Modernized Selected Acquisition Report (MSAR)

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

FY 2025 President's Budget

Effective: December 31, 2023

Defense Acquisition Visibility Environment

Table of Contents

(U) Common DoD Abbreviations

$B	Billions of Dollars
$K	Thousands of Dollars
$M	Millions of Dollars
ACAT	Acquisition Category
Acq O&M	Acquisition-Related Operations and Maintenance
ADM	Acquisition Decision Memorandum
APA	Additional Performance Attribute
APB	Acquisition Program Baseline
APPN	Appropriation
APUC	Average Procurement Unit Cost
BA	Budget Authority or Budget Activity
Blk	Block
BY	Base Year
CAE	Component Acquisition Executive
CAPE	Cost Assessment and Program Evaluation
CARD	Cost Analysis Requirements Description
CCE	Component Cost Estimate
CCP	Component Cost Position
CDD	Capability Development Document
CLIN	Contract Line Item Number
CPD	Capability Production Document
CY	Calendar Year or Constant Year
DAB	Defense Acquisition Board
DAE	Defense Acquisition Executive
DAES	Defense Acquisition Executive Summary
DAVE	Defense Acquisition Visibility Environment
DoD	Department of Defense
DSN	Defense Switched Network
EMD	Engineering and Manufacturing Development
EVM	Earned Value Management
FD	Full Deployment
FDD	Full-Deployment Decision
FMS	Foreign Military Sales
FOC	Full Operational Capability
FRP	Full-Rate Production
FY	Fiscal Year
FYDP	Future Years Defense Program
ICD	Initial Capabilities Document
ICE	Independent Cost Estimate
Inc	Increment
IOC	Initial Operational Capability
IT	Information Technology
JROC	Joint Requirements Oversight Council
KPP	Key Performance Parameter
KSA	Key System Attribute

LRIP	Low-Rate Initial Production
MDA	Milestone Decision Authority
MDAP	Major Defense Acquisition Program
MILCON	Military Construction
N/A	Not Applicable
O	Objective
O&M	Operations and Maintenance
O&S	Operating and Support
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
PAUC	Program Acquisition Unit Cost
PB	President's Budget
PE	Program Element
PEO	Program Executive Officer
PM	Program Manager
POE	Program Office Estimate
R&MF	Revolving and Management Funds
RDT&E	Research, Development, Test, and Evaluation
SAR	Selected Acquisition Report
SCP	Service Cost Position
T	Threshold
TBD	To Be Determined
TY	Then Year
U.S.	United States
U.S.C	United States Code
UCR	Unit Cost Reporting
USD(A&S)	Under Secretary of Defense (Acquisition and Sustainment)

(U) Program Description

Full Name
AH-64E Apache Remanufacture

Short Name
AH-64E Remanufacture

PNO
202

Milestone Decision Authority
Component Acquisition Executive

Lead Component
Department of the Army

Program Executive Office
PEO Aviation

Joint Program
No

International Partners
Egypt, Greece, Kuwait, Netherlands, United Arab Emirates, United Kingdom

Adaptive Acquisition Pathway
Major Capability Acquisition

Acquisition Type
Major Defense Acquisition Program

Acquisition Category
IC

Acquired Systems
AH-64E Remanufacture

Acquisition Status
Active Acquisition

Mission
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(U) Responsible Office

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(U) Executive Summary

Program Highlights Since Last Report

Requirements are steady, and funding is currently adequate to meet schedule and performance objectives. The -7 generator is now the only configuration being manufactured through both the production line Multi Year 2 and sustainment contracts. The long-term effort to address the generator problem is the development and procurement of an oil-cooled generator which Boeing has solicited proposals for. The PM will continue to conduct special quality assessments audits on generators and critical safety items.
Over the last approximately six months Boeing has experienced significant supply chain disruption to the following components: transmissions, drive-train components, gear boxes, structural components (wings, nacelles, avionics bays), main landing gear assemblies, and micro-electronics components (communication interface units, multi-purpose displays, mission data recorders, keyboard unit, and displays). Additionally, balancing sustainment demand signal and production have further complicated competition for scarce parts within the supply chain that has yet to fully recover. The Army continues to closely monitor Boeing quality via a Mission Assurance IPT following implementation of corrective action on prior Critical Safety Item material escapements. There have been no additional escapements over this reporting period.
The award of Multi-Year 2 contract (MY2) constitutes the formal legal agreement between Boeing and USG on the entirety of the Army's CSI program requirement.
DCMA onsite at Boeing Mesa projects Boeing may experience delivery delays of 22 aircraft during calendar year 2024 due to raw material/part shortages, and rework efforts. In addition, reported lead times for aircraft not already on contract have grown from 36 to 50 months complicating efforts to establish follow-on production contracts without creating a gap in the production line. The PM continues to monitor the industrial base for supply chain impacts, and plan for contingencies accordingly.
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.

(U) History of Significant Developments Since Program Inception

Date	Description
January 2024	Seventh Unit Equipped is completed at 1-3 AB, Ansbach, Germany with 24 AH-64E Version 6 aircraft.
November 2023	Sixth Unit Equipped (2nd National Guard unit) is completed at 1-130th AB North Carolina with 24 AH-64E Version 6 aircraft.
August 2023	Started fielding Seventh Unit Equipped AH-64E Version 6 (1-3 AB, Ansbach, Germany)
March 2023	Awarded AH-64E Apache MY Contract 2 for Lot 12 though Lot 15 for a base total of 115 Remanufactured aircraft, providing options to procure additional Remanufacture and New Build aircraft each year.
March 2023	Started fielding Sixth Unit Equipped AH-64E Version 6 (1-130th AB, North Carolina National Guard).
March 2023	Fifth Unit Equipped is completed at 2-17th Fort Campbell, KY with 24 AH-64E Version 6 aircraft.

Date	Description
August 2022	Started fielding Fifth Unit Equipped AH-64E Version 6 (2-17th Ft. Campbell, KY).
July 2022	Fielded Fourth Unit Equipped AH-64E Version 6 (1-151st AB, South Carolina National Guard).
May 2022	First Strap Pack Product Improvement (SPPI) on production line.
February 2022	Fielded Third Unit Equipped AH-64E Version 6 (4-2nd AB, Korea).
January 2022	First SPPI produced.
December 2021	Awarded Improved Turbine Engine (ITE) Phase II contract to begin ITE integration efforts through developmental testing.
December 2021	Awarded V6.5 task order to begin development program for next operational flight program update and technology insertions for common architecture for entire AH-64E fleet.
November 2021	Third Unit Equipped delivery began to 4-2 AB in Korea.
August 2021	Second Unit Equipped is completed at 3-17th Hunter Army Airfield, GA with 24 AH-64E aircraft.
June 2021	Full Fielding Decision Brief Completed on the SPPI Program. Production line cut-in scheduled January 2022. (Completed)
March 2021	V6 First Unit Equipped (FUE) is completed at 1-229th Joint Based Lewis McChord, WA with 24 AH-64E aircraft.
February 2021	The first V6 Longbow Crew Trainer (LCT) retrofit was completed in the field at Hunter Army Airfield, GA.
December 2020	After Boeing met the conditions-based criteria, the USG resumed accepting aircraft in December 2020. The conditions-based criteria ensure production processes meet standards for safety and quality and the potential for future quality escapes.
October 2020	The US Government stopped accepting aircraft from Boeing due to quality issues identified in October 2020.
September 2020	The first V6 AH-64E aircraft was DD250'd in Mesa, AZ at the Boeing facility.
September 2019	The Follow-on Operational Test & Evaluation (FOT&E) 2 report was received from Army Test and Evaluation Command (ATEC). The report determined that the version 6 AH-64E is more effective, more suitable, and is incrementally more survivable than the version 4 AH-64E. The report from ATEC supports a conditional materiel release and recommends version 6 AH-64E capabilities be cut-in the AH-64E production line.
June 2019	FOT&E 2 was completed on June 14, 2019. The event included operations at Ft. Hood, TX and Eglin Air Force Base (AFB) and concluded with an adversarial assessment at Redstone Arsenal. The final test report for the event was received on September 11, 2019.
May 2019	Failsafe collar fielding is complete.
December 2018	AH-64E Remanufacture Capability Version 6 FOT&E 2 was completed in May 2019.
November 2018	The Army stopped fielding of the redesigned strap pack and began legacy strap pack collar retrofit starting with severe coastal units. All severe coastal units had fail safe collars installed April 2019 and the fail safe collar install was completed to the entire Army fleet on June 28, 2019.
September 2018	PM Apache and ACC-Redstone executed options for 48 AH-64E Lot 8 Remanufacture aircraft ($392M) and AP for AH-64E Lot 9 ($170M).
September 2018	Teams completed retrofit of the redesigned strap pack to all Category 1 Severe Coastal units (Texas NG, Missouri NG, Hawaii NG, Joint Base Lewis-McCord, Korea, and Hunter Army Airfield, Georgia). Retrofit shifted to Category 2 Deployed/Deploying units.
September 2018	7-17 Cavalry Regiment accepted and signed for the first two AH-64E aircraft September 26 and departed Fort Riley, Kansas to Fort Hood, Texas on September 27. The next three

Date	Description
	induction aircraft will arrive at the Central Modification Facility on October 4 for Version 4 Post Production Modifications, the estimated delivery to 7-17 Cavalry Regiment is October 30.
August 2018	Since Boeing has met the conditions to restart, PM Apache resumed inductions acceptance of all U.S. AH-64E Apache Remanufacture and New Build aircraft. Two AH-64Ds were inducted and two AH-64Es were accepted with planned delivery to 7-17 Cavalry Regiment by the end of September 2018.
June 2018	Began fielding the redesigned strap pack to 1-149 Texas National Guard (NG) in Houston, Texas.
May 2018	Army adjusted the Army Acquisition Objective (AAO) from 767 to 812 and the APO to 791 for the AH-64E Apache Helicopter.
March 2018	Army Contracting Command (ACC) sent a letter to Boeing rejecting the acceptance of all U.S. AH-64E aircraft until the redesigned Strap Pack is fielded and additional criteria are met.
January 2018	Began fielding to 1-6 Cavalry Regiment, Fort Riley, Kansas.
December 2017	Completed fielding of 24 AH-64E Apache aircraft to 4-4 Armored Reconnaissance Battalion (ARB), Fort Carson, Colorado.
June 2017	Apache PM fielded nine AH-64E aircraft to Fort Rucker, Alabama.
May 2017	The AAO is increased by 77 aircraft from 690 to 767. Authorized Procurement Objective (APO) remains at 634 Remanufacture aircraft and 56 New Build aircraft.
May 2017	Completed fielding to the 1-227th ARB, Fort Hood, Texas.
March 2017	Awarded AH-64E Apache MY Contract for Lot 7 though Lot 11 for a total of 244 Remanufactured aircraft, providing options to procure additional Remanufacture and New Build aircraft each year.
January 2017	Apache PM completed fielding six AH-64E aircraft to Fort Rucker, Alabama.
November 2016	Apache PM completed fielding to the 5th Unit Equipped (7-17 CAV) at Fort Hood, Texas.
April 2016	Definitized the AH-64E SDD Version 6 contract.
April 2016	Definitized FRP Contract for Lot 5 and Lot 6 for 117 Apache AH-64E Remanufactured aircraft.
March 2016	The Army Acquisition Executive (AAE) approved Boeing's MY commitment of 10% savings. Awarded AP contract for AH-64E Production Lot 7.
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.
September 2015	The Joint Staff and USD(AT&L) concurred on the MY procurement request for approval. In October 2015, Apache PM received FY 2015 funding in an Omnibus Reprogramming Action to support procurement of 13 additional AH-64E Remanufacture aircraft. Office of the Secretary of Defense (OSD) Cost Assessment Program Evaluation (CAPE) visited Boeing Mesa to support MY Independent Government Estimate analysis.
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 Apache. 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.
August 2015	The Secretary of the Army approved the AH-64E Multi-Year (MY) procurement, which was definitized on March 17, 2017. Completed Manned/Unmanned Teaming (MUM-T) Expanded Capabilities Competition and awarded the contract. Fire Control Radar (FCR) Maritime Mode Testing occurred from August through September 2015 at Joint Base

Date	Description
	Little Creek, Virginia.
December 2014	The Apache PM delivered 83 AH-64E Remanufacture Attack Helicopters of the 690 Army Acquisition Objective (AAO).
December 2014	The AAE approved the Justification and Authorization to enter a Multi-Year (MY) procurement to support production from FY 2017 to FY 2021.
November 2014	The FUE, 1-229 Attack Reconnaissance Battalion (ARB), successfully completed the first operational combat deployment of the AH-64E Remanufacture.
August 2014	AH-64E Capability Version 4 FOT&E successfully concluded on time at Eglin Air Force Base, Florida. This capability was included in production Lot 5 with the first aircraft being DD250'd in February 2016.
June 2014	The Government and Boeing definitized and awarded the FRP contract for Lot 3 and Lot 4. This contract supports the remanufacture of 72 AH-64E Apache Helicopters. This production activity supported completion of fielding the 2nd and 3rd Units Equipped, as well as augmentation of the training fleet.
August 2012	A Defense Acquisition Board (DAB) approved FRP for the AH-64E Apache Remanufacture program and authorized up to 12 LRIP aircraft for the AH-64E Apache New Build program in FY 2013. The DAE ADM approved the designation of the Apache AH-64E Remanufacture and Apache AH-64E New Build programs as ACAT IC after approval of the AH-64E Remanufacture APB.
June 2012	The Apache PM requested and received approval for the Mission Design Series change for AB3 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.
March 2012	Completed the Initial Operational Test and Evaluation (IOTE) for the AH-64E Remanufacture production aircraft.
October 2011	The first Apache AH-64E Remanufacture production delivery occurred on October 24, 2011 with a formal roll-out ceremony held on November 2, 2011.
October 2010	Awarded an LRIP contract procuring a total of 51 AH-64E Remanufacture aircraft.
September 2010	Completed a successful Milestone C DAB authorizing LRIP and advance procurement actions for Full Rate Production (FRP).
June 2010	Completed Nunn-McCurdy reporting resulting in an ADM certifying the program's progress to Milestone C and formally separating AB3 into two Milestone Decision Acquisition Programs (MDAPs) for cost and reporting purposes: the Apache Block IIIA (AB3A) and Apache Block IIIB (AB3B) programs.
December 2009	Resource Management Decision (RMD) 802 and RMD 700 directed the PM to increase the total procurement quantity by 56 AB3 aircraft as New Build airframes and included those aircraft 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 (CAB) in the active component. This change was significant due to the fact that the baseline program was fundamentally a Remanufacture production program by design. The 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 breach to the Average Procurement Unit Cost (APUC) as reflected in the December 2009 Selected Acquisition Report (SAR). The DAE supported a rapid Nunn-McCurdy certification in response.
March 2007	A follow-on ADM authorized a Low Rate Initial Procurement (LRIP) quantity of 59 aircraft and granted the Army authority to procure long-lead items beginning in FY 2009. The Acquisition Program Baseline (APB) schedule milestones were established for both Preliminary Design Review (PDR) and the Critical Design Review (CDR).

Date	Description
July 2006	Apache PM awarded an SDD contract to the Boeing Company to begin the development effort for AB3.
July 2006	The DAE Acquisition Decision Memorandum (ADM) approved Milestone B, authorized the AB3 program to enter System Design & Development (SDD) and designated AB3 as ACAT ID.
June 2006	Completed the Apache Block III (AB3) Milestone B Defense Acquisition Executive (DAE) review.

(U) Schedule

(U) Schedule Events

Events		APB Change 1 (Current) 11/26/2012 Objective / Threshold		Current Estimate 12/31/2023	Actual
Milestone B	MS B	Jun 2006	Dec 2006	-	31 Jul 2006
Preliminary Design Review	PDR	Apr 2007	Oct 2007	-	30 Apr 2007
Critical Design Review	CDR	Jan 2008	Jul 2008	-	31 Jan 2008
LUT	Other	Nov 2009	May 2010	-	30 Nov 2009
Milestone C	MS C	Jul 2010	Jan 2011	-	30 Sept 2010
IOT&E	IOT&E	Mar 2012	Sept 2012	-	30 Mar 2012
FRP	FRP Decision	Jul 2012	Jan 2013	-	28 Sept 2012
First Unit Equipped	FUE	Nov 2012	May 2013	-	31 May 2013
IOC	IOC	May 2013	Nov 2013	-	29 Nov 2013

Notes

AH-64E Remanufacture (formerly known as Apache Block IIIA) schedule encompasses a continuous integration of technology to maintain overmatch 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 continues through FY 2020. Production started in FY 2010 with funding through FY 2025, and deliveries through FY 2028.

Schedule Baseline Deviation Explanation

None

(U) Current Significant Schedule Risks and Risks Identified at Milestones/Decisions

Event	Date	Description
Current	12/31/2023	Requirements are steady, and funding is currently adequate to meet schedule and performance objectives. 1. Supply chain and labor market volatility: Over the last ~six months Boeing has experienced significant supply chain disruption to the following components: transmissions, drive-train components, gear boxes, structural components (wings, nacelles, avionics bays), main landing gear assemblies, and micro-electronics components (communication interface units, multi-purpose displays, mission data recorders, keyboard unit, and displays). Additionally, balancing sustainment demand signal and production have further complicated competition for scarce parts within the supply chain that has yet to fully recover. 2. Electrical power generator: The -7 generator is now the only configuration being manufactured through both the production line Multi Year 2 and

		sustainment contracts. The long-term effort to address the generator problem is the development and procurement of an oil-cooled generator which Boeing has solicited proposals for. The PM will continue to conduct special quality assessments audits on generators and critical safety items.
FRP	8/30/2012	1. Architecture Shortfalls - Refined hardware and software requirements coupled with Commercial-Off-The- Shelf (COTS) obsolescence necessitate computer / electronic tech refresh to meet Lot 4 - Lot 6 functionality. 2. Main Transmission - Financial issues at Northstar Aerostar (Apache Block III (AB3) main transmission supplier) created a temporary trough in transmission supply, resulting in up to seven aircraft without transmissions. The AB3 prime contractor took measures to sustain AB3 production and revitalize Northstar's supply base. The PM closely monitored this plan and full recovery established in December 2012 with no critical fielding impacts expected. The PM will continue to closely monitor this plan. 3. Net Ready - The AB3 Link 16 solution changed from a Joint Tactical Radio System (JTRS) Joint Program Office (JPO) Government Furnished Equipment radio to a Non-Developmental Item (NDI) radio. The AB3 PM is solely managing Link 16 for Lots 4 - Lot 5. A planned NDI competition for a Lot 6 Link 16 solution will be managed by the JTRS JPO. If the competitive procurement does not meet the Lot 6 timeline there will be a Link 16 capability fielding gap.
MS C	9/30/2010	1. Architecture Shortfalls - Refined hardware and software requirements coupled with COTS obsolescence necessitate computer / electronic tech refresh to meet Lot 4 - Lot 6 functionality. 2. LRIP Production - Boeing has not manufactured an AB3 aircraft and is using a subcontractor for premodification for the first time. Unforeseen production variables (new subcontractors and components) could cause schedule and delivery delays. 3. Net Ready - AB3 PM is dependent on performance of the JTRS program to achieve Net Ready KPP. JTRS is thepreferred solution to meet the Link 16 requirement at Lot 4 and Wideband Networking Waveform / Soldier Radio Waveform at Lot 6. Further delays to the JTRS program could prohibit AB3 from meeting the Net Ready KPP. 4. Reliability - Limited flight test hours on AB3 aircraft at Limited User Test and Initial Operational Test and Evaluation does not allow for a traditional reliability demonstration in which the test unit is in the final configuration and tested for a statistically significant number of flight hours. This could result in an inability to demonstrate acceptable mission reliability to support the FRP Decision.
MS B	7/30/2006	1. Insufficient fidelity of Lot 6 functionality requirements 2. Reliability Key Performance Parameter (KPP) 3. Performance KPP 4. Net Ready KPP

(U) Performance

(U) Performance Attributes

Survivability		
Safe operation (minutes)		**[attribute type not provided]**
Current Estimate **12/31/2023**		30
Demonstrated Performance -		Met Objective
APB Change 1 (Current)	**Objective**	30
11/26/2012	**Threshold**	30
Survive Band IV MANPADS IR Missile Engagement		**[attribute type not provided]**
Current Estimate **12/31/2023**		IAW JROCM 086-10
Demonstrated Performance -		Met Objective
APB Change 1 (Current)	**Objective**	IAW JROCM 086-10
11/26/2012	**Threshold**	IAW JROCM 086-10
Force Protection		
Crewstation armor barrier survivability (mm)		**[attribute type not provided]**
Current Estimate **12/31/2023**		IAW JROCM 086-10
Demonstrated Performance -		Met Objective
APB Change 1 (Current)	**Objective**	IAW JROCM 086-10
11/26/2012	**Threshold**	IAW JROCM 086-10
Crewstation armor survivability (mm)		**[attribute type not provided]**
Current Estimate **12/31/2023**		IAW JROCM 086-10
Demonstrated Performance -		Met objective
APB Change 1 (Current)	**Objective**	IAW JROCM 086-10
11/26/2012	**Threshold**	IAW JROCM 086-10
Mission Reliability		

MTBF(M) hrs.		
Lot 4		[attribute type not provided]
Current Estimate 12/31/2023		23.5
Demonstrated Performance -		AH-64E Fleet Meets Objective
APB Change 1 (Current)	Objective	22
11/26/2012	Threshold	17
Lot 1		[attribute type not provided]
Current Estimate 12/31/2023		23.5
Demonstrated Performance -		The intent of the wording in this KPP was to identify the fleet reliability required of the Apache Block III/AH-64E fleet as it progressed from initial Lot 1 fielding thru all successive Lots. The threshold requirement (initially 15.3 and then 17 hrs MTBF(M)) is applicable across the whole AH-64E fleet (Lot 1 - n) and not limited to any particular Lot.
APB Change 1 (Current)	Objective	22
11/26/2012	Threshold	15.3
MR for 3.5 hr. flight (%)		[attribute type not provided]
Current Estimate 12/31/2023		86.3
Demonstrated Performance -		Met objective
APB Change 1 (Current)	Objective	85
11/26/2012	Threshold	80
Net Ready		[attribute type not provided]
Current Estimate 12/31/2023		Fully support execution of joint critical operational activities.
Demonstrated Performance -		Met threshold
APB Change 1 (Current)	Objective	Fully support execution of all operational activities.
11/26/2012	Threshold	Fully support execution of joint critical operational activities.
Performance		
6000' PA, 95 F OGE Hover (lbs/payload)		[attribute

		type not provided]
Current Estimate **12/31/2023**		3400
Demonstrated Performance -		Met threshold
APB Change 1 **(Current)**	**Objective**	4,100
11/26/2012	**Threshold**	3,400

(U) Requirement Source:
Sponsor(s): None

1. Document Type Not Provided
   Notes: CPD dated June 1, 2010

Notes

The PM received clarification from the ACM-RA on the Mission Reliability MTBF(M) KPP for Lot 1. The intent of the wording in this KPP was to identify the fleet reliability required of the Apache Block III/AH-64E fleet as it progressed from initial Lot 1 fielding thru all successive Lots. Lot 1 fielding was anticipated to only reflect a reliability of 15.3 hrs MTBF(M) and would progressively increase as total fleet quantity and maintainer experience grew over time, reaching 17 hrs MTBF(M) by the fielding of Lot 4 aircraft. The threshold requirement (initially 15.3 and then 17 hrs MTBF(M)) is applicable across the whole AH-64E fleet (Lot 1 - n) and not limited to any particular Lot.

Performance Deviation Explanation

None

(U) Acquisition Budget Estimate

(U) Total Acquisition Estimates and Quantities

Category ($M) Base Year: 2010	APB Change 1 (Current) 11/26/2012 CY$ obs Objective / Threshold		Current Estimate PB 2025 CY$ obs / TY$ obs	
RDT&E	1,504.2	1,654.6	1,490.2	1,538.2
Procurement	10,088.1	11,096.9	10,619.9	12,784.0
MILCON	0.0	0.0	-	-
O&M	0.0	-	38.2	46.6
R&MF	-	-	-	-
Total Acquisition	11,592.3	-	12,148.3	14,368.8
Program Acquisition Unit Cost	18.141	19.955	19.531	23.101
Average Procurement Unit Cost	15.912	17.503	17.212	20.720
Program End-Item Quantity				
Development	5		5	
Procurement	634		617	
O&M-Acquired	-		-	

Budget Notes

None

Quantity Notes

PM Apache received an additional $93.894M of procurement funding via Section 8121 of the Consolidated Appropriations Act for Fiscal Year 2023 that enabled procurement of 5 additional remanufactured aircraft that were previously unaffordable due to inflationary impacts.
PM Apache reduced procurement quantity in Fiscal Year 2024 by five aircraft due to a reduction to the Remanufacture funding line through FY 2024 Presidents Budget enactment.

Cost Baseline Deviation Explanation

None

(U) Risk and Sensitivity Analysis

Current Procurement Estimate Risks (12/31/2023)	
1	Current Procurement Cost (December 2023) The Apache program office realized increased procurement costs driven by inflationary impacts to Lots 12-15 that are procured via the Multi-Year II contract (FY22-25). The increased unit costs have not resulted in a deviation of the APB threshold.

Current Baseline Risks (11/26/2012)
Apache completed a FRP decision in August 2012 and the OSD CAPE ICE was prepared. This was the first time OSD CAPE had actuals to incorporate into their estimate from the AB3 production line. Material, labor, prime contractor rates and factors increased significantly from the Revised Original Baseline completed in June 2010. The OSD CAPE ICE unit cost at FRP increased by 13% from the Revised Original OSD CAPE ICE.
Revised Original Baseline Risks (12/16/2010)
A successful Milestone C was completed on September 27, 2010, authorizing LRIP and advance procurement actions for FRP. Milestone C separated the Apache program into the Remanufacture and New Build programs with separate APBs. The Apache OSD CAPE ICE was used to establish the APB. The most significant cost drivers in the Apache estimate are material, labor, and prime contractor labor and overhead rates and factors.

(U) Unit Costs

(U) Current Estimate Compared with Current Baseline

Category (CY$M) Base Year: 2010	Current Baseline 11/26/2012	Current Estimate PB 2025	% Change
Program Acquisition Unit Cost			
Acquisition Cost	11,592.3	12,148.3	
Program Quantity	639	622	
PAUC	18.141	19.531	7.66%
Average Procurement Unit Cost			
Procurement Cost	10,088.1	10,619.9	
Procurement Quantity	634	617	
APUC	15.912	17.212	8.17%

(U) Current Estimate Compared with Original Baseline

Category (CY$M) Base Year: 2010	Original Baseline 12/16/2010	Current Estimate PB 2025	% Change
Program Acquisition Unit Cost			
Acquisition Cost	10,468.7	12,148.3	
Program Quantity	639	622	
PAUC	16.383	19.531	19.22%
Average Procurement Unit Cost			
Procurement Cost	8,856.9	10,619.9	
Procurement Quantity	634	617	
APUC	13.970	17.212	23.21%

Notes

None

(U) Life-Cycle Costs

(U) Operating and Support and Disposal Cost Estimates Compared with Baseline

Category ($M) Base Year: 2010	APB Change 1 (Current) 11/26/2012 CY$ obs Objective / Threshold		Current Estimate CY$ obs / TY$ obs	
Total O&S	38,506.0	42,356.6	22,605.9	34,587.1
Total Disposal	-	-	41.2	75.2

(U) Current Cost Estimate Sources

Operating and Support Cost
Type: Program Office Estimate
Approved by: PEO Aviation, December 31, 2023
Note: The O&S cost estimate is based upon the OSD CAPE ICE methodology. The estimate was last updated on March 26, 2024 for fact-of-life changes.

Disposal/Demilitarization Cost
Type: No estimate. To Be Determined

Operating and Support Baseline Deviation Explanation

None

Cost Notes

The sustainment quantity of 617 aircraft differs from the acquisition quantity of 622 aircraft by five aircraft. Those five aircraft were procured as limited test articles only and do not become part of the operational inventory.
The AH-64E Apache is maintained in a two-level maintenance system (field and sustainment) by a mix of Soldier and civilian maintainers. The strategy assumes the fielding of 617 Remanufactured aircraft, each flying 238.8 hours per year. Aircraft are logistically supported by a mix of organic supply and Contractor Performance Based Logistics activities.
Other Costs: PM Apache utilizes this field to capture the OMA funded costs from AMCOS labeled "Average Cost of Morale, Welfare, and Recreation," "Average Recruiting Cost," and "Average Cost of Officer Acquisition."

(U) Operating and Support Variance with Prior Estimate

(CY$M) Base Year: 2010	Estimate	
Prior Estimate (12/31/2022)	23,000.3	
Current Estimate	22,605.9	

(CY$M) Base Year: 2010	Estimate	
Category	**Variance**	**Explanation**
Unit-Level Manpower	341.9	Updates in rates and cost factors in AMCOS
Unit Operations	-50.0	Updates in Petroleum, Oil, & Lubricants (POL) in OSMIS
Maintenance	1.4	Updated Spares and Reparables in OSMIS
Sustaining Support	-555.6	Updates to SEPM, Training and Sustainment Systems Technical Support (SSTS)
Continuing System Improvements	64.9	Hardware and Software Improvement Updates
Other	-197.0	This category no longer exists. Contents was moved to Unit Level Manpower
Not Categorized	0.0	

(U) Operating and Support Cost Element Structure Estimates by Acquired System

(CY$M) Base Year: 2010							
System	**Unit-Level Manpower**	**Unit Operations**	**Maintenance**	**Sustaining Support**	**Continuing System Improvements**	**Other**	**Total**
AH-64E Remanufacture	12,608.0	1,362.5	5,435.0	2,516.7	683.7	-	**22,605.9**
Program	**12,608.0**	**1,362.5**	**5,435.0**	**2,516.7**	**683.7**	**-**	**22,605.9**

(U) Annual Operating and Support Costs per Unit Compared with Antecedent System

(CY$M) Base Year: 2010							
System	**Unit-Level Manpower**	**Unit Operations**	**Maintenance**	**Sustaining Support**	**Continuing System Improvements**	**Other**	**Total**
AH-64E Remanufacture	1.0	0.1	0.4	0.2	0.1	-	**1.8**

(U) Operating and Support Cost Estimate Assumptions

System	Quantity to Sustain	Unit Expected Service Life (Years)	Unit of Measure	Fiscal Years Operational
AH-64E Remanufacture	617	20.0	Aircraft	2012 - 2047

Additional O&S Estimate Assumptions

None

Antecedent Estimate Assumptions

There is no antecedent system information available at this time.

O&S Annual Cost Calculation Memo

None

(U) Technologies and Systems Engineering

(U) Current Significant Technical Risks and Risks Identified at Milestones/Decisions

Event	Date	Description
Current	12/31/2023	Requirements are steady, and funding is currently adequate to meet schedule and performance objectives. 1. Supply chain and labor market volatility: Over the last ~six months Boeing has experienced significant supply chain disruption to the following components: transmissions, drive-train components, gear boxes, structural components (wings, nacelles, avionics bays), main landing gear assemblies, and micro-electronics components (communication interface units, multi-purpose displays, mission data recorders, keyboard unit, and displays). Additionally, balancing sustainment demand signal and production have further complicated competition for scarce parts within the supply chain that has yet to fully recover. 2. Electrical power generator: The -7 generator is now the only configuration being manufactured through both the production line Multi Year 2 and sustainment contracts. The long-term effort to address the generator problem is the development and procurement of an oil-cooled generator which Boeing has solicited proposals for. The PM will continue to conduct special quality assessments audits on generators and critical safety items.
FRP	8/28/2012	1. Architecture Shortfalls - Refined hardware and software requirements coupled with Commercial-Off-The-Shelf (COTS) obsolescence necessitate computer / electronic tech refresh to meet Lot 4 - Lot 6 functionality. 2. Main Transmission - Financial issues at Northstar Aerostar (Apache Block III (AB3) main transmission supplier) created a temporary trough in transmission supply, resulting in up to seven aircraft without transmissions. The AB3 prime contractor took measures to sustain AB3 production and revitalize Northstar's supply base. The PM closely monitored this plan and full recovery established in December 2012 with no critical fielding impacts expected. The PM will continue to closely monitor this plan. 3. Net Ready - The AB3 Link 16 solution changed from a Joint Tactical Radio System (JTRS) Joint Program Office (JPO) Government Furnished Equipment radio to a Non-Developmental Item (NDI) radio. The AB3 PM is solely managing Link 16 for Lots 4 - Lot 5. A planned NDI competition for a Lot 6 Link 16 solution will be managed by the JTRS JPO. If the competitive procurement does not meet the Lot 6 timeline there will be a Link 16 capability fielding gap.
MS C	9/28/2010	1. Architecture Shortfalls - Refined hardware and software requirements coupled with COTS obsolescence necessitate computer / electronic tech refresh to meet Lot 4 - Lot 6 functionality. 2. LRIP Production - Boeing has not manufactured an AB3 aircraft and is using a subcontractor for premodification for the first time. Unforeseen production variables (new subcontractors and components) could cause schedule and delivery delays. 3. Net Ready - AB3 PM is dependent on performance of the JTRS program to achieve Net Ready KPP. JTRS is the preferred solution to meet the Link 16 requirement at Lot 4 and Wideband Networking Waveform / Soldier Radio Waveform at Lot 6. Further delays to the JTRS program could prohibit AB3 from meeting the Net Ready KPP. 4. Reliability - Limited flight test hours on AB3 aircraft at Limited User Test and Initial Operational Test and Evaluation does not allow for a traditional

		reliability demonstration in which the test unit is in the final configuration and tested for a statistically significant number of flight hours. This could result in an inability to demonstrate acceptable mission reliability to support the FRP Decision.
MS B	7/28/2006	1. Insufficient fidelity of Lot 6 functionality requirements 2. Reliability KPP 3. Performance KPP 4. Net Ready KPP

(U) Performing Activities and Contracts

(U) External Government Activities

None

(U) Contracts and Efforts

Contract Title	Contract Number / Effort	Contractor	Phase
Improved Turbine Engine (ITE) Phase 2	W58RGZ-22-C-0016	Boeing	Development
V6.5 Upgrade/Airframe IDIQ	W58GRZ-21-D-0077	Boeing	Development
AH-64E Apache Multi-Year 2 Contract	W58RGZ-21-C-0015	Boeing	Production
AH-64E Apache Multi-year contract	W58RGZ-16-C-0023	Boeing	Production
MRFI Production and Services IDIQ	W52P1J-18-D-0061	Lockheed Martin Rotary and Mission Systems	Production
MTADS/PNVS Production/ Services IDIQ	W52P1J-17-D-0043	Lockheed Martin	Production
MUMT Production & Services IDIQ	W52P1J-17-D-0070	L3 Communications Systems - West	Production
REU/MMA Production & Services IDIQ	W52P1J-16-D-0055	Longbow Limited Liability (LBL)	Production

(U) Contract and Effort Identification, Price, Quantity and Performance

Contract Number:	W58RGZ-22-C-0016	**Order Number:**	-
Contract Title:	Improved Turbine Engine (ITE) Phase 2	**Strategy:**	-
CAGE:	8V613 - Boeing	**Contracting Office:**	-
City, State/Province:	Mesa, AZ		
Effort Number:	-	**Supported Phase:**	Development
Type:	Cost Plus Fixed Fee	**Award Date:**	-
Latest Modification Date:	-	**Definitization Date:**	December 31, 2021
Latest Modification No.:	-	**Work Start Date:**	January 1, 2022
Technical Data Rights:	None		
Notes:	None		

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
178.5	-	178.5	-	157.9	174.9	-	-	-

Work Completed (%): 24.68%
Cost Variance (TY$M): -0.4
Schedule Variance (TY$M): -4.5

Factors Contributing to Cost Variance and Projected Effects on Program Costs

None

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

None

(U) Contract and Effort Identification, Price, Quantity and Performance

Contract Number:	W58GRZ-21-D-0077	**Order Number:**	-
Contract Title:	V6.5 Upgrade/Airframe IDIQ	**Strategy:**	-
CAGE:	8V613 - Boeing	**Contracting Office:**	-
City, State/Province:	Mesa, AZ		
Effort Number:	-	**Supported Phase:**	Development
Type:	Cost Plus Fixed Fee	**Award Date:**	December 28, 2021
Latest Modification Date:	-	**Definitization Date:**	-
Latest Modification No.:	-	**Work Start Date:**	January 4, 2022
Technical Data Rights:	-		
Notes:	None		

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
-	217.9	176.4	217.9	199.6	223.0	-	-	-

Work Completed (%): 59.00%
Cost Variance (TY$M): -6.4
Schedule Variance (TY$M): -16.7

Factors Contributing to Cost Variance and Projected Effects on Program Costs

None

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

None

(U) Contract and Effort Identification, Price, Quantity and Performance

Contract Number:	W58RGZ-21-C-0015	**Order Number:**	-
Contract Title:	AH-64E Apache Multi-Year 2 Contract	**Strategy:**	-
CAGE:	8V613 - Boeing	**Contracting Office:**	-
City, State/Province:	Mesa, AZ		

Effort Number:	-	**Supported Phase:**	Production
Type:	Firm-Fixed-Price	**Award Date:**	-
Latest Modification Date:	-	**Definitization Date:**	March 17, 2023
Latest Modification No.:	P00008	**Work Start Date:**	March 17, 2023
Technical Data Rights:	-		
Notes:	None		

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
1,055.1	-	1,055.1	1,055.1	1,073.1	1,073.1	115	115	-

(U) Contract and Effort Identification, Price, Quantity and Performance

Contract Number:	W58RGZ-16-C-0023	**Order Number:**	-
Contract Title:	AH-64E Apache Multi-year contract	**Strategy:**	-
CAGE:	- - Boeing	**Contracting Office:**	-
City, State/Province:	Mesa, AZ		

Effort Number:	-	**Supported Phase:**	Production
Type:	Firm-Fixed-Price	**Award Date:**	March 21, 2016
Latest Modification Date:	March 21, 2016	**Definitization Date:**	March 15, 2017
Latest Modification No.:	P00108	**Work Start Date:**	March 21, 2016
Technical Data Rights:	-		
Notes:	None		

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
3,030.5	-	4,317.3	-	4,317.3	4,317.3	244	247	232

(U) Contract and Effort Identification, Price, Quantity and Performance

Contract Number:	W52P1J-18-D-0061	**Order Number:**	-
Contract Title:	MRFI Production and Services IDIQ	**Strategy:**	-
CAGE:	- - Lockheed Martin Rotary and Mission Systems	**Contracting Office:**	-
City, State/Province:	Owego, NY		

Effort Number:	-	**Supported Phase:**	Production
Type:	Firm-Fixed-Price	**Award Date:**	September 1, 2018
Latest Modification Date:	-	**Definitization Date:**	July 29, 2019
Latest Modification No.:	P00004	**Work Start Date:**	September 1, 2018
Technical Data Rights:	-		
Notes:	Contract Type(s): FFP/FPIF/CPFF		

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
11.8	249.5	24.3	249.5	249.5	249.5	15	75	70

(U) Contract and Effort Identification, Price, Quantity and Performance

Contract Number:	W52P1J-17-D-0043	**Order Number:**	-
Contract Title:	MTADS/PNVS Production/ Services IDIQ	**Strategy:**	-
CAGE:	- - Lockheed Martin	**Contracting Office:**	-
City, State/Province:	Orlando, FL		
Effort Number:	-	**Supported Phase:**	Production
Type:	Firm-Fixed-Price	**Award Date:**	April 28, 2017
Latest Modification Date:	-	**Definitization Date:**	April 28, 2017
Latest Modification No.:	W58RGZ22F0381	**Work Start Date:**	April 28, 2017
Technical Data Rights:	-		
Notes:	Contract Type(s): Quantities are reflective of complete MTADS/PNVS systems, but multiple Line Replacement Units(LRU) / Line Replaceable Modules (LRM) that are contained within a MTADS/PNVS system.		

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
0.5	4,655.0	80.8	4,655.0	4,655.0	4,655.0	-	9	9

(U) Contract and Effort Identification, Price, Quantity and Performance

Contract Number:	W52P1J-17-D-0070	**Order Number:**	-
Contract Title:	MUMT Production & Services IDIQ	**Strategy:**	-
CAGE:	- - L3 Communications Systems - West	**Contracting Office:**	-
City, State/Province:	Salt Lake City, UT		
Effort Number:	-	**Supported Phase:**	Production
Type:	Firm-Fixed-Price	**Award Date:**	August 31, 2017
Latest Modification Date:	-	**Definitization Date:**	-
Latest Modification No.:	-	**Work Start Date:**	September 1, 2017
Technical Data Rights:	-		
Notes:	Contract Type(s): FFR/CPFF		

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
66.6	226.6	145.8	368.2	368.2	368.2	233	544	544

(U) Contract and Effort Identification, Price, Quantity and Performance

Contract Number:	W52P1J-16-D-0055	**Order Number:**	-

Contract Title:	REU/MMA Production & Services IDIQ	**Strategy:**	-
CAGE:	- - Longbow Limited Liability (LBL)	**Contracting Office:**	-
City, State/Province:	Orlando, FL		
Effort Number:	-	**Supported Phase:**	Production
Type:	Multiple Types	**Award Date:**	August 18, 2016
Latest Modification Date:	August 18, 2016	**Definitization Date:**	June 30, 2017
Latest Modification No.:	-	**Work Start Date:**	-
Technical Data Rights:	-		
Notes:	Contract Type(s): FFP/CPFF		

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
23.4	931.2	68.9	931.2	931.2	931.2	23	100	97

(U) Production

(U) Low-Rate Initial Production

	Original LRIP Determination	Current LRIP Determination
Total LRIP Quantity	51	51
Date	10/7/2010	10/7/2010
Reference	MIlestone C ADM	Milestone C ADM
LRIP Period	FY 2010 - 2013	FY 2010 - 2013
Total Procurement Quantity	622	622
LRIP Percentage of Total	8.2%	8.2%

Rationale if LRIP Quantity Exceeds 10% of Total Procurement Quantity (Current Determination)

None

LRIP Notes

None

(U) Deliveries and Expenditures

(U) Acquisition Funding

	Total Estimate	Actual to Date	Actual, Percent Complete
Years Appropriated	25	21	84.0%
Appropriations (TY, $M)	14,368.8	12,611.0	87.8%
Expenditures (TY, $M)	14,368.8	10,812.8	75.3%

(U) End Items Delivered

	Total Required	Planned to Date	Actual to Date	Actual, Percent Complete
Development	5			
AH-64E Remanufacture		5	5	
Procurement	617			
AH-64E Remanufacture		473	473	
Total	**622**	**478**	**478**	**76.8%**

Notes

None

(U) International Program Aspects

General Memo

Programs deliveries have been adjusted due to supplier and production delays. Currently, minimal impact. FMS programs are facing significant obsolescence impacts of Government Furnished Material (GFM).

Exportability and Business Issues

No Business Issues to Report

Is design for international exportability planned?	Yes	**Industry/Partner Exportability Cost-Sharing?**	Yes

Program Protection: Technology Security and Foreign Disclosure Issues

No Technology Security and Foreign Disclosure Issues to report.

(U) Agreements

Activity Date	Type	Agreement Number	International Partner(s)	Quantity	Funding (TY$M)
9/30/2022	FMS LOA	NE-B-WJW	Netherlands (NE)	28	576.0
12/9/2021	FMS LOA	KU-B-UXF	Kuwait (KU)	16	573.9
9/1/2021	FMS LOA	EG-B-VGF	Egypt (EG)	25	853.6
1/9/2018	FMS LOA	AE-B-GUA	United Arab Emirates (AE)	26	606.8
6/24/2016	FMS LOA	UK-B-WSO	United Kingdom (UK)	50	1,259.4

(U) Agreement Information

Partner(s):	Netherlands (NE)	**Activity Date:**	9/30/2022
Type:	Foreign Military Sales: Letter of Offer and Acceptance	**Agreement Number:**	NE-B-WJW
Notes:	None		

Netherlands (NE)

Fiscal Year	Funding (TY$M)	Quantity
2022	40.3	2
2023	201.6	12
2024	288.0	10
2025	46.1	4
Total	**576.0**	**28**

(U) Agreement Information

Partner(s):	Kuwait (KU)	**Activity Date:**	12/9/2021

Type: Foreign Military Sales: Letter of Offer and Acceptance **Agreement Number:** KU-B-UXF

Notes: None

Kuwait (KU)

Fiscal Year	Funding (TY$M)	Quantity
2023	2.4	-
2024	26.3	-
2025	81.3	-
2026	126.7	2
2027	157.8	4
2028	114.8	4
2029	55.0	4
2030	9.6	2
Total	**573.9**	**16**

(U) Agreement Information

Partner(s): Egypt (EG) **Activity Date:** 9/1/2021

Type: Foreign Military Sales: Letter of Offer and Acceptance **Agreement Number:** EG-B-VGF

Notes: None

Egypt (EG)

Fiscal Year	Funding (TY$M)	Quantity
2024	64.0	-
2025	106.7	-
2026	191.2	7
2027	382.4	14
2028	109.3	4
Total	**853.6**	**25**

(U) Agreement Information

Partner(s): United Arab Emirates (AE) **Activity Date:** 1/9/2018

Type: Foreign Military Sales: Letter of Offer and Acceptance **Agreement Number:** AE-B-GUA

Notes: None

United Arab Emirates (AE)

Fiscal Year	Funding (TY$M)	Quantity
2021	30.3	-
2022	42.5	5
2023	212.4	4
2024	242.7	12
2025	78.9	5
Total	**606.8**	**26**

(U) Agreement Information

Partner(s): United Kingdom (UK) **Activity Date:** 6/24/2016

Type: Foreign Military Sales: Letter of Offer and Acceptance **Agreement Number:** UK-B-WSO

Notes: None

United Kingdom (UK)

Fiscal Year	Funding (TY$M)	Quantity
2019	63.0	-
2020	88.2	12
2021	440.8	12
2022	503.7	14
2023	163.7	12
Total	**1,259.4**	**50**

Modernized
Selected Acquisition Report
Supplement

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

FY 2025 President's Budget
As of: December 31, 2023

MSAR Supplement Sections

Program Description

Program Use of the Adaptive Acquisition Framework

Technologies and Systems Engineering

Funding Sources (Acquisition)

Funding Sources (Operating and Support)

Acquisition Estimate and Quantity Summary

Annual Acquisition Estimates by Appropriation Account

Acquired System Annual End-Item Quantities by Appropriation Account

Nuclear Costs

Operational Fielding Plan

O&S Independent Cost Estimate

Annual Operating and Support Estimates by Cost Element

Program Description

Full Name
AH-64E Apache Remanufacture

Short Name
AH-64E Remanufacture

PNO
202

Lead Component
Army

AAF Pathway
MCA

Acquisition Type
MDAP

Acquired Systems
AH-64E Remanufacture

Related Programs

Full Name	PNO	Pathway	Type	ACAT/ BCAT	Acquisition Status	Costs in SAR? Acq	Costs in SAR? O&S
AH-64E Apache New Build	437	MCA	MDAP	IC	FOC/FD	No	Yes
Longbow Apache AH-64D	831	MCA	MDAP	IC	FOC/FD	No	No

Program Use of the Adaptive Acquisition Framework

This acquisition is accomplished by a single program in the Major Capability Acquisition Pathway.

Technologies and Systems Engineering

AH-64E Apache Remanufacture

Major Software Efforts

Title	Status	Fielding Date	Description
Version 6.5	Development	May 2026	AH-64E software upgrade to add new capabilities.
Improved Turbine Engine Program Integration	Development	May 2029	Integration of the T901 engine into the AH-64E.

Major Engineering Changes

Title	Original Need Date	Fielding Date	Description, Rationale and Program Impacts
Improved Tail Rotor Blade (ITRB)	Jan 2028		The ITRB was designed to provide greater damage tolerance and performance compared to the existing metallic tail rotor blade. The blade has improved airfoil geometry, a larger chord length and longer radius, resulting in an increase in thrust and torque for a given blade pitch. The objective of this project is to improve the Tail Rotor Subsystem that provides adequate directional control margins for the helicopter.
Improved Tail Rotor Drive Sytem (ITRDS)	Jan 2028		ITRDS design, qualification and integration onto the AH-64 aircraft is required to account for Improved Tail Rotor Blade (ITRB) full thrust along with increased power from future T-901 engines. The current legacy AAH drive system is not structurally adequate to support increased thrust capability and additional torque required by the ITRB.
Oil Cooled Generator (OCG)	Sep 2023		The development and qualification of the oil-cooled generator as the material solution to the legacy air-cooled generator based on safety, reliability, and performance concerns is the number one field concern tracked by the Chief of Staff of Army. The Oil-cooled generator will provide a significant increase in reliability, reduce failures in the field, and alleviate safety concerns of the current air-cooled generator.

Funding Sources (Acquisition)

Acquisition Funding Notes

None

AH-64E Apache Remanufacture

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
RDT&E	2040A	07	0203744A - Aircraft Modifications/Product Improvement Programs	0203744A	D17 - Apache Block III		
RDT&E	2040A	07	0607135A - Apache Product Improvement Program	0607135A	ES2 - Apache Product Improvement Program		
Procurement	2031A	01	5757A05111 - AH-64 Apache Block IIIA Reman	0210100A	-		
O&M	2020A	04	435 - Other Service Support	0702806A	-		

Funding Sources (Operating and Support)

Note: Budget lines fund activites executed by the Program Office or Sustainment Office.

Operating and Support Funding Notes

AH-64E Apache Remanufacture

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk

Acquisition Estimate and Quantity Summary

AH-64E Apache Remanufacture

Acquisiton Estimates

Category PB 2025	TY ($M)	Current Base Year CY2010 ($M)	Original Base Year CY2010 ($M)	Report Fiscal Year CY2024 ($M)
RDT&E	1,538.2	1,490.2	1,490.2	2,069.8
Procurement	12,784.0	10,619.9	10,619.9	14,749.8
MILCON	-	-	-	-
O&M	46.6	38.2	38.2	53.0
Total Acquisition	14,368.8	12,148.3	12,148.3	16,872.6
PAUC	23.101	19.531	19.531	27.126
APUC	20.720	17.212	17.212	23.906

Acquisiton End-Item Quantities

System PB 2025	Development	Procurement
AH-64E Remanufacture	5	617
Total	**5**	**617**

Unit Description

Fully Operational AH-64E Apache Remanufacture aircraft

Current and Future Years Defense Program Summary, TY($M)

Appropriation	Prior	2024	2025	2026	2027	2028	2029	To Complete	Total
RDT&E	1,538.2	-	-	-	-	-	-	-	1,538.2
Procurement	11,444.4	763.5	569.5	1.8	1.6	1.6	1.6	-	12,784.0
MILCON	-	-	-	-	-	-	-	-	-
O&M	46.6	-	-	-	-	-	-	-	46.6
PB 2025 Total	**13,029.2**	**763.5**	**569.5**	**1.8**	**1.6**	**1.6**	**1.6**	**-**	**14,368.8**

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

AH-64E Apache Remanufacture

Source for TY$-CY$ Conversion: ASN FMB-6 Inflation Rates and Outlay Factors for DA, DoN and DW accounts: 17 Jan 2024

2040A - Research, Development, Test & Eval, Army					
fiscal year		Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2010 ($M)
Total		**1,538.2**	**1,538.2**	**-**	**1,490.2**
2005		57.000	57.0	0.922827	61.8
2006		107.100	107.1	0.948689	112.9
2007		119.900	119.9	0.971586	123.4
2008		184.800	184.8	0.990193	186.6
2009		218.200	218.2	1.002847	217.6
2010		149.000	149.0	1.018019	146.4
2011		90.700	90.7	1.038032	87.4
2012		89.800	89.8	1.054387	85.2
2013		120.700	120.7	1.072315	112.6
2014		112.400	112.4	1.092973	102.8
2015		86.100	86.1	1.111323	77.5
2016		63.000	63.0	1.123131	56.1
2017		61.000	61.0	1.147037	53.2
2018		55.600	55.6	1.167794	47.6
2019		22.900	22.9	1.186986	19.3

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

AH-64E Apache Remanufacture

Source for TY$-CY$ Conversion: ASN FMB-6 Inflation Rates and Outlay Factors for DA, DoN and DW accounts: 17 Jan 2024

2031A - Aircraft Procurement, Army									
fiscal year	End Item Recurring Flyaway	Non-End Item Recurring Flyaway	Non-Recurring Flyaway	Initial Spares	Depot Activation	Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2010 ($M)
Total	**11,901.5**	**-**	**30.8**	**166.6**	**-**	**685.1**	**12,784.0**	**-**	**10,619.9**
2005							-	0.934128	-
2006							-	0.959565	-
2007							-	0.979096	-
2008							-	0.994668	-
2009	28.400						28.4	1.008986	28.1
2010	220.036			10.000			230.0	1.026428	224.1
2011	506.293			2.100			508.4	1.045230	486.4
2012	607.488			1.900			609.4	1.062924	573.3
2013	585.334			8.253			593.6	1.081827	548.7
2014	737.978			14.617			752.6	1.098200	685.3
2015	1,109.645			13.702			1,123.3	1.115497	1,007.0
2016	1,273.116		2.663	19.596		58.016	1,353.4	1.131523	1,196.1
2017	965.722		3.664	11.858		52.706	1,034.0	1.154418	895.6
2018	839.081		3.368	17.341		45.540	905.3	1.180284	767.0
2019	865.875		3.588	9.734		48.601	927.8	1.218072	761.7
2020	885.526		3.723	13.452		84.899	987.6	1.268031	778.8
2021	861.860		3.860	14.902		75.868	956.5	1.325917	721.4
2022	545.228		3.935	9.430		87.773	646.4	1.376505	469.6
2023	695.261		2.000	11.776		78.723	787.8	1.412977	557.5
2024	681.813	-	2.000			79.654	763.5	1.444178	528.7
2025	492.804		2.000	7.979		66.755	569.5	1.474671	386.2
2026						1.750	1.8	1.505639	1.2
2027						1.609	1.6	1.537257	1.0
2028						1.606	1.6	1.569539	1.0
2029						1.622	1.6	1.602500	1.0

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

AH-64E Apache Remanufacture

Source for TY$-CY$ Conversion: ASN FMB-6 Inflation Rates and Outlay Factors for DA, DoN and DW accounts: 17 Jan 2024

2020A - Operation & Maintenance, Army					
fiscal year		Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2010 ($M)
Total		**46.6**	**46.6**	**-**	**38.2**
2005			-	0.919453	-
2006			-	0.948993	-
2007			-	0.971378	-
2008			-	0.989963	-
2009			-	1.000029	-
2010			-	1.014595	-
2011			-	1.036633	-
2012			-	1.051450	-
2013			-	1.065970	-
2014			-	1.082789	-
2015			-	1.093606	-
2016			-	1.113176	-
2017			-	1.131922	-
2018			-	1.154612	-
2019		14.600	14.6	1.180881	12.4
2020		16.800	16.8	1.213220	13.8
2021		15.200	15.2	1.272566	11.9

Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

AH-64E Apache Remanufacture

2040A - Research, Development, Test & Eval, Army				
fiscal year	AH-64E Remanufacture			Total
Total	**5**			**5**
Undistributed				-
2009	5			5

Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

AH-64E Apache Remanufacture

2031A - Aircraft Procurement, Army				
fiscal year	AH-64E Remanufacture			Total
Total	**617**			**617**
Undistributed				-
2009				-
2010	8			8
2011	16			16
2012	27			27
2013	37			37
2014	35			35
2015	53			53
2016	64			64
2017	52			52
2018	48			48
2019	48			48
2020	49			49
2021	50			50
2022	24			24
2023	38			38
2024	37			37
2025	31			31

Nuclear Costs

AH-64E Apache Remanufacture

Program's Use of Department of Energy Resources
None

Operational Fielding Plan

AH-64E Apache Remanufacture

System: AH-64E Remanufacture

Fielding and Inventory Notes

The current fielding plan is comprised of both AH-64E Remanufacture and New Build aircraft.

AH-64E Remanufacture Fielding Plan and Inventory

fiscal year	Store	Field	Expend/Loss	Decommission	Inventory
2023					551
2024		43	4		590
2025		36			626
2026		47			673
2027		42			715
2028		6			721
2029					721

O&S Independent Cost Estimate

AH-64E Apache Remanufacture

Independent and Current Cost Estimate Comparison

Category CY2010 ($M)	Independent Cost Estimate 5/1/2020	Current Estimate 12/31/2023	Variance with ICE (%)
Unit-Level Manpower	12,050.6	12,608.0	5%
Unit Operations	1,020.8	1,362.5	33%
Maintenance	5,933.6	5,435.0	-8%
Sustaining Support	4,556.8	2,516.8	-45%
Continued System Improvements	258.1	683.7	165%
Other			-
Total O&S	**23,819.9**	**22,605.9**	**-5%**

Independent Cost Estimate Source

Event: Operation & Sustainment Review
Type: Independent Cost Estimate
Approved by: Center for Army Analysis, May 1, 2020
Note: None

Current Cost Estimate Source

Type: Program Office Estimate
Approved by: PEO Aviation, December 31, 2023
Note: None

Cost Estimate Variance Explanation

Updated spares, reparables and POL in OSMIS and updates in the Army Military-Civilian Costing System Manpower cost factors.

Annual Operating and Support Estimates by Cost Element

AH-64E Apache Remanufacture

System: AH-64E Remanufacture

Source for TY-CY Conversion: ACEIT Indicies

Operating and Support Cost Elements							
fiscal year	1.0 Unit-Level Manpower	2.0 Unit Operations	3.0 Maintenance	4.0 Sustaining Support	5.0 Continuing System Improvements	Other	Total CY2010 ($M)
Total	**12,608.0**	**1,362.5**	**5,435.0**	**2,516.8**	**683.7**	**-**	**22,605.9**
2012	0.283	3.926	10.580	-	-		14.8
2013	42.822	5.387	18.955	7.729	-		74.9
2014	109.799	8.100	34.814	20.724	-		173.4
2015	129.445	10.674	50.234	24.861	-		215.2
2016	171.025	13.175	64.367	32.555	-		281.1
2017	232.398	18.126	83.950	42.878	-		377.4
2018	299.618	21.457	93.782	54.283	-		469.1
2019	371.339	28.262	123.021	66.465	-		589.1
2020	393.656	33.337	143.436	69.523	-		640.0
2021	486.700	37.871	161.569	85.835	-		772.0
2022	498.663	42.452	180.663	87.128	-		808.9
2023	521.033	46.915	224.781	89.887	-		882.6
2024	584.033	51.711	235.384	100.568	-		971.7
2025	614.124	60.371	240.256	98.880	-		1,013.6
2026	618.918	62.955	254.344	125.184	13.950		1,075.4
2027	621.942	64.980	265.651	125.654	37.526		1,115.8
2028	621.942	64.980	265.651	125.566	37.526		1,115.7
2029	621.942	64.980	265.651	125.483	37.526		1,115.6
2030	621.942	64.980	265.651	125.396	37.526		1,115.5
2031	621.942	64.980	265.651	125.316	37.526		1,115.4
2032	619.066	63.782	256.576	124.679	37.356		1,101.5
2033	592.463	62.130	248.039	119.095	37.229		1,059.0
2034	529.018	59.858	233.396	106.660	37.060		966.0
2035	494.841	57.375	218.103	100.303	37.229		907.9
2036	466.562	54.446	203.405	94.408	36.933		855.8
2037	405.985	50.285	185.300	84.061	36.933		762.6
2038	342.319	46.034	173.498	73.045	36.594		671.5
2039	273.764	40.227	146.431	60.916	35.493		556.8
2040	236.569	34.677	124.898	55.320	35.154		486.6
2041	158.076	30.312	107.033	41.277	35.662		372.4
2042	128.378	31.092	88.909	37.793	37.229		323.4
2043	116.268	28.491	72.478	38.183	26.140		281.6
2044	48.645	18.425	58.835	20.985	26.538		173.4

System: AH-64E Remanufacture

Source for TY-CY Conversion: ACEIT Indicies

Operating and Support Cost Elements							
fiscal year	1.0 Unit-Level Manpower	2.0 Unit Operations	3.0 Maintenance	4.0 Sustaining Support	5.0 Continuing System Improvements	Other	Total CY2010 ($M)
2045	6.297	9.218	56.024	15.968	26.538		114.0
2046	6.194	6.554	13.661	10.146	-		36.6