicopters of the 690 Army Acquisition Objective.

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

Threshold Breaches

APB Breaches		Explanation of Breach
Schedule	<input type="checkbox"/>	<p>The Apache program made great strides to reduce the cost of the AH-64E Remanufacture program from FY 2015 PB to FY 2016 PB, reducing costs by more than \$300M. The reduction brought the program within the APB threshold breach for the PAUC. The Apache program is currently negotiating production Lot 5 and Lot 6 and expect reductions to hardware that will verify a downward trend in the cost of Apache aircraft. The incorporation of actuals that depict a downward cost trend will allow for an update to the Apache POE cost estimating methodology in the coming year, and anticipate pulling the program back within the APB threshold for the APUC and total procurement dollars. The Apache program will continue to review and analyze all cost elements and drive efficiency and Better Buying Power initiatives into the program in order to control costs.</p>
Performance	<input type="checkbox"/>	
Cost	RDT&E <input type="checkbox"/>	
	Procurement <input checked="" type="checkbox"/>	
	MILCON <input type="checkbox"/>	
	Acq O&M <input type="checkbox"/>	
O&S Cost	<input type="checkbox"/>	
Unit Cost	PAUC <input type="checkbox"/>	
	APUC <input checked="" type="checkbox"/>	
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 B	Jun 2006	Jun 2006	Dec 2006	Jul 2006
Preliminary Design Review	Apr 2007	Apr 2007	Oct 2007	Apr 2007
Critical Design Review	Jan 2008	Jan 2008	Jul 2008	Jan 2008
LUT	Nov 2009	Nov 2009	May 2010	Nov 2009
Milestone C	Jul 2010	Jul 2010	Jan 2011	Sep 2010
IOT&E	Mar 2012	Mar 2012	Sep 2012	Mar 2012
FRP	Jul 2012	Jul 2012	Jan 2013	Sep 2012
First Unit Equipped	Nov 2012	Nov 2012	May 2013	May 2013
IOC	May 2013	May 2013	Nov 2013	Nov 2013

Change Explanations

None

Notes

AH-64E Remanufacture (formerly known as Apache Block 3A) schedule encompasses a 12-year EMD phase which began with a risk reduction effort from May 2005 to July 2006. This effort was followed by the current development effort which began in July 2006 and will continue through September 2019. Production started in 2010 and will continue through 2025.

Acronyms and Abbreviations

IOT&E - Initial Operational Test and Evaluation
LUT - Limited User Test

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	Support execution of all critical operational activities
Performance				
6000' PA, 95 F OGE Hover (lbs/payload)				
4,100	4,100	3,400	Met Threshold	3400
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 (mm)				
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 System
mm - Millimeters
MR - Mission Reliability
MTBF (M) - Mean Time Between Failure (Mission)
OGE - Out of Ground Effect
PA - Pressure Altitude

Track to Budget

RDT&E

Appn	BA	PE
Army	2040 07	0607135A
	Project	Name
	ES2	Apache Product Improvement Program

Procurement

Appn	BA	PE
Army	2031 01	0210100A
	Line Item	Name
	A05111	Apache Longbow Block III A Reman
Army	2031 02	0210102A
	Line Item	Name
	AA6606	AH-64 Mods (Shared) (Sunk)
	Notes:	Prior to FY 2009 and creation of the AH-64E program, this line was shared to reflect AH-64E advance procurement.

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	1611.8	1504.2	1654.6	1538.4	1664.7	1557.8	1598.8
Procurement	8856.9	10088.1	11096.9	11158.2¹	10231.9	12041.7	13168.6
Flyaway	--	--	--	10362.1	--	--	12211.4
Recurring	--	--	--	10338.1	--	--	12182.6
Non Recurring	--	--	--	24.0	--	--	28.8
Support	--	--	--	796.1	--	--	957.2
Other Support	--	--	--	667.1	--	--	802.0
Initial Spares	--	--	--	129.0	--	--	155.2
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	10468.7	11592.3	N/A	12696.6	11896.6	13599.5	14767.4

¹ APB Breach

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		5	5
Procurement		634	634
Total		639	639

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	1257.8	86.1	69.9	66.1	54.6	31.4	32.9	0.0	1598.8
Procurement	2704.9	873.4	1378.4	1074.2	1264.4	1138.2	1132.2	3602.9	13168.6
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 2016 Total	3962.7	959.5	1448.3	1140.3	1319.0	1169.6	1165.1	3602.9	14767.4
PB 2015 Total	3956.6	775.5	1316.4	1325.3	1391.6	1134.2	966.7	4215.1	15081.4
Delta	6.1	184.0	131.9	-185.0	-72.6	35.4	198.4	-612.2	-314.0

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	5	0	0	0	0	0	0	0	0	5
Production	0	123	35	64	52	68	57	57	178	634
PB 2016 Total	5	123	35	64	52	68	57	57	178	639
PB 2015 Total	5	123	25	40	74	72	53	44	203	639
Delta	0	0	10	24	-22	-4	4	13	-25	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
2040 RDT&E Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2005	--	--	--	--	--	--	57.0
2006	--	--	--	--	--	--	107.1
2007	--	--	--	--	--	--	119.9
2008	--	--	--	--	--	--	184.8
2009	--	--	--	--	--	--	218.2
2010	--	--	--	--	--	--	149.0
2011	--	--	--	--	--	--	90.7
2012	--	--	--	--	--	--	89.8
2013	--	--	--	--	--	--	120.7
2014	--	--	--	--	--	--	120.6
2015	--	--	--	--	--	--	86.1
2016	--	--	--	--	--	--	69.9
2017	--	--	--	--	--	--	66.1
2018	--	--	--	--	--	--	54.6
2019	--	--	--	--	--	--	31.4
2020	--	--	--	--	--	--	32.9
Subtotal	5	--	--	--	--	--	1598.8

Annual Funding							
2040 RDT&E Research, Development, Test, and Evaluation, 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
2005	--	--	--	--	--	--	61.7
2006	--	--	--	--	--	--	112.8
2007	--	--	--	--	--	--	123.4
2008	--	--	--	--	--	--	186.6
2009	--	--	--	--	--	--	217.5
2010	--	--	--	--	--	--	146.3
2011	--	--	--	--	--	--	87.3
2012	--	--	--	--	--	--	85.1
2013	--	--	--	--	--	--	112.4
2014	--	--	--	--	--	--	109.8
2015	--	--	--	--	--	--	76.9
2016	--	--	--	--	--	--	61.8
2017	--	--	--	--	--	--	57.3
2018	--	--	--	--	--	--	46.4
2019	--	--	--	--	--	--	26.2
2020	--	--	--	--	--	--	26.9
Subtotal	5	--	--	--	--	--	1538.4

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
2009	--	28.4	--	--	28.4	--	28.4
2010	8	230.0	--	--	230.0	--	230.0
2011	16	491.0	--	--	491.0	--	491.0
2012	27	609.3	--	--	609.3	--	609.3
2013	37	593.6	--	--	593.6	--	593.6
2014	35	663.6	--	2.5	666.1	86.5	752.6
2015	35	800.7	--	2.6	803.3	70.1	873.4
2016	64	1280.1	--	2.7	1282.8	95.6	1378.4
2017	52	973.8	--	2.5	976.3	97.9	1074.2
2018	68	1156.7	--	2.5	1159.2	105.2	1264.4
2019	57	1036.1	--	2.6	1038.7	99.5	1138.2
2020	57	1031.5	--	2.6	1034.1	98.1	1132.2
2021	46	854.6	--	2.6	857.2	93.7	950.9
2022	46	890.1	--	2.7	892.8	81.1	973.9
2023	47	909.8	--	2.7	912.5	78.4	990.9
2024	39	633.3	--	2.8	636.1	51.1	687.2
Subtotal	634	12182.6	--	28.8	12211.4	957.2	13168.6

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
2009	--	28.1	--	--	28.1	--	28.1
2010	8	224.0	--	--	224.0	--	224.0
2011	16	469.6	--	--	469.6	--	469.6
2012	27	572.7	--	--	572.7	--	572.7
2013	37	547.0	--	--	547.0	--	547.0
2014	35	601.0	--	2.3	603.3	78.3	681.6
2015	35	712.8	--	2.3	715.1	62.5	777.6
2016	64	1124.4	--	2.4	1126.8	84.0	1210.8
2017	52	839.1	--	2.2	841.3	84.3	925.6
2018	68	977.2	--	2.1	979.3	88.9	1068.2
2019	57	858.2	--	2.2	860.4	82.4	942.8
2020	57	837.6	--	2.1	839.7	79.7	919.4
2021	46	680.4	--	2.1	682.5	74.5	757.0
2022	46	694.7	--	2.1	696.8	63.3	760.1
2023	47	696.2	--	2.1	698.3	59.9	758.2
2024	39	475.1	--	2.1	477.2	38.3	515.5
Subtotal	634	10338.1	--	24.0	10362.1	796.1	11158.2

Cost Quantity Information		
2031 Procurement Aircraft Procurement, Army		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2010 \$M
2009	--	--
2010	8	184.2
2011	16	382.6
2012	27	531.6
2013	37	641.4
2014	35	556.3
2015	35	707.1
2016	64	1078.3
2017	52	819.3
2018	68	1003.7
2019	57	851.4
2020	57	859.0
2021	46	680.5
2022	46	685.2
2023	47	714.3
2024	39	643.2
Subtotal	634	10338.1

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	10/7/2010	10/7/2010
Approved Quantity	51	51
Reference	Milestone C ADM	Milestone C ADM
Start Year	2010	2010
End Year	2013	2013

LRIP quantity is 51 in accordance with the Milestone C ADM approved October 7, 2010.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
United Kingdom		50	2000.0	

Notes

United Kingdom Projected Letter of Offer and Acceptance Signature by September 2016 for 50 Apache AH-64E Remanufacture aircraft.

Nuclear Costs

None

Unit Cost

Unit Cost Report

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Current UCR Baseline (Nov 2012 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	11592.3	12696.6	
Quantity	639	639	
Item	18.141	19.869	+9.53
Average Procurement Unit Cost			
Cost	10088.1	11158.2	
Quantity	634	634	
Unit Cost	15.912	17.600¹	+10.61

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Revised Original UCR Baseline (Dec 2010 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	10468.7	12696.6	
Quantity	639	639	
Unit Cost	16.383	19.869	+21.28
Average Procurement Unit Cost			
Cost	8856.9	11158.2	
Quantity	634	634	
Unit Cost	13.970	17.600	+25.98

¹ APB Unit Cost Breach

The Apache program has made great strides to reduce the cost of the Remanufacture program from FY 2015 PB to FY 2016 PB, reducing costs by more than \$300M. The reduction brought the program within the APB threshold breach for the PAUC. The Apache program is currently negotiating production Lot 5 and Lot 6 and expect reductions to hardware that will verify a downward trend in the cost of Apache aircraft. The incorporation of actuals that depict a downward cost trend will allow for an update to the Apache POE cost estimating methodology in the coming year, and anticipate pulling the program back within the APB threshold for the APUC and total procurement dollars. The Apache program will continue to review and analyze all cost elements and drive efficiency and Better Buying Power Initiatives into the program in order to control costs.

Unit Cost History



Item	Date	BY 2010 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Aug 2006	11.735	9.945	13.445	11.649
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	Dec 2010	16.383	13.970	18.618	16.139
Prior APB	Dec 2010	16.383	13.970	18.618	16.139
Current APB	Nov 2012	18.141	15.912	21.282	18.993
Prior Annual SAR	Dec 2013	19.986	17.736	23.602	21.282
Current Estimate	Dec 2014	19.869	17.600	23.110	20.771

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
13.445	-0.626	-0.159	0.231	0.000	3.961	0.000	1.766	5.173	18.618

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
18.618	0.252	0.000	-0.109	0.000	5.534	0.000	-1.185	4.492	23.110

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
11.649	-0.614	-0.056	0.233	0.000	3.147	0.000	1.780	4.490	16.139

Current SAR Baseline to Current Estimate (TY \$M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
16.139	0.231	0.000	-0.110	0.000	5.706	0.000	-1.195	4.632	20.771

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	Jun 2006	Jun 2006	Jul 2006	
Milestone C	N/A	Apr 2010	Jul 2010	Sep 2010	
IOC	N/A	Jan 2013	May 2013	Nov 2013	
Total Cost (TY \$M)	N/A	8093.9	11896.6	14767.4	
Total Quantity	N/A	602	639	639	
PAUC	N/A	13.445	18.618	23.110	

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	1664.7	10231.9	--	11896.6
Previous Changes				
Economic	+20.1	+296.0	--	+316.1
Quantity	--	--	--	--
Schedule	--	-4.4	--	-4.4
Engineering	--	--	--	--
Estimating	-96.3	+3364.4	--	+3268.1
Other	--	--	--	--
Support	--	-395.0	--	-395.0
Subtotal	-76.2	+3261.0	--	+3184.8
Current Changes				
Economic	-5.3	-149.8	--	-155.1
Quantity	--	--	--	--
Schedule	--	-65.2	--	-65.2
Engineering	--	--	--	--
Estimating	+15.6	+253.2	--	+268.8
Other	--	--	--	--
Support	--	-362.5	--	-362.5
Subtotal	+10.3	-324.3	--	-314.0
Total Changes	-65.9	+2936.7	--	+2870.8
CE - Cost Variance	1598.8	13168.6	--	14767.4
CE - Cost & Funding	1598.8	13168.6	--	14767.4

Summary BY 2010 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	1611.8	8856.9	--	10468.7
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	-8.9	--	-8.9
Engineering	--	--	--	--
Estimating	-85.2	+2775.1	--	+2689.9
Other	--	--	--	--
Support	--	-378.7	--	-378.7
Subtotal	-85.2	+2387.5	--	+2302.3
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+11.8	+212.7	--	+224.5
Other	--	--	--	--
Support	--	-298.9	--	-298.9
Subtotal	+11.8	-86.2	--	-74.4
Total Changes	-73.4	+2301.3	--	+2227.9
CE - Cost Variance	1538.4	11158.2	--	12696.6
CE - Cost & Funding	1538.4	11158.2	--	12696.6

Previous Estimate: December 2013

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-5.3
Current Cost estimate updated to reflect FY 2006-2014 actuals. (Estimating)	+13.4	+12.9
Revised current cost estimate to reflect reductions and additions in FY 2015 - FY 2020 in FY 2016 PB (Estimating)	-3.2	+1.0
Adjustment for current and prior escalation. (Estimating)	+1.6	+1.7
RDT&E Subtotal	+11.8	+10.3

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-149.8
Acceleration of procurement buy profile. (Schedule)	0.0	-65.2
Revised cost estimate to reflect FY 2011- FY 2014 actuals. (Estimating)	+43.9	+47.9
Revised cost estimate to account for the increase due to incorporating updated actuals from Lot 3 and Lot 4 Fixed Price Incentive Firm contract. (Estimating)	+160.6	+196.2
Adjustment for current and prior escalation. (Estimating)	+8.2	+9.1
Adjustment for current and prior escalation. (Support)	+1.2	+1.3
Revised cost estimate to reflect decrease in support cost through an evaluation of the training requirements. (Support)	-101.1	-122.6
Revised cost estimate to reflect decrease in support cost through an evaluation of initial sparing requirements. (Support)	-199.0	-241.2
Procurement Subtotal	-86.2	-324.3

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: AB3 System Development and Demonstration (SDD) and Risk and Reduction
Contractor: The Boeing Company
Contractor Location: 5000 E McDowell Road
 Mesa, AZ 85215
Contract Number: W58RGZ-05-C-0001
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: July 14, 2006
Definitization Date: July 14, 2006

Contract Price								
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)		
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager	
619.3	N/A	5	920.6	N/A	5	959.2	959.2	

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to Government directed changes.

Contract Variance			
Item	Cost Variance		Schedule Variance
Cumulative Variances To Date (1/30/2014)	-3.4		-4.1
Previous Cumulative Variances	-3.4		-4.1
Net Change	+0.0		+0.0

Cost and Schedule Variance Explanations

None

Notes

The initial revised contract target price represented initial award of Apache Block 3 Risk Reduction and System Development and Demonstration (SDD) in June 2005. The current contract name, contract type, award, definitization, and current contract target price reflect status with the award of the Apache Block 3 SDD through production Lot 4/6 configuration and associated directed changes to that contract. The contract was 90% complete but due to modifications and resources added this change is now 84% complete.

Contract Identification

Appropriation: Procurement
Contract Name: AB3 LRIP
Contractor: The Boeing Company
Contractor Location: 5000 E McDowell Road
 Mesa, AZ 85215
Contract Number: W58RGZ-09-1-0161
Contract Type: Firm Fixed Price (FFP)
Award Date: July 30, 2009
Definitization Date: April 26, 2012

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
923.4	N/A	51	959.0	N/A	51	959.0	959.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to new requirements being identified and placed on contract.

Cost and Schedule Variance Explanations

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

Notes

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

Contract Identification

Appropriation: Procurement
Contract Name: REU/UTA LRIP
Contractor: Longbow LLC
Contractor Location: 5600 W Sand Lake Rd
 Orlando, FL 32819-8907
Contract Number: W58RGZ-10-C-0005
Contract Type: Firm Fixed Price (FFP)
Award Date: October 16, 2009
Definitization Date: December 21, 2011

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
58.5	N/A	40	189.1	N/A	40	189.1	189.1

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to new requirements being identified and placed on contract.

Cost and Schedule Variance Explanations

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

Notes

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

Contract Identification

Appropriation: Procurement
Contract Name: FRP REU/UTA Lot 3
Contractor: Longbow LLC
Contractor Location: 5600 W Sand Lake Road
 Orlando, FL 32819-8907
Contract Number: W58RGZ-12-C-0049
Contract Type: Firm Fixed Price (FFP)
Award Date: August 30, 2012
Definitization Date: March 31, 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
39.0	N/A	34	72.9	N/A	34	72.9	72.9

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to new requirements being identified and placed on contract.

Cost and Schedule Variance Explanations

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

Notes

The FRP REU/UTA Lot 3 Advance Procurement contract was awarded August 2012. The contractor proposal was received in October 2012 and technical evaluation was completed in December 2012. The Defense Contract Audit Agency audit was complex and completed in April 2013 requiring 6 months to complete. Some subcontractors/vendors required additional pricing support, further lengthening the audit process. Reconciliation of the contract technical evaluation and preparation of the Government position required seven months and was completed in November 2013. The contractor submitted their Certificate of Current Cost or Pricing Data in January 2014; subsequently, the contract preparation of Price Negotiation Memorandum, small business reviews, and peer/legal reviews required an additional two months before contract definitization in March 2014.

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: June 27, 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
N/A	246.6	72	N/A	246.6	72	246.6	246.6

Contract Variance			
Item	Cost Variance		Schedule Variance
Cumulative Variances To Date	0.0		0.0
Previous Cumulative Variances	--		--
Net Change	+0.0		+0.0

Cost and Schedule Variance Explanations

None

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 March 22, 2014.

Notes

The Lot 3/4 contract represents the transition from LRIP to FRP of the AH-64E. The Apache PMO awarded an Advance Procurement contract to Boeing on June 29, 2012 to begin procurement of long lead items for this effort. Contract negotiations and acquisition timelines were longer than usual because this was the first FRP contract and the aircraft quantities changed several times during the acquisition timeline. The Apache PMO awarded an Undefinitized Contract Action (UCA) to allow the prime contractor to continue work and to protect schedule due to the lengthy acquisition timeline. The UCA was awarded March 4, 2014 for 37 remanufactured aircraft and 10 new build aircraft in Lot 3, and 35 remanufactured aircraft in Lot 4. This action was definitized June 27, 2014.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	5	5	5	100.00%
Production	84	84	634	13.25%
Total Program Quantity Delivered	89	89	639	13.93%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	14767.4	Years Appropriated	11
Expended to Date	2792.8	Percent Years Appropriated	55.00%
Percent Expended	18.91%	Appropriated to Date	4922.2
Total Funding Years	20	Percent Appropriated	33.33%

The above data is current as of January 31, 2015.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	January 16, 2015
Source of Estimate:	POE
Quantity to Sustain:	634
Unit of Measure:	Aircraft
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2012 - FY 2045

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; and January 16, 2015 for fact-of-life changes.

The sustainment quantity of 634 aircraft differs from the acquisition quantity of 639 aircraft by five aircraft. Those five aircraft were procured as limited test articles only and did not become part of the operational inventory.

Sustainment Strategy

The AH-64E Apache is maintained by a mix of soldier and civilian maintainers. Assumes the fielding of 634 Remanufactured aircraft, each flying 203.4 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 * \$3,420K per operation hour = \$50,776.7M (BY 2010 \$M); the \$50,776.7M (BY 2010 \$M) translates to \$58,146.7M (TY \$M).

Cost Element	Annual O&S Costs BY2010 \$K	
	AH-64E Remanufacture Average Annual Cost Per Aircraft	Longbow Apache (Antecedent) Average Annual Cost Per Aircraft
Unit-Level Manpower	1538.000	1538.000
Unit Operations	205.000	205.000
Maintenance	892.000	1148.000
Sustaining Support	355.000	355.000
Continuing System Improvements	73.000	73.000
Indirect Support	101.000	101.000
Other	0.000	0.000
Total	3164.000	3420.000

Item	Total O&S Cost \$M			
	AH-64E Remanufacture			Longbow Apache (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	38506.0	42356.6	40106.7	50776.7
Then Year	53639.0	N/A	59875.2	N/A

The AH-64E Reman TY cost changed to reflect changes in the planned operational fleet schedule resulting from recent contract changes with the system's Prime Contractor as of January 15, 2015.

Equation to Translate Annual Cost to Total Cost

634 Helicopters * 20 Years Operational Life * \$3,164K Unitized Cost = \$40,106.7 (BY 2010 \$M)

The small 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 2013 SAR	38420.4	
Programmatic/Planning Factors	101.4	Program Schedule updated January 15, 2015
Cost Estimating Methodology	-1039.8	Depot Level Overhaul and Depot Level Spares re-estimated to lower cost.
Cost Data Update	0.0	
Labor Rate	2700.8	Army Military-Civillian Cost System Manpower Cost Factors have increased
Energy Rate	-76.1	Reduced Cost of Petroleum, Oil, and Lubricants.
Technical Input	0.0	
Other	0.0	
Total Changes	1686.3	
Current Estimate	40106.7	

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.