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Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

Modernized Selected Acquisition Report (MSAR) CH-47F Modernized Cargo Helicopter (CH-47F Block II)

FY 2025 President's Budget

Effective: December 31, 2023

Defense Acquisition Visibility Environment

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(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
CH-47F Modernized Cargo Helicopter

Short Name
CH-47F Block II

PNO
577

Milestone Decision Authority
Component Acquisition Executive

Lead Component
Department of the Army

Program Executive Office
PEO Aviation

Joint Program
No

International Partners
Germany

Adaptive Acquisition Pathway
Major Capability Acquisition

Acquisition Type
Major Defense Acquisition Program

Acquisition Category
IC

Acquired Systems
CH-47F Block II / Materiel Availability

Acquisition Status
Active Acquisition

Mission
This field is intentionally left blank.

(U) Responsible Office

Program Executive Officer

PEO Aviation

BG David C. Phillips

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(256) 313-4000 (commercial)

Program Manager

CH-47 Modernization

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(U) Executive Summary

Program Highlights Since Last Report

The CH-47F Block II program requirements are stable and the program provides the most affordable path to maintaining the H-47 Chinook fleet's relevance until a Heavy variant decision is determined. Research, Development, Test, & Evaluation (RDT&E) funds are adequate to fully qualify the Block II system with legacy Fiberglass Rotor Blades (FRB). Aircraft Procurement Army (APA) funds are adequate to fund congressionally directed procurements. The FY 2023 APA appropriation for Lot 3 Congressional Add aircraft is in negotiations, quantity to be confirmed post award.

On February 8, 2024, the Army released a path forward decision for the program to proceed to a MS C decision no later than 4Q FY 2025. The APA funding reflecting this decision was received in PB25.AF3.2 as of February 13, 2024. The program is currently preparing for MS C and a rebaselined APB to document and measure program change. Currently, the 2023 MSAR reflects the MS B cost.

Successfully completed ballistic qualification of the Fuel System Access Panel door at Aberdeen Proving Station, MD on November 15, 2022.

Received the final Airworthiness and Flight Characteristics Assessment test report on December 22, 2022.

The second CH-47F Block II prototype was accepted by the government and delivered to Redstone Arsenal, AL on January 31, 2023. The third and final CH-47F Block II prototype was accepted by the government and delivered to Redstone Arsenal, AL on July 15, 2023.

The CH-47F Block II Logistics Support efforts contract for Lots 1 and 2 was awarded on January 31, 2023, fulfilling the Congressional Add, on January 31, 2023.

The CH-47F Block II Fuel Cell Slosh and Vibe test was successfully completed on May 3, 2023.

Successfully completed a System Verification Review in June 2023

The Advanced Procurement contract to support the FY 24/Lot 4 Congressional Add was awarded on July 6, 2023.

The CH-47F Block II System Support contract was awarded on August 18, 2023.

The CH-47F Block II Initial Spares contract was awarded on September 15, 2023.

The Project Office is working to resolve its CSDR compliance issues and expects to be green no later than June 2024.

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

(U) History of Significant Developments Since Program Inception

Date	Description
October 2022	Successfully completed Mission Performance Flights at Fort Carson to verify Key Performance Parameters (KPPs).
September 2022	Awarded CH-47F Block II FY 2022 (Lot 2) contract for two aircraft.
June 2022	Successfully completed the Engineering and Manufacturing Development (EMD) Mission Performance test flights and analyzing KPPs at Redstone Test Center, Redstone Arsenal.
April 2022	Successfully completed the EMD Ground Flight and Test Plan at Boeing Mesa on April 14, 2022.
September 2021	Awarded CH-47F Block II Lot 1 contract for four aircraft with FRB, to fulfill the FY 2021

Date	Description
	Congressional mandate.
January 2020	CH-47F Block II test aircraft arrived at Naval Air Station Patuxent River for Electromagnetic Environment Effects Testing and testing was initiated.
November 2019	CH-47F Block II test aircraft completed first test flight with Advanced Chinook Rotor Blades representing the complete Block II baseline configuration.
November 2018	The third Block II test aircraft was loaded onto the main assembly line at Boeing Philadelphia.
August 2018	The second Block II test aircraft was loaded onto the main assembly line at Boeing Philadelphia.
June 2018	First Block II test aircraft was loaded onto the main assembly line at Boeing Philadelphia.
December 2017	System Critical Design Review was completed.
July 2017	The CH-47F Block II EMD contract was awarded to The Boeing Company.
July 2017	The Army Acquisition Executive Acquisition Decision Memorandum (ADM) approved Milestone B, authorizing the CH-47F Block II program to enter EMD and designating the CH-47F Block II as Acquisition Category (ACAT) IC.

(U) Schedule**(U) Schedule Events**

Events		Development APB (Current) 2/1/2018 Objective / Threshold		Current Estimate 12/31/2023	Actual
PDR	PDR	May 2016	May 2016	-	6 May 2016
Milestone B	MS B	Jul 2017	Jul 2017	-	17 Jul 2017
CDR	CDR	Dec 2017	Jun 2018	-	15 Dec 2017
Developmental Test					
Start (1)	DT&E	Jul 2019	Jan 2020	-	1 Jul 2019
Developmental Test	DT&E	May 2021	Nov 2021	-	27 Oct 2023*
IOT&E					
Start (2)	IOT&E	Nov 2023	May 2024	Aug 2026*	-
Finish	IOT&E	Mar 2024	Sept 2024	Oct 2026*	-
Milestone C	MS C	Aug 2021	Feb 2022	Aug 2025*	-
Initial Operational Capability	IOC	Nov 2024	May 2025	Nov 2026*	-
Full Rate Production Contract Award	FRP Decision	Dec 2024	Jun 2025	Dec 2026*	-

* **Baseline Deviation**

Notes

On February 8, 2024, the Army released a path forward decision for the program to proceed to a MS C decision no later than 4Q FY 2025. The APA funding reflecting this decision was received in PB25.AF3.2 as of February 13, 2024. The program is currently preparing for MS C and a rebaselined APB to document and measure program change. Currently, the 2023 MSAR reflects the MS B cost.

Schedule Baseline Deviation Explanation

Development Test - Finish date reflects actual date testing was completed.

IOTE - Start and IOTE - Finish reflect changes due to the Army path forward decision released on February 8, 2024 for the program to proceed to a MS C to begin LRIP no later than 4Q FY 2025.

A revised APB reflecting these changes will be submitted at the Milestone review.

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

Event	Date	Description
Current	12/31/2023	If known obsolescence issues are unresolved then First Unit Equipped will be delayed. Mitigation: Recapitalize obsolete components from induction aircraft. Establish a rotating pool of effected components in-place to keep production active. Procure lifetime buys of obsolete equipment/material.
Current	12/31/2023	If external DoD stakeholders do not prioritize CH-47F Block II Milestone C

		Documentation (Independent Technical Risk Assessment, CARD) then MS C completion will be delayed into FY 2026. Mitigation: Face to Face coordination with Stakeholders. Increased In-Person Coordination to accelerate documentation. Senior leadership engagement.
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(U) Performance**(U) Performance Attributes**

Self-deploy with 30 minute fuel reserve (NM)			KPP
Current Estimate 12/31/2023		1106	
Demonstrated Performance 3/24/2022		1106	
Development APB (Current) 2/1/2018	Objective	1260	
	Threshold	1056	
Transport 16,000 lbs of internal/external cargo at 4K/95F with 30 minute reserve (NM)			KPP
Current Estimate 12/31/2023		50.8	
Demonstrated Performance 10/6/2022		50.8	
Development APB (Current) 2/1/2018	Objective	100	
	Threshold	50	
Transport combat equipped troops:			
Number of Troops			APA
Current Estimate 12/31/2023		32	
Demonstrated Performance 10/6/2022		32	
Development APB (Current) 2/1/2018	Objective	44	
	Threshold	31	
Range (NM)			APA
Current Estimate 12/31/2023		105	
Demonstrated Performance 10/6/2022		105	
Development APB (Current) 2/1/2018	Objective	150	
	Threshold	100	
Reliability:			
Mean Time Between Essential Maintenance Actions (MTBEMA) (fit hrs)			APA
Current Estimate 12/31/2023		3.5	
Demonstrated Performance 12/31/2023		4.9	
Development APB (Current)	Objective	3.5	

2/1/2018	Threshold	3.3
Maintenance:		
Total Maintenance Ratio (mmh/ft hr)		APA
Current Estimate 12/31/2023		9.2
Demonstrated Performance 12/31/2023		9.45
Development APB (Current) 2/1/2018	Objective	9.2
	Threshold	9.8
-		-
Current Estimate 12/31/2023		-
Demonstrated Performance -		-
Development APB (Current) 2/1/2018	Objective	-
	Threshold	-
-		-
Current Estimate 12/31/2023		-
Demonstrated Performance -		-
Development APB (Current) 2/1/2018	Objective	-
	Threshold	-
-		-
Current Estimate 12/31/2023		-
Demonstrated Performance -		-
Development APB (Current) 2/1/2018	Objective	-
	Threshold	-
-		-

(U) Requirement Source:

Sponsor(s): None

1. Document Type Not Provided

Notes: ORD Revision 4 dated January 26, 2006

Notes

Self-Deploy with 30 minute fuel reserve (NM) Demonstrated Performance and Current Estimate changed from 1162 to 1106; Transport 16,000 lbs of internal/external cargo at 4K/95F with 30 minute reserve (NM) Demonstrated Performance and Current Estimate changed from 50 to 50.8;

Transport Combat Equipped Troops: Number of Troops Demonstrated Performance and Current Estimate changes from 44 to 32; and Transport combat equipped troops-range (NM) changed from 100 to 105. The changes reflect results of the developmental test program.

Performance Deviation Explanation

None

(U) Acquisition Budget Estimate**(U) Total Acquisition Estimates and Quantities**

Category (\$M) Base Year: 2017	Development APB (Current) 2/1/2018 CY\$ obs Objective / Threshold		Current Estimate PB 2025 CY\$ obs / TY\$ obs	
	RDT&E	766.2	842.8	753.4
Procurement	15,208.8	16,729.7	13,803.3	21,296.2
MILCON	0.0	0.0	-	-
O&M	244.8	269.3	23.5	25.9
R&MF	-	-	-	-
Total Acquisition	16,219.8	-	14,580.2	22,133.3
Program Acquisition Unit Cost	29.926	32.919	26.901	40.836
Average Procurement Unit Cost	28.217	31.039	25.609	39.511
Program End-Item Quantity				
Development	3		3	
Procurement	539		539	
O&M-Acquired	-		-	

Budget Notes

On February 8, 2024, the Army released a path forward decision for the program to proceed to a MS C decision no later than 4Q FY 2025. The APA funding reflecting this decision was received in PB25.AF3.2 as of February 13, 2024. The program is currently preparing for MS C and a rebaselined APB to document and measure program change. Currently, the 2023 MSAR reflects the MS B cost.

Quantity Notes

While the common production costs of 69 MH-47Gs are included in the Procurement costs, they are excluded from the O&S costs as they are managed by the Special Operations Aviation Regiment. The remaining aircraft are three RDT&E-funded aircraft that incur no O&S costs.

Cost Baseline Deviation Explanation

None

(U) Risk and Sensitivity Analysis

Current Procurement Estimate Risks (12/31/2023)

1	If CH-47F Block II does not receive long term production funding, then program uncertainty will impact future planning. Mitigation: An Army Decision was made on February 8, 2024 to resource the program and to proceed with CH-47F Block II production.
2	If the evaluation of the CARD results in an increase in cost greater than 15% of the APUC then a Nunn-McCurdy Breach will occur. Mitigation: CARD Development Timing. Pre-Emptive Preparation.
Current Baseline Risks (2/1/2018)	
(1) The Current Baseline Estimate is based on the February 10, 2020 Program Office Estimate. (2) The CH-47F Block II Original Baseline established by the Army Acquisition Executive on February 01, 2018. The SCP estimated the prototype and procurement costs using actuals from the CH-47F production program with adjustments to components modified. The most significant cost drivers in the CH-47F Block II estimate are labor hours and the Advanced Chinook Rotor Blade.	
Original Baseline Risks (2/1/2018)	
(1) The Current Baseline Estimate is based on the February 10, 2020 Program Office Estimate. (2) The CH-47F Block II Original Baseline established by the Army Acquisition Executive on February 01, 2018. The SCP estimated the prototype and procurement costs using actuals from the CH-47F production program with adjustments to components modified. The most significant cost drivers in the CH-47F Block II estimate are labor hours and the Advanced Chinook Rotor Blade.	

(U) Unit Costs**(U) Current Estimate Compared with Current Baseline**

Category (CY\$M) Base Year: 2017	Current Baseline 02/01/2018	Current Estimate PB 2025	% Change
Program Acquisition Unit Cost			
Acquisition Cost	16,219.8	14,580.2	
Program Quantity	542	542	
PAUC	29.926	26.901	-10.11%
Average Procurement Unit Cost			
Procurement Cost	15,208.8	13,803.3	
Procurement Quantity	539	539	
APUC	28.217	25.609	-9.24%

(U) Current Estimate Compared with Original Baseline

Category (CY\$M) Base Year: 2017	Original Baseline 02/01/2018	Current Estimate PB 2025	% Change
Program Acquisition Unit Cost			
Acquisition Cost	16,219.8	14,580.2	
Program Quantity	542	542	
PAUC	29.926	26.901	-10.11%
Average Procurement Unit Cost			
Procurement Cost	15,208.8	13,803.3	
Procurement Quantity	539	539	
APUC	28.217	25.609	-9.24%

(U) Cost Growth Details

Actions taken or Proposed to Control Future Cost Growth

Status of Each Major Contract and Significant Factors Contributing to Cost and Schedule Variance; Projected Effects on Future Program Costs

See Contracts section.

Notes

On February 8, 2024, the Army released a path forward decision for the program to proceed to a MS C decision no later than 4Q FY 2025. The APA funding reflecting this decision was received in PB25.AF3.2 as of February 13, 2024. The program is currently preparing for MS C and a rebaselined APB to document and measure program change. Currently, the 2023 MSAR reflects the MS B cost.

(U) Life-Cycle Costs**(U) Operating and Support and Disposal Cost Estimates Compared with Baseline**

Category (\$M) Base Year: 2017	Development APB (Current) 2/1/2018 CY\$ obs Objective / Threshold		Current Estimate CY\$ obs / TY\$ obs	
	Total O&S	21,737.0	23,910.7	18,736.5
Total Disposal	-	-	265.7	705.4

(U) Current Cost Estimate Sources**Operating and Support Cost**

Type: Program Office Estimate

Approved by: Program Office, February 10, 2020

Note: The CH-47F Block II estimate assumes an end state of 465 CH-47F Block II aircraft when fully fielded with an Operational tempo (OPTEMPO) of 174 peacetime flying hours per operational aircraft. While the common production costs of 69 MH-47Gs are included in the Procurement costs, they are excluded from the O&S costs as they are managed by Special Operations Aviation Regiment. The remaining aircraft are three RDT&E-funded aircraft that incur no O&S costs.

Disposal/Demilitarization Cost

Type: Component Cost Position

Approved by: CAA, May 01, 2017

Operating and Support Baseline Deviation Explanation

None

Cost Notes

The CH-47F Block II estimate assumes an end state of 465 CH-47F Block II aircraft when fully fielded with an Operational tempo (OPTEMPO) of 174 peacetime flying hours per operational aircraft. While the common production costs of 69 MH-47Gs are included in the Procurement costs, they are excluded from the O&S costs as they are managed by Special Operations Aviation Regiment. The remaining aircraft are three RDT&E-funded aircraft that incur no O&S costs. The antecedent to the CH-47F Block II is the CH-47F, for which O&S costs are from the CH-47F Operational Sustainment Review. The total O&S cost is based on 449 operational aircraft with a service life of 20 years peacetime.

(U) Operating and Support Variance with Prior Estimate

(CY\$M) Base Year: 2017	Estimate
Prior Estimate (12/31/2022)	21,737.0

(CY\$M) Base Year: 2017		Estimate
Current Estimate		18,736.5
Category		
	Variance	Explanation
Unit-Level Manpower	-1,088.0	Variance due to changes in inflation indices.
Unit Operations	-294.5	Variance due to changes in inflation indices.
Maintenance	-1,088.5	Variance due to changes in inflation indices.
Sustaining Support	-15.0	Variance due to changes in inflation indices.
Continuing System Improvements	-244.1	Variance due to changes in inflation indices.
Other	-270.4	Variance due to changes in inflation indices.
Not Categorized		
	0.0	

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

(CY\$M) Base Year: 2017							
System	Unit-Level Manpower	Unit Operations	Maintenance	Sustaining Support	Continuing System Improvements	Other	Total
CH-47F Block II / Materiel Availability	4,975.0	2,643.0	7,712.3	102.5	2,270.2	1,033.5	18,736.5
Program	4,975.0	2,643.0	7,712.3	102.5	2,270.2	1,033.5	18,736.5

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

(CY\$M) Base Year: 2017							
System	Unit-Level Manpower	Unit Operations	Maintenance	Sustaining Support	Continuing System Improvements	Other	Total
CH-47F Block II / Materiel Availability	8,184.0	967.2	11,373.9	930.0	1,050.9	2,000.0	24,506.0

(U) Operating and Support Cost Estimate Assumptions

System	Quantity to Sustain	Unit Expected Service Life (Years)	Unit of Measure	Fiscal Years Operational
CH-47F Block II / Materiel Availability	465	20.0	aircraft	2007 - 2040

Additional O&S Estimate Assumptions

None

Antecedent Estimate Assumptions

No antecedent O&S cost 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
MS B	7/27/2017	If the Block II aircraft weight is higher than expected, then there may be a potential risk to mission performance. Mitigation: Monitor aircraft weight growth, incentivize weight reduction in contract, review load and fatigue assumptions and pursue weight reduction initiatives.
MS B	7/27/2017	If H-47 industrial base is not kept in operation, then cost for H-47 production and support will increase. Mitigation: Use Indefinite Delivery Indefinite Quantity contract to sustain production line, support Technology Applications Program Office production and encourage Foreign Military Sales.
MS B	7/27/2017	If all the individual contracts and engineering change proposals (ECPs) forming the subsystem development efforts are not synchronized with EMD, then there will be schedule delays. Mitigation: Manage all individual efforts to Block II Master schedule and monitor progress to identify potential problems ahead of time.
MS B	7/27/2017	If the fuel cell test asset design and back up structure are insufficiently compatible with the Block II structure, then the fuel cell may not self-seal. Mitigation: Design and build a backup structure representative of a Block II airframe.
MS B	7/27/2017	If appropriate data rights are not acquired by the program, then the Project Manager will not be able to execute the strategy outlined in the Life-Cycle Sustainment Plan. Mitigation: Conduct detailed negotiations for rights in Engineering and Manufacturing Development and Engineering Change Proposal contracts, and enforce Government rights through the configuration management process.

(U) Performing Activities and Contracts

(U) External Government Activities

None

(U) Contracts and Efforts

Contract Title	Contract Number / Effort	Contractor	Phase
CH-47F Block II Renew Aircraft Ordering Period 1	W58RGZ-21-D-0094	The Boeing Company	Development
CH-47F Block II Renew Aircraft Ordering Period 2	W58RGZ-21-D-0094	The Boeing Company	Development

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

Contract Number:	W58RGZ-21-D-0094	Order Number:	W58RGZ-21-F-0493
Contract Title:	CH-47F Block II Renew Aircraft Ordering Period 1	Strategy:	FAR 16.5: Indefinite Delivery Indefinite Quantity
CAGE:	77272 - The Boeing Company	Contracting Office:	ACC-Redstone
City, State/Province:	Ridley Park, PA		
Effort Number:	-	Supported Phase:	Development
Type:	Fixed-Price Incentive (Firm Target)	Award Date:	September 30, 2021
Latest Modification Date:	March 30, 2023	Definitization Date:	September 30, 2021
Latest Modification No.:	P00002	Work Start Date:	September 30, 2021
Technical Data Rights:	Government Purpose License Rights		
Notes:	This contract is for the FY21 Congressional Add CH-47F Block II Procurement (Lot 1). Completed contract modification for FRB RECAP.		

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
136.4 -	137.7 -	146.5 161.7	4	4	-

Work Completed (%): 66.56%
Cost Variance (TY\$M): -25.5
Schedule Variance (TY\$M): -17.9

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable cost variance is due to overruns in labor for initial assemblies; however, Boeing management continues to adjust path forward to mitigate future overruns. The government is currently performing analysis to understand what is driving the underperformance.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is due to delays in material delivery; however, material delays are not forecasted to adversely impact the build schedule.

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

Contract Number:	W58RGZ-21-D-0094	Order Number:	W58RGZ-22-F-0496
Contract Title:	CH-47F Block II Renew Aircraft Ordering Period 2	Strategy:	FAR 16.5: Indefinite Delivery Definite Quantity
CAGE:	77272 - The Boeing Company	Contracting Office:	ACC-Redstone
City, State/Province:	Ridley Park, PA		
Effort Number:	-	Supported Phase:	Development
Type:	Fixed-Price Incentive (Firm Target)	Award Date:	September 30, 2022
Latest Modification Date:	March 30, 2024	Definitization Date:	September 30, 2022
Latest Modification No.:	P0002	Work Start Date:	September 30, 2022
Technical Data Rights:	-		
Notes:	This contract is for the FY 2022 Congressional Add CH-47F Block II Procurement (Lot 2).		

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
62.2 -	62.2 -	74.2 86.2	2	2	-

Work Completed (%):	12.78%
Cost Variance (TY\$M):	-8.2
Schedule Variance (TY\$M):	-10.1

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable cost variance is due to the contractor currently under performing and the government is performing analysis to understand what is driving the underperformance.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is due to delays in material delivery; however, material delays are not forecasted to adversely impact the build schedule.

(U) Production**(U) Low-Rate Initial Production**

No Data

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

None

LRIP Notes

The LRIP information will not be available until the program receives MS C approval, which is anticipated in FY 2025.

(U) Deliveries and Expenditures

(U) Acquisition Funding

	Total Estimate	Actual to Date	Actual, Percent Complete
Years Appropriated	29	10	34.5%
Appropriations (TY, \$M)	22,133.3	3,412.7	15.4%
Expenditures (TY, \$M)	22,133.3	1,805.8	8.2%

(U) End Items Delivered

	Total Required	Planned to Date	Actual to Date	Actual, Percent Complete
Development	3			
CH-47F Block II / Materiel Availability		3	3	
Procurement	539			
CH-47F Block II / Materiel Availability		24	24	
Total	542	27	27	5.0%

Notes

None

(U) International Program Aspects

General Memo

The CH-47F Block II Program is pursuing agreements with FMS customers. Germany has a signed Letter of Offer and Acceptance (LOA). LOAs are being pursued with the United Arab Emirates and the Hellenic Army.

Exportability and Business Issues

The PM does not recommend any additional international restrictions for the CH-47F Block II program nor foresee new Defense Exportability Features. New components do not contain Critical Program Information.

Is design for international exportability planned? No Industry/Partner Exportability Cost-Sharing? No
 If not, has the MDA approved an exportability waiver for a U.S.-only design? Not Applicable

Program Protection: Technology Security and Foreign Disclosure Issues

The PM does not recommend any additional international restrictions for the CH-47F Block II program nor foresee new Defense Exportability Features. New components do not contain Critical Program Information.

(U) Agreements

Activity Date	Type	Agreement Number	International Partner(s)	Quantity	Funding (TY\$M)
8/21/2023	FMS LOA	GY-B-XBT	-	-	-

(U) Agreement Information

Partner(s): - Activity Date: 8/21/2023
 Type: Foreign Military Sales: Letter of Offer and Acceptance Agreement Number: GY-B-XBT
 Notes: The FMS case GY-B-XBT with Germany for 60 CH-47F Block II aircraft was implemented on August 21, 2023, and PM Cargo is working the necessary contract actions.



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Modernized Selected Acquisition Report Supplement

CH-47F Modernized Cargo Helicopter (CH-47F Block II)

FY 2025 President's Budget

Effective: December 31, 2023

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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

CH-47F Modernized Cargo Helicopter

Short Name

CH-47F Block II

PNO

577

Lead Component

Army

AAF Pathway

MCA

Acquisition Type

MDAP

Acquired Systems

CH-47F Block II / Materiel Availability

Related Programs

Full Name	PNO	Pathway	Type	ACAT/ BCAT	Acquisition Status	Costs in SAR?	
						Acq	O&S

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

CH-47F Modernized Cargo Helicopter

Major Software Efforts

Title	Status	Fielding Date	Description

Major Engineering Changes

Title	Original Need Date	Fielding Date	Description, Rationale and Program Impacts
N/A			

Funding Sources (Acquisition)

Acquisition Funding Notes

On February 8, 2024, the Army released a path forward decision for the program to proceed to a MS C decision no later than 4Q FY 2025. The APA funding reflecting this decision was received in PB25.AF3.2 as of February 13, 2024. The program is currently preparing for MS C and a rebaselined APB to document and measure program change. Currently, the 2023 MSAR reflects the MS B cost.

CH-47F Modernized Cargo Helicopter

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
RDT&E	2040A	07	0607131A - Weapons and Munitions Product Improvement Programs	0607131A	ER2 - Close Combat Technology		
Note: Funding began in FY 2015							
Procurement	2031A	02	3264AA0252 - CH-47 Cargo Helicopter Mods (MYP)	0210104A	-		
Note: (sunk)							
Procurement	2031A	01	6775A05101 - CH-47 Helicopter	0210104A	-		
Note: Funding began in FY 2017							
O&M	2020A	04	423 - Logistic Support Activities	0702806A	-		
Note: ACQ OMA for labor funding has been moved from PEO Aviation (OA 5E) to U.S. Army Acquisition Support Center (USAASC), (OA 5X) beginning in FY 2022.							

Funding Sources (Operating and Support)

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

Operating and Support Funding Notes

No data for the 2023 MSAR.

CH-47F Modernized Cargo Helicopter

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
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Acquisition Estimate and Quantity Summary**CH-47F Modernized Cargo Helicopter****Acquisition Estimates**

Category	PB 2025	TY (\$M)	Current Base Year	Original Base Year	Report Fiscal Year
			CY2017 (\$M)	CY2017 (\$M)	CY2024 (\$M)
RDT&E		811.2	753.4	753.4	940.1
Procurement		21,296.2	13,803.3	13,803.3	17,224.0
MILCON		-	-	-	-
O&M		25.9	23.5	23.5	29.4
Total Acquisition		22,133.3	14,580.3	14,580.3	18,193.5
PAUC		40.836	26.901	26.901	33.567
APUC		39.511	25.609	25.609	31.956

Acquisition End-Item Quantities

System	PB 2025	Development	Procurement
CH-47F Block II / Materiel Availability		3	539
Total		3	539

Unit Description

CH-47F Block II helicopter.

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

Appropriation	Prior	2024	2025	2026	2027	2028	2029	To Complete	Total
RDT&E	805.2	5.3	0.7	-	-	-	-	-	811.2
Procurement	1,856.7	713.7	760.4	808.8	863.5	930.6	936.7	14,425.8	21,296.2
MILCON	-	-	-	-	-	-	-	-	-
O&M	25.9	-	-	-	-	-	-	-	25.9
PB 2025 Total	2,687.8	719.0	761.1	808.8	863.5	930.6	936.7	14,425.8	22,133.3

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

CH-47F Modernized Cargo Helicopter

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 CY2017 (\$M)
Total		811.2	811.2	-	753.4
2015		35.200	35.2	0.998407	35.3
2016		38.300	38.3	1.009015	38.0
2017		88.300	88.3	1.030492	85.7
2018		194.600	194.6	1.049140	185.5
2019		157.800	157.8	1.066382	148.0
2020		174.400	174.4	1.100860	158.4
2021		49.200	49.2	1.147177	42.9
2022		32.600	32.6	1.200085	27.2
2023		34.800	34.8	1.247554	27.9
2024		5.300	5.3	1.277104	4.2
2025		0.700	0.7	1.304413	0.5

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

CH-47F Modernized Cargo Helicopter

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 CY2017 (\$M)
Total	18,957.2	1,364.8	340.1	-	-	634.1	21,296.2	-	13,803.3
2015			102.200				102.2	1.002157	102.0
2016			43.700				43.7	1.016555	43.0
2017	8.700	10.600	33.200				52.5	1.037123	50.6
2018	84.100		4.500				88.6	1.060362	83.6
2019	139.500		9.000				148.5	1.094309	135.7
2020	167.100		7.900				175.0	1.139193	153.6
2021	305.700	11.300	62.100			0.400	379.5	1.191197	318.6
2022	327.800	15.300	22.000			0.400	365.5	1.236645	295.6
2023	469.200	24.500	0.300			7.200	501.2	1.269411	394.8
2024	601.900	33.700	55.100			23.000	713.7	1.297442	550.1
2025	687.100	47.200				26.100	760.4	1.324837	574.0
2026	702.900	51.500	0.100			54.300	808.8	1.352658	597.9
2027	739.500	58.100				65.900	863.5	1.381064	625.2
2028	814.100	63.900				52.600	930.6	1.410066	660.0
2029	819.100	64.400				53.200	936.7	1.439678	650.6
2030	835.300	66.500				62.200	964.0	1.469911	655.8
2031	851.100	66.900				39.400	957.4	1.500779	637.9
2032	866.900	69.100				26.400	962.4	1.532296	628.1
2033	878.500	69.400				27.900	975.8	1.564474	623.7
2034	895.800	71.600				23.600	991.0	1.597328	620.4
2035	913.900	72.200				14.100	1,000.2	1.630872	613.3
2036	929.400	74.400				14.900	1,018.7	1.665120	611.8
2037	946.500	74.900				16.800	1,038.2	1.700087	610.7
2038	962.300	77.300				18.100	1,057.7	1.735789	609.3
2039	979.600	74.200				19.500	1,073.3	1.772241	605.6
2040	1,000.600	71.900				20.200	1,092.7	1.809458	603.9
2041	1,022.700	66.300				21.000	1,110.0	1.847457	600.8
2042	1,052.000	66.500				22.600	1,141.1	1.886253	605.0
2043	955.900	63.100				24.300	1,043.3	1.925864	541.7

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

CH-47F Modernized Cargo Helicopter

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 CY2017 (\$M)
Total		25.9	25.9	-	23.5
2015			-	0.982490	-
2016			-	1.000072	-
2017			-	1.016913	-
2018			-	1.037298	-
2019		8.133	8.1	1.060898	7.7
2020		7.938	7.9	1.089951	7.3
2021		9.820	9.8	1.143267	8.6

Acquired System Annual End-Item Quantities by Appropriation Account
(Aligned to Budget Position: PB 2025)

CH-47F Modernized Cargo Helicopter

2040A - Research, Development, Test & Eval, Army				
fiscal year	CH-47F Block II / Materiel Availability			Total
Total	3			3
Undistributed				-
2018				-
2019				-
2020				-
2021	3			3

Acquired System Annual End-Item Quantities by Appropriation Account
(Aligned to Budget Position: PB 2025)

CH-47F Modernized Cargo Helicopter

2031A - Aircraft Procurement, Army				
fiscal year	CH-47F Block II / Materiel Availability			Total
Total	539			539
Undistributed				-
2018	4			4
2019	7			7
2020	8			8
2021	13			13
2022	13			13
2023	17			17
2024	21			21
2025	24			24
2026	24			24
2027	23			23
2028	24			24
2029	24			24
2030	24			24
2031	24			24
2032	24			24
2033	24			24
2034	24			24
2035	24			24
2036	24			24
2037	24			24
2038	24			24
2039	24			24
2040	24			24
2041	24			24
2042	24			24
2043	25			25

Nuclear Costs

CH-47F Modernized Cargo Helicopter

Program's Use of Department of Energy Resources

None

Operational Fielding Plan

CH-47F Modernized Cargo Helicopter

System: CH-47F Block II / Materiel Availability

Fielding and Inventory Notes

The Operational Fielding Plan information will not be available until the program receives MS C approval, which is anticipated in FY 2025.

CH-47F Block II / Materiel Availability Fielding Plan and Inventory

fiscal year	Store	Field	Expend/Loss	Decommission	Inventory
2023					
2024					-
2025					-
2026					-
2027					-
2028					-
2029					-

O&S Independent Cost Estimate**CH-47F Modernized Cargo Helicopter****Independent and Current Cost Estimate Comparison**

Category	CY2017 (\$M)	Independent Cost Estimate 5/1/2017	Current Estimate 2/10/2020	Variance with ICE (%)
Unit-Level Manpower		4,975.0	4,975.0	0%
Unit Operations		2,643.0	2,643.0	0%
Maintenance		7,712.3	7,712.3	0%
Sustaining Support		102.5	102.5	0%
Continued System Improvements		2,270.2	2,270.2	0%
Other		1,033.5	1,033.5	0%
Total O&S		18,736.5	18,736.5	0%

Independent Cost Estimate Source

Event: MS B
Type: Independent Cost Estimate
Approved by: Center for Army Analysis, May 1, 2017

Current Cost Estimate Source

Type: Program Office Estimate
Approved by: Program Office Estimate, February 10, 2020

Cost Estimate Variance Explanation

Annual Operating and Support Estimates by Cost Element

CH-47F Modernized Cargo Helicopter

System: CH-47F Block II / Materiel Availability

Source for TY-CY Conversion:

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 CY2017 (\$M)
Total	4,975.0	2,643.0	7,712.3	102.5	2,270.2	1,033.5	18,736.5
2017	-	-	-	0.332	0.069	-	0.4
2018	-	-	-	0.329	-	-	0.3
2019	-	-	-	0.327	-	-	0.3
2020	-	-	-	0.323	0.021	-	0.3
2021	-	-	-	0.319	29.507	-	29.8
2022	-	-	-	0.318	28.994	-	29.3
2023	11.676	9.136	2.925	0.311	28.858	1.752	54.7
2024	26.903	10.444	6.379	0.301	28.820	4.037	76.9
2025	41.962	11.571	9.407	0.298	30.737	6.297	100.3
2026	66.776	14.592	16.949	0.296	32.329	10.020	141.0
2027	77.051	17.606	26.620	0.294	33.926	12.471	168.0
2028	98.052	21.371	35.630	0.293	35.928	15.501	206.8
2029	98.729	25.885	48.222	0.291	38.329	16.457	227.9
2030	116.234	30.389	58.964	0.290	40.734	19.109	265.7
2031	140.242	34.885	69.692	0.288	43.119	22.663	310.9
2032	161.295	39.372	80.301	0.286	45.509	25.773	352.5
2033	186.135	43.849	91.020	0.285	47.892	29.451	398.6
2034	193.507	48.318	105.148	0.283	50.272	31.894	429.4
2035	194.400	53.133	135.462	0.282	52.646	33.567	469.5
2036	195.279	57.997	160.399	0.281	55.016	35.220	504.2
2037	196.169	62.873	180.803	0.279	57.582	36.855	534.6
2038	197.097	67.836	211.040	0.277	59.940	38.555	574.7
2039	197.938	72.788	240.966	0.276	62.297	40.151	614.4
2040	198.767	77.496	265.539	0.274	64.647	41.731	648.5
2041	199.068	82.371	293.823	0.273	66.993	42.722	685.3
2042	198.268	86.943	308.450	0.271	69.333	42.491	705.8
2043	197.471	91.331	317.811	9.015	71.668	42.261	729.6
2044	196.681	99.769	327.153	7.413	70.313	42.031	743.4
2045	195.777	98.824	331.965	4.845	71.548	41.803	744.8
2046	194.738	101.989	331.440	3.817	71.478	41.577	745.0
2047	193.705	98.631	330.917	3.812	71.408	41.352	739.8
2048	182.738	100.677	327.597	3.807	70.738	39.646	725.2
2049	168.190	96.030	323.751	4.156	69.969	37.404	699.5

System: CH-47F Block II / Materiel Availability

Source for TY-CY Conversion:

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 CY2017 (\$M)
2050	153.794	97.888	319.918	3.796	69.202	35.186	679.8
2051	130.951	91.589	312.130	3.791	67.538	31.715	637.7
2052	120.806	91.786	302.487	3.786	65.877	29.357	614.1
2053	101.927	84.582	292.844	3.780	63.722	26.494	573.3
2054	100.315	83.310	280.315	4.128	61.272	25.442	554.8
2055	84.017	75.576	269.405	3.770	58.828	22.911	514.5
2056	62.049	74.316	258.508	3.764	56.388	19.594	474.6
2057	42.665	65.970	227.053	3.759	53.952	16.666	410.1
2058	19.980	63.335	169.732	3.754	51.521	13.243	321.6
2059	12.551	54.901	130.159	3.944	49.096	10.899	261.5
2060	10.782	53.666	116.099	3.204	46.675	9.229	239.7
2061	2.175	46.005	82.796	2.708	44.258		177.9
2062	1.918	44.781	73.032	2.550	41.846		164.1
2063	1.662	37.144	63.286	2.392	39.439		143.9
2064	1.407	35.930	53.559	2.357	-		93.3
2065	1.152	27.541	43.851	1.850	-		74.4
2066	0.897	23.141	34.162	1.693	-		59.9
2067	0.643	18.750	24.493	1.537	-		45.4
2068	0.390	14.367	14.842	1.380	-		31.0
2069	0.020	2.362	5.209	-	-		7.6