# Selected Acquisition Report (SAR)

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

**FY 2024 President's Budget**

**Defense Acquisition Visibility Environment (DAVE)**

Table of Contents

# Common Acronyms and 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
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
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
FMS - Foreign Military Sales
FOC - Full Operational Capability
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
Inc - Increment
IOC - Initial Operational Capability
JROC - Joint Requirements Oversight Council
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
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
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
U.S. - United States
UCR - Unit Cost Reporting
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

# Program Information

## Program Name

AH-64E Apache New Build

## DoD Component

Army

# Responsible Office

## Program Manager

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# Mission and Description

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

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

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

# Executive Summary

## AH-64E New Build

### Program Highlights Since Last Report

Requirements are steady, and funding is currently adequate to meet schedule and performance objectives. Over the last year, the Apache has experienced an increase in the instance of electrical power generator failures resulting in potentially hazardous flight conditions and precautionary landings. As a result, the PM has instituted a multi-faceted approach to reduce both the instance and severity of generator failures. 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) will constitute the formal legal agreement between Boeing and USG on the entirety of the Army's CSI program requirement. A verbal settlement was agreed upon between the USG and The Boeing Company for the Multi-Year 2 contract (MY2) in December 2022. Both the USG and Boeing are working towards Contract Definitization NLT 2QFY23.The Remanufacture and New Build aircraft are procured using the same contracts, built on the same production line, and delivered in the same configuration with the same capabilities. There are no significant software-related issues with this program at this time.

### History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation

| Date | Significant Development Description |
|---|---|
| Aug - 2022 | Started fielding Fifth Unit Equipped AH-64E Version 6 (2-17th Ft. Campbell, KY). |
| Jul - 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. |
| Feb - 2022 | Fielded Third Unit Equipped AH-64E Version 6 (4-2nd AB, Korea). |
| Jan - 2022 | First SPPI produced. |
| Nov - 2021 | Third Unit Equipped delivery began to 4-2 AB in Korea. |
| Aug - 2021 | Second Unit Equipped is completed at 3-17th Hunter Army Airfield, GA with 24 AH-64E aircraft. |
| Jun - 2021 | Full Fielding Decision Brief Completed on the SPPI Program. Production line cut-in scheduled January 2022. (Completed) |
| Mar - 2021 | V6 First Unit Equipped (FUE) is completed at 1-229th Joint Based Lewis McChord, WA with 24 AH-64E aircraft. |
| Feb - 2021 | The first V6 LCT retrofit was completed in the field at Hunter Army Airfield, GA. |
| Dec - 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. |
| Oct - 2020 | The US Government stopped accepting aircraft from Boeing due to quality issues identified in October 2020. |
| Sep - 2020 | The first V6 AH-64E aircraft was DD250'd in Mesa, AZ at the Boeing facility. |
| Sep - 2019 | The Follow-On Operational Test and Evaluation 2 (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. |
| Aug - 2019 | FY 2019 National Defense Appropriations Act plus up of six additional aircraft was awarded. |

| | |
|---|---|
| Jun - 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. |
| Nov - 2018 | The Army stopped fielding of the redesigned strap pack and began legacy strap pack collar retrofit starting with severe coastal units. All severe coastal units will have fail safe collars installed by April 2019 and the entire Army fleet by July 2019. The Army will continue holding the contractor accountable to address quality issues. |
| Oct - 2018 | FY 2019 Defense Appropriations Act increased funding adding six additional helicopters for a total of 18 AH- 64E Apaches for FY 2019. |
| Sep - 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. |
| Aug - 2018 | PM Apache, in coordination with ACC, executed a modification to fully fund 31 FY 2018 AH-64E Apache New Build aircraft and funds FY 2019 Advance Procurement for 12 FY 2019 AH-64E Apache New Build aircraft. Total contract obligated is $507,099,999.78. The FY 2019 Defense Appropriations Act includes funding for five additional New Build aircraft in FY 2019. |
| Aug - 2018 | Since Boeing has met the conditions to restart, PM Apache resumed inductions and acceptance of AH-64E Apache Remanufacture and New Build aircraft. New Build aircraft resumed deliveries in April 2020. |
| Jun - 2018 | Began fielding the redesigned strap pack to 1-149 Texas National Guard (NG) in Houston, Texas. |
| May - 2018 | Army adjusted the AAO from 767 to 812 and the APO to 791 for the AH-64E Apache Helicopter. |
| Mar - 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. |
| Jan - 2018 | Begin fielding to 1-6 Cavalry Regiment, Fort Riley, Kansas. |
| Dec - 2017 | Completed fielding of 24 AH-64E Apache aircraft to Fort Carson, Colorado. |
| Aug - 2017 | Contract modification of $202.2M awarded on the AH-64E Apache Multi-Year contract for the purchase of AH-64E New Build aircraft. |
| Jun - 2017 | Apache PM fielded nine AH-64E aircraft to Fort Rucker, Alabama. |
| May - 2017 | Army memo increased the AH-64E Apache helicopter AAO by 77 aircraft from 690 to 767 aircraft. The 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. |
| Mar - 2017 | Awarded AH-64E Apache Multi-Year Contract for Lot 7 through Lot 11 for a total of 244 Remanufactured aircraft, providing options to procure additional Remanufacture and New Build aircraft each year. |
| Jan - 2017 | Apache PM completed fielding of six AH-64E aircraft to Fort Rucker, Alabama. |
| Apr - 2016 | Definitized the FRP Contract for Lot 3 - Lot 4 New Build aircraft, Quantity of seven aircraft. |
| Feb - 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. |

| | |
|---|---|
| Sep - 2015 | Apache PM completed fielding to the 2-17 Cavalry (3-101 Attack Reconnaissance Battalion (ARB)), the Army's 4th Unit Equipped with the AH-64E Apaches. Apache PM assisted and managed transfer of 20 AH-64D aircraft from Germany and Forces Command to a new AH-64 unit, the 1-25 ARB in Fort Wainwright, Alaska. Apache PM identified and provided a materiel solution to support Apache AH-64D and AH-64E helicopters for first time stationing in an arctic environment. |
| Aug - 2015 | Completed Manned/Unmanned Teaming Expanded capabilities competition and awarded contract. Fire Control Radar Maritime Mode Testing occurred from August through September 2015 at Joint Base Little Creek, Virginia. |
| Dec - 2014 | Apache PM delivered ten AH-64E New Build Attack Helicopters of the 56 Army Acquisition Objective (AAO). |
| Dec - 2014 | Apache PM initiated the required processes for necessary approvals to enter a multi-year contract to support production from FY 2017 to FY 2021. The Army Acquisition Executive (AAE) signed the justification and approval. |
| Nov - 2014 | The FUE, 1-229 Attack Reconnaissance Battalion (ARB), successfully completed the first operational combat deployment of the AH-64E. |
| Sep - 2014 | Awarded seven additional New Build aircraft as an undefinitized contract action. |
| Aug - 2014 | AH-64E Capability Version 4 Follow-on Operational Test & Evaluation 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. |
| Jun - 2014 | Definitized and awarded Boeing Company Full Rate Production (FRP) contract for Lots 3 and 4. This contract supports production of ten AH-64E Apache New Build helicopters. This production activity supported completion of fielding the second and third units equipped, as well as augmentation of the training fleet. |

# Schedule

## AH-64E New Build

| Events | Milestone Baseline Objective | Current Baseline Objective/Threshold | | Current Estimate/Actual | Deviation |
|---|---|---|---|---|---|
| Milestone C Complete | Jul 2010 | Jul 2010 | Jan 2011 | Sep 2010 | |
| Initial Operational Test and Evaluation Complete | Mar 2012 | Mar 2012 | Sep 2012 | Mar 2012 | |
| Full Rate Production (FRP) Complete | Jul 2012 | Jul 2012 | Mar 2013 | Mar 2013 | |
| First Unit Equipped (FUE) Complete | Nov 2012 | Nov 2012 | May 2013 | May 2013 | |
| Initial Operational Capability (IOC) Complete | May 2013 | May 2013 | Nov 2013 | Nov 2013 | |
| **Notes** | | | | | |

| **Deviation Explanation** |
|---|

# Performance

## AH-64E New Build

| Performance Characteristics | | | | | |
|---|---|---|---|---|---|
| Milestone Baseline | Current Baseline Objective/Threshold | | Demonstrated Performance | Current Estimate/Actual | Deviation |
| ([attribute type not provided])Performance - 6000' PA, 95F OGE Hover (lbs/payload) | | | | | |
| | 4,100 | 3400 | Met Threshold | 3400 | |
| ([attribute type not provided])Force Protection - Crewstation armor barrier survivability | | | | | |
| | IAW JROCM 086-10 | IAW JROCM 086-10 | Met Objective | IAW JROCM 086-10 | |
| ([attribute type not provided])Force Protection - Crewstation armor Survivability (mm) | | | | | |
| | IAW JROCM 086-10 | IAW JROCM 086-10 | Met Objective | IAW JROCM 086-10 | |
| ([attribute type not provided])Mission Reliability - Lot 1 | | | | | |
| | 22 | 15.3 | Met Objective | 31.8 | |
| ([attribute type not provided])Mission Reliability - Lot 4 | | | | | |
| | 22 | 17 | Met Objective | 31.8 | |
| ([attribute type not provided])Mission Reliability - MR for 3.5 hr. Flight (%) | | | | | |
| | 85 | 80 | Met Objective | 89.6 | |
| ([attribute type not provided]) - Net Ready | | | | | |
| | Fully support execution of all operational activities. | Fully support execution of joint critical operational activities | Met Threshold | Fully support execution of joint critical operational activities | |
| ([attribute type not provided])Survivability - Safe operation (minutes) | | | | | |
| | 30 | 30 | Met Objective | 30 | |
| ([attribute type not provided])Survivability - Survive Band IV MANPADS IR Missile Engagement | | | | | |
| | IAW JROCM 086-10 | IAW JROCM 086-10 | Met Objective | IAW JROCM 086-10 | |

**Requirement Reference**

,
Validated:
CPD dated June 1, 2010

**Deviation Explanation**

No deviations for this program/subprogram

| Notes |
| --- |
| Net Ready KPP compliance is achieved by meeting the information exchange capabilities required by the Integrated Architectures Operational View-1 and is demonstrated by completing Joint Interoperability Certification, Army Interoperability Certification and DoD Information Assurance and Accreditation Process.Mission Reliability based on Reliability, Availability, and Maintainability data derived from performance of fielded aircraft. |

# Acquisition Budget Estimate

## AH-64E New Build

***Total Acquisition Cost***

| | | Milestone APB | Current Baseline | | Budget Estimate PB 2024 | | |
|---|---|---|---|---|---|---|---|
| **Category** | **Base Year** | **Objective (BY$M)** | **Objective (BY$M)** | **Threshold (BY$M)** | **BY$M** | **TY$M** | **Deviation** |
| RDT&E | 2010 | 0 | 0 | | | | |
| Procurement | 2010 | 2,134.6 | 2,003.3 | 2,203.6 | 2,130.7 | 2,472.6 | |
| MILCON | 2010 | 0 | 0 | | | | |
| Acq. O&M | 2010 | 0 | 0 | | | | |
| Total | | 2,134.6 | 2,003.3 | | 2,130.7 | 2,472.6 | |
| PAUC | 2010 | 38.118 | 35.773 | 39.350 | 26.971 | 31.299 | |
| APUC | 2010 | 38.118 | 35.773 | 39.350 | 26.971 | 31.299 | |

## Appropriation Category Deviation Explanations

## PAUC Deviation Explanation

## APUC Deviation Explanation

## Budget Notes

***Total End Item Quantity***

| Quantity Category | Current APB Quantity | Current Estimate Quantity |
|---|---|---|
| Development | 0 | |
| Procurement | 56 | 79 |
| O&M-Acquired | | |

## Quantity Notes

# Unit Cost
## AH-64E New Build

| Current UCR Baseline and Current Estimate (Base-Year Dollars) | | | |
|---|---|---|---|
| **Category ($M) Base Year:2010** | **Current UCR Baseline** | **Current Estimate** | **% Change** |
| **Program Acquisition Unit Cost** | | | |
| Cost | 2,003.3 | 2,130.7 | |
| Quantity | 56 | 79 | |
| Unit Cost | 35.773 | 26.971 | -24.61% |
| **Average Procurement Unit Cost** | | | |
| Cost | 2,003.3 | 2,130.7 | |
| Quantity | 56 | 79 | |
| Unit Cost | 35.773 | 26.971 | -24.61% |

| Original UCR Baseline and Current Estimate (Base-Year Dollars) | | | |
|---|---|---|---|
| **Category ($M) Base Year:2010** | **Original UCR Baseline** | **Current Estimate** | **% Change** |
| **Program Acquisition Unit Cost** | | | |
| Cost | 2,134.6 | 2,130.7 | |
| Quantity | 56 | 79 | |
| Unit Cost | 38.118 | 26.971 | -29.24% |
| **Average Procurement Unit Cost** | | | |
| Cost | 2,134.6 | 2,130.7 | |
| Quantity | 56 | 79 | |
| Unit Cost | 38.118 | 26.971 | -29.24% |

## Cost Growth Details

**Current Baseline PAUC Breach Explanation**

**Current Baseline APUC Breach Explanation**

**Original Baseline PAUC Breach Explanation**

**Original Baseline APUC Breach Explanation**

**Impacts of Schedule Changes on Unit Cost**

**Impacts of Performance Changes on Unit Cost**

**Actions Taken or Proposed to Control Future Cost Growth**

***Risk and Sensitivity Analysis***

**AH-64E New Build**

| Risk and Sensitivity Analysis |
|---|
| Current Procurement Cost(December - 2022) |
| The current Apache program office estimate is based upon the 2012 OSD CAPE Estimate and adjusted for fact of life changes and updated actuals of the current New Build production line and option pricing on the Multi-Year contract. The Apache Current Estimate cost model reflects a 50% Confidence Level estimate through its use of actual costs. The most significant cost drivers in the Apache estimate remain the material and labor. The Apache program assumed the risk of procuring radios, which were to be provided by JPO JTRS. The Apache program signed a five year Multi-Year contract from FY 2017 to FY 2021 for the procurement of the AH-64E Apache aircraft. |
| Original Baseline Estimate (December - 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. |
| Current Baseline Estimate (July - 2013) |
| Apache completed a FRP Decision in August 2012 and an OSD CAPE ICE was prepared. This was the first time actuals from the AB3 production line were incorporated into the ICE. Material, labor, prime contractor rates and factors decreased from the Revised Original Baseline completed in December 2010. |

| Schedule Risk | | |
|---|---|---|
| Current | 2022-12-31 | Requirements are steady, and funding is currently adequate to meet schedule and performance objectives.<br>1.Critical Safety Item Program Non-Compliance: The program is currently under waiver from the US Army Combat Capabilities Development Command (CCDC) Aviation and Missile Center (AvMC) Systems Readiness Directorate (SRD) and expects to remain under waiver as long as progress toward full compliance is maintained.<br>2.Supply chain and labor market volatility: Current trends indicate inability of prime contractor to hire skilled employees and suppliers continue to operate at reduced production rates due to COVID-19 Impacts.<br>3.Quality escapes on Critical Safety Items: 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) will constitute the formal legal agreement between Boeing and USG on the entirety of the Army's CSI program requirement. Award is estimated 2QFY23.<br>4.Electrical power generator: Over the last year, the Apache has experienced an increase in the instance of electrical power generator failures resulting in potentially hazardous flight conditions and precautionary landings. As a result, the PM has instituted a multi-faceted approach to reduce both the instance and severity of generator failures. |

| | | |
|---|---|---|
| FRP | 2012-08-30 | 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.<br>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.<br>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 B | 2006-07-30 | 1. Insufficient fidelity of Lot 6 functionality requirements 2. Reliability Key Performance Parameter (KPP) 3. Performance KPP 4. Net Ready KPP |

| | | |
|---|---|---|
| MS C | 2010-09-30 | 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. |

**Technical Risks**

| | | |
|---|---|---|
| Current | December 31, 2022 | Requirements are steady, and funding is currently adequate to meet schedule and performance objectives.<br>1.Critical Safety Item Program Non-Compliance: The program is currently under waiver from the US Army Combat Capabilities Development Command (CCDC) Aviation and Missile Center (AvMC) Systems Readiness Directorate (SRD) and expects to remain under waiver as long as progress toward full compliance is maintained.<br>2.Supply chain and labor market volatility: Current trends indicate inability of prime contractor to hire skilled employees and suppliers continue to operate at reduced production rates due to COVID-19 Impacts.<br>3.Quality escapes on Critical Safety Items: 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) will constitute the formal legal agreement between Boeing and USG on the entirety of the Army's CSI program requirement. Award is estimated 2QFY23.<br>4.Electrical power generator: Over the last year, the Apache has experienced an increase in the instance of electrical power generator failures resulting in potentially hazardous flight conditions and precautionary landings. As a result, the PM has instituted a multi-faceted approach to reduce both the instance and severity of generator failures. |

| | | |
|---|---|---|
| FRP | August 22, 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.<br>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.<br>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 B | July 22, 2006 | 1. Insufficient fidelity of Lot 6 functionality requirements 2.Reliability KPP 3.Performance KPP 4.Net Ready KPP |

| | | |
|---|---|---|
| MS C | September 22, 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.<br>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.<br>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.<br>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. |

# Low Rate Initial Production

## AH-64E New Build

| Item | Initial LRIP Decision | Current Total LRIP |
|---|---|---|
| **Approval Date** | | |
| **Approved Quantity** | | |
| **Reference** | | |
| **Start Year** | | |
| **End Year** | | |

**Rationale if quantity exceeds 10% of the total number of articles to be procured:**

**Notes**

# Contracts & Efforts

| Contract Data | |
|---|---|
| Contract Number | W53P1J-17-D-0043 |
| Effort Number | |
| Modification Number | |
| Award Date | |
| Definitization Date | 04/28/2017 |
| Order Number | |
| CAGE Code/CAGE Legal Name | Lockheed Martin |
| Contract Title | MTADS/PNVS Production Services IDIQ |
| Contract Address | Orlando, FL |
| Contracting Office | |
| Supported Phase | Production |
| Contract Strategy | |
| Contract Type | Firm-Fixed-Price |
| Modification Date | |
| Work Start Date | April 28, 2017 |
| Technical Data Rights | |
| Work Completed | |

| Contracts/Effort Price, Quantity, and Performance (TY$M) | | |
|---|---|---|
| Initial Target Price | Current Target Price | |
| $33.9 | $298.6 | |
| Initial Ceiling Price | Current Ceiling Price | |
| $4,655 | $4,655 | |
| Contractor EAC | PM EAC | |
| $4,655 | $4,655 | |
| Initial Quantity | Current Quantity | Delivered Quantity |
| 8 | 66 | 66 |
| BAC | BCWP | ACWP |
| | | |

| BCWS | Cost Variance | Schedule Variance |
|---|---|---|
| | | |

**Contract Notes:**
Quantities are reflective of complete MTADS/PNVS systems, but multiple Line Replaceable Unit's (LRUs)/ Line Replaceable Modules (LRMs) that are contained within a MTADS/PNVS system.

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

| Contract Data | |
|---|---|
| Contract Number | W52P1J-17-D-0070 |
| Effort Number | |
| Modification Number | |
| Award Date | 08/31/2017 |
| Definitization Date | |
| Order Number | |
| CAGE Code/CAGE Legal Name | L3 Communications System |
| Contract Title | MUMT Production & Services IDIQ |
| Contract Address | Salt Lake City, UT |
| Contracting Office | |
| Supported Phase | Production |
| Contract Strategy | |
| Contract Type | Firm-Fixed-Price |
| Modification Date | |
| Work Start Date | September 01, 2017 |
| Technical Data Rights | |
| Work Completed | |

| Contracts/Effort Price, Quantity, and Performance (TY$M) | | |
|---|---|---|
| Initial Target Price | Current Target Price | |
| $2.8 | $44.2 | |
| Initial Ceiling Price | Current Ceiling Price | |
| $226.6 | $368.2 | |
| Contractor EAC | PM EAC | |
| $368.2 | $368.2 | |
| Initial Quantity | Current Quantity | Delivered Quantity |
| 9 | 211 | 211 |
| BAC | BCWP | ACWP |
| | | |
| BCWS | Cost Variance | Schedule Variance |

| | | |
|---|---|---|
| | | |

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

| Contract Data | |
|---|---|
| Contract Number | W52P1J-18-D-0061 |
| Effort Number | |
| Modification Number | |
| Award Date | |
| Definitization Date | 07/29/2019 |
| Order Number | |
| CAGE Code/CAGE Legal Name | Lockheed Martin Rotary and Mission Systems |
| Contract Title | MRFI Production & Services IDIQ |
| Contract Address | Owego, NY |
| Contracting Office | |
| Supported Phase | Production |
| Contract Strategy | |
| Contract Type | Firm-Fixed-Price |
| Modification Date | |
| Work Start Date | September 01, 2018 |
| Technical Data Rights | |
| Work Completed | |

| Contracts/Effort Price, Quantity, and Performance (TY$M) | | |
|---|---|---|
| Initial Target Price | Current Target Price | |
| $1.8 | $9.7 | |
| Initial Ceiling Price | Current Ceiling Price | |
| | $249.5 | |
| Contractor EAC | PM EAC | |
| $249.5 | $249.5 | |
| Initial Quantity | Current Quantity | Delivered Quantity |
| 2 | 30 | 6 |
| BAC | BCWP | ACWP |
| | | |
| BCWS | Cost Variance | Schedule Variance |

| | | |
|---|---|---|
| | | |

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

| Contract Data | |
|---|---|
| Contract Number | W52P1J-16-D-0055 |
| Effort Number | |
| Modification Number | |
| Award Date | |
| Definitization Date | 06/30/2017 |
| Order Number | |
| CAGE Code/CAGE Legal Name | Longbow Limited Liability (LBL) |
| Contract Title | REU/MMA Production & Services IDIQ |
| Contract Address | Orlando, FL |
| Contracting Office | |
| Supported Phase | Production |
| Contract Strategy | |
| Contract Type | Firm-Fixed-Price |
| Modification Date | |
| Work Start Date | August 18, 2016 |
| Technical Data Rights | |
| Work Completed | |

| Contracts/Effort Price, Quantity, and Performance (TY$M) | | |
|---|---|---|
| Initial Target Price | Current Target Price | |
| $1.9 | $20.7 | |
| Initial Ceiling Price | Current Ceiling Price | |
| $37.8 | $931.2 | |
| Contractor EAC | PM EAC | |
| $931.2 | $931.2 | |
| Initial Quantity | Current Quantity | Delivered Quantity |
| 3 | 52 | 31 |
| BAC | BCWP | ACWP |
| | | |
| BCWS | Cost Variance | Schedule Variance |

| | | |
|---|---|---|
| | | |

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

| Contract Data | |
|---|---|
| Contract Number | W58RGZ-16-C-0023 |
| Effort Number | |
| Modification Number | P00098 |
| Award Date | 03/21/2016 |
| Definitization Date | 03/15/2017 |
| Order Number | |
| CAGE Code/CAGE Legal Name | Boeing |
| Contract Title | AH-64E Apache Multi-Year Contract |
| Contract Address | Mesa, AZ |
| Contracting Office | |
| Supported Phase | Production |
| Contract Strategy | |
| Contract Type | Firm-Fixed-Price |
| Modification Date | |
| Work Start Date | March 21, 2016 |
| Technical Data Rights | |
| Work Completed | |

| Contracts/Effort Price, Quantity, and Performance (TY$M) | | |
|---|---|---|
| Initial Target Price | Current Target Price | |
| $430.9 | $1,028.4 | |
| Initial Ceiling Price | Current Ceiling Price | |
| | | |
| Contractor EAC | PM EAC | |
| $1,028.4 | $1,028.4 | |
| Initial Quantity | Current Quantity | Delivered Quantity |
| 51 | 62 | 32 |
| BAC | BCWP | ACWP |
| | | |
| BCWS | Cost Variance | Schedule Variance |
| | | |

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

## External Government Activities

| Activity Title | | Government Entity | Supported Phase |
|---|---|---|---|
| | | | |
| CAGE | | Work Start Date | |
| City | | State/Province: | |
| Notes | | | |
| | | | |

# Deliveries and Expenditures

## AH-64E New Build

| Deliveries | | | | |
|---|---|---|---|---|
| Delivered to Date | Planned to Date | Actual to Date | Total Quantity | Percent Delivered |
| Development | | | | |
| Production | 51 | 51 | 79 | 64.56% |
| Total Program Quantity Delivered | 51 | 51 | | |

| Expended and Appropriated (TY $M) |
|---|

Years Appropriated to date: 10

Total Years Appropriated Funding (Current Baseline): 10

Percent Years Appropriated: 100.00%

Then-Year Funding Appropriated as Percentage of Total Acquisition Estimate: 100.00%

Then-Year Funding Expended as Percentage of Total Acquisition Estimate: 85.86%

Total Acquisition Cost: 2,472.6

Deliveries & Expenditures Notes:

The above data is current as of December 31, 2022.

# Operating and Support Costs

## AH-64E New Build

## *O&S Cost Breakdown:*

| Category (BY$ Million) | AH-64E New Build |
|---|---|
| Unit-Level Manpower | 1,570.5 |
| Unit Operations | 180.9 |
| Maintenance | 695.7 |
| Sustaining Support | 393.4 |
| Continued System Improvements | 79.2 |
| Other | 25.2 |
| Total | 2,944.9 |

**Cost Estimate Source:** POE dated December 31, 2022

**O&S Cost Notes:**

The O&S cost estimate is based upon the OSD CAPE ICE methodology. The estimate was last updated on December 31, 2022 for fact-of-life changes.

| Total Program O&S Cost Compared with Baseline | | | | | |
|---|---|---|---|---|---|
| | Current Baseline | | | | |
| | Objective (BY$M) | Threshold (BY$M) | Current Estimate (BY$M) | Current Estimate (TY$M) | Deviation |
| Total O&S | 3,538.1 | 3,891.9 | 2,944.9 | 4,516.9 | |

Note:

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 79 New Build aircraft, each flying 238.8 hours per year. Aircraft are logistically supported by a mix of organic supply and Contractor Performance Based Logistics activities. 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."The 4Q CY22 version of DAVE won't display the current BY and TY total O&S cost estimate. The BY total O&S cost estimate for AH-64E Apache New Build is $2,944.9M and the TY total O&S cost estimate for AH-64E Apache New Build is $4,516.9M.

| O&S Cost Deviation Explanation |
|---|

# *Operating and Support Costs - Disposal and Unitized Costs*

## AH-64E New Build

**Annual Unitized O&S Cost Definition and Calculation Relative to Total O&S Cost:**

| Sustainment Factors | System Name: AH-64E New Build | Antecedent System Name: Longbow Apache |
|---|---|---|
| Quantity to Sustain | 79 | 633 |
| Unit of Measure | Aircraft | Aircraft |
| Unit Expected Service Life | 20 | 20 |

**Base Year:**

| Annual Unitized O&S Cost by Category Base Year $ Unit:($M) | System Name: AH-64E New Build | Antecedent System Name: Longbow Apache |
|---|---|---|
| Unit-Level Manpower | 1.0 | 1.5 |
| Unit Operations | 0.1 | 0.2 |
| Maintenance | 0.4 | 1.1 |
| Sustaining Support | 0.2 | 0.4 |
| Continued System Improvements | 0.1 | 0.1 |
| Other | 0.0 | 0.1 |
| Total O&S | 1.9 | 3.4 |

**Disposal/Demilitarization Cost Estimate**

| (Base Year $Millions) | System Name: AH-64E New Build | Antecedent System Name: Longbow Apache |
|---|---|---|
| Total Disposal | 5.4 | |

| Cost Estimate Source - Disposal | |
|---|---|
| Type: | Program Office Estimate |
| Approval Authority and Date: | 12/31/2022 |
| Note: | |
| | |
| Disposal Cost Notes: | |
| Total Disposal Costs for both the AH-64E Remanufacture and AH-64E New Build aircraft is $47.84M (BY 2010 $M) in accordance with the OSD CAPE ICE methodology. | |
| Additional O&S Estimate Assumptions: | |

| Sustainment Strategy: |
| --- |
| 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 79 New Build aircraft, each flying 238.8 hours per year. Aircraft are logistically supported by a mix of organic supply and Contractor Performance Based Logistics activities. |
| Antecedent Estimate Assumptions: |
| The antecedent to the AH-64E Apache is the AH-64D Longbow. The AH-64D Longbow will be in service until 2031. There are currently 355 AH-64D Longbow aircraft in operation. As of the Milestone C estimate updated January 15, 2013, the AH-64D Longbow was estimated to have a total of 14,847 Fleet Years of operational tempo. 14,847 Fleet Years x $3,420K per operation hour = $50,776.7M (BY 2010 $M); $58,146.7M (TY) |