

**CLEARED
For Open Publication**

May 05, 2023

Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

Selected Acquisition Report (SAR)



CH-53K King Stallion (CH-53K)

FY 2024 President's Budget

Defense Acquisition Visibility Environment
(DAVE)

Table of Contents

Acronyms and Abbreviations 3

Program Information 5

Responsible Office 5

Mission and Description 6

Executive Summary 7

Schedule 9

Performance 11

Acquisition Budget Estimate 12

Unit Cost 14

Risks 16

Low Rate Initial Production 17

Contracts 18

Deliveries and Expenditures 37

Operating and Support Costs 38

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

CH-53K King Stallion

DoD Component

Navy

Responsible Office

Program Manager

Name: Col Kate E. Fleeger

Phone: 240-496-4857

Email: kate.e.fleeger.mil@us.navy.mil

Mission and Description

The CH-53K Heavy Lift Replacement Helicopter (CH-53K) program mission is to generate and support a robust United States Marine Corps heavy-lift capability. The primary mission is vertical heavy lift. The Program includes improvements in lift and range capabilities, commonality, reliability, maintainability, interoperability, ship integration, survivability, and force protection. The CH-53K helicopter will be a replacement for the CH-53E.

Executive Summary

CH-53K

Program Highlights Since Last Report

Four Engineering Development Model (EDM) aircraft are continuing Developmental Test (DT) at Naval Air Station (NAS), Patuxent River, MD in support of System Design and Demonstration (SDD) completion. The program is currently 95% complete with SDD requirements. Initial Operational Test and Evaluation (IOT&E) executed at Marine Corps Air Station (MCAS), New River, North Carolina, Marine Corps Air Ground Combat Center Twentynine Palms Marine Base, Twentynine Palms, CA, and onboard US Naval ships began July 31, 2021 and was successfully completed April 11, 2022. Initial Operational Capability (IOC) was officially declared on April 22, 2022. IOT&E report was signed September 28, 2022. ASN(RDA) approved and authorized entry into Full Rate Production (FRP) via Acquisition Decision Memorandum (ADM) dated December 21, 2022. A revised Acquisition Program Baseline (APB), which reflects the FRP Component Cost Position (CCP), was approved February 8, 2023. LRIP Lots 1-6 (40 aircraft) are on contract. Both the LRIP Lot 6 airframe contract and the LRIP Lot 7 Advance Acquisition Contract (AAC) were awarded on January 31, 2022. Lot 8 AAC was awarded on October 31, 2022. Contracts for Lot 7 and 8 aircraft and Lot 6, 7 and 8 engines are anticipated to be awarded in May 2023. The program continues to pursue international sales opportunities. On February 22, 2021, Israel selected the CH-53K to support their heavy lift requirements. A Letter of Request (LOR) for Letter of Acceptance (LOA) for 12 aircraft (with options up to 18) was signed on December 30, 2021. The first four Israel aircraft were added to the Lot 6 contract on February 15, 2022. Contract for the remaining 8 Israel aircraft is anticipated to award with the Lot 7 and 8 airframes in May 2023. The CH-53K program has experienced cost increases in the development of the aircraft and procurement of the aircraft. Development cost increases were primarily due to correction of design deficiencies during SDD. Procurement cost increases were due to a range of economic factors (including COVID impacts, higher than anticipated inflation, and general economic uncertainty) driving labor and material cost growth of both airframe and engine end items, production ramp changes, and non-recurring engineering growth due to obsolescence and tooling. These increases were incorporated into the approved CCP in support of the FRP Decision. To mitigate cost growth, the program is executing cost reduction initiatives; strategic contractual agreements, including a Block Buy Contract and Multi-year Procurements for airframes, engines, and Forward Looking Infrared Radar (FLIR); and foreign military sales (FMS) opportunities. This report reflects the program manager's cost estimate as reflected in the FRP CCP. 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
Feb - 2023	FRP APB approved
Dec - 2022	Full Rate Production (FRP) approved
Oct - 2022	Lot 8 AAC awarded
May - 2022	The airframe Lot 6 contract was modified May 31, 2022 to add two additional aircraft added by Congress in the FY22 Consolidated Appropriations Act
Apr - 2022	Initial Operational Capability (IOC) declared
Apr - 2022	Initial Operational Test and Evaluation (IOT&E) complete
Feb - 2022	Israel MoD first contract for 4 aircraft awarded on LRIP Lot 6
Jan - 2022	LRIP Lot 6 contract for 9 aircraft awarded
Jan - 2022	LRIP Lot 7 AAC awarded
Dec - 2021	Israel MoD LOA signed
Dec - 2021	P&A issued to Germany for FMS
Nov - 2021	Israel MoD LOA offered

Mar - 2021	Israel Ministry of Defense (MoD) submitted a letter of Request (LOR) for (Letter of Acceptance) LOA for 12 aircraft with Options up to 18)
Mar - 2021	LRIP Lot 5 contract for 9 aircraft awarded
Oct - 2020	LRIP Lot 4 contract for 6 aircraft awarded
Jan - 2020	ASN(RDA) and Assistant Commandant of the Marine Corps signed an ADM to approve two additional LRIP lots, an increase in LRIP aircraft quantities, and a full funding commitment from the USMC
Nov - 2019	A revised APB was approved to update schedule milestones and program cost in accordance with revised Acquisition Strategy
Oct - 2019	An Acquisition Strategy Update/Addendum was approved to (1) address continuation of SDD activities to resolve technical issues and complete testing; (2) add two additional Low Rate Initial Production (LRIP) lots and an increase in LRIP aircraft quantities, and (3) update the planned program costs and schedule
Aug - 2019	Lot 4 AAC awarded
May - 2019	LRIP Lot 2 and LRIP Lot 3 Contract awarded for 5 aircraft in FY18 and 7 aircraft FY19
Mar - 2019	ASN(RDA) signed an ADM approving a proposed program restructure as a result of technical issues during the development test program that have resulted in a lower test event execution rate than planned, impacting test execution, program schedule, and cost. The plan prioritizes system Development and Demonstration activities, provide a deployable configuration in a timely manner and within available budgetary resources in support of IOC.
Jan - 2019	A Program deviation was reported for a breach of the APB Schedule milestone for TECHEVAL Complete, IOT&E (OPEVAL) Complete, IOC and FRP Decision Review as a result of inefficiencies in test event accomplishment, technical discoveries in test, and completion of design solutions and correction of deficiencies
Feb - 2018	LRIP Lot 3 AAC awarded
Nov - 2017	CH-53K Program was re-designated from an ACAT 1D to ACAT 1C Program
Aug - 2017	LRIP Lot 1 contract for 2 aircraft awarded
Jul - 2017	Letter of Offer and Acceptance issued to Germany for potential Direct Commercial Sales
May - 2017	LRIP Lot 2 AAC awarded
Apr - 2017	USD (AT&L) signed the Milestone C ADM authorizing procurement of up to 26 aircraft; APB update approved
Jan - 2017	Letter of Request for Pricing and Availability
Oct - 2016	Program successfully completed an initial Operation Assessment (OT-B1) in West Palm Beach, Florida
Aug - 2016	Four EMD aircrafts in flight test
Apr - 2016	LRIP Lot 1 Advance Acquisition Contract (AAC) awarded
Oct - 2015	First Flight completed on EMD aircraft
May - 2013	Contract award for 4 System Developmental Test Article (SDTA) aircraft Beginning with this effort; the CH-53K program began procuring GE (T-408) engines directly from General Electric Aviation
Apr - 2013	Updated APB approved based on an updated Program Life Cycle Cost Estimate (PLCCE) and January 2013 SCP
Jun - 2011	The Assistant Secretary of Defense for Research and Engineering completed a Post CDR Assessment, determining the program situated to enter System Capability and Manufacturing Process Demonstration
Jul - 2010	The CH-53K program conducted the Critical Design Review (CDR)

Jan - 2006	SDD contract awarded to Sikorsky for the CH-53K
Dec - 2005	USD(AT&L) signed the Milestone B ADM for entry into System Development and Demonstration (SDD)
Oct - 2005	The Heavy Lift Replacement (HLR) program completed a Milestone B Defense Acquisition Board (DAB)
Dec - 2004	JROC approved CH-53K ORD
Sep - 2003	Analysis of Alternative completed, resulting in decision to initiate a Heavy Lift Replacement program

Schedule CH-53K

Events	Milestone Baseline Objective	Current Baseline Objective/Threshold		Current Estimate/Actual	Deviation
Milestone B DAB Review Complete	Dec 2005	Dec 2005	Dec 2005	Dec 2005	
CDR Complete	Jul 2010	Jul 2010	Jul 2010	Jul 2010	
Milestone C Complete	Mar 2017	Apr 2017	Apr 2017	Apr 2017	
TECHEVAL Complete Complete	Apr 2019	Jun 2021	Jun 2021	Jun 2021	
IOC Complete	Dec 2019	Apr 2022	Apr 2022	Apr 2022	
IOT&E (OPEVAL) Complete Complete	Dec 2019	Apr 2022	Apr 2022	Apr 2022	
FRP Decision Review Complete	Sep 2020	Dec 2022	Dec 2022	Dec 2022	

Notes

IOC changed from May 2022 to April 2022 to reflect actual. FRP Decision Review data changed from November 2022 to December 2022 to reflect actual ADM signature. FRP DR conducted November 17, 2022.

Deviation Explanation

Performance

CH-53K

Performance Characteristics					
Milestone Baseline	Current Baseline Objective/Threshold		Demonstrated Performance	Current Estimate/Actual	Deviation
(KPP) - Logistics Footprint (2)					
	10% reduction from current CH-53E	<= current CH-53E	10% reduction from current CH-53E		
(KPP) - Mission Reliability (MR) (2)					
	90%	89%	86.5% in IOT&E		
(KPP) - Net Ready (NR) (2)					
	Satisfy 100% of NR reqts in JIA	Satisfy 100% of NR reqts designated as enterprise-level or critical in JIA	TBD	Satisfy 100% of NR reqts in JIA. Estimating 2QFY24 following completion of Digital Interoperability (DI) Medium testing.	
(KPP) - Range and Payload (nm)					
	110 w/30,000 lbs external load, no refuel	110 w/27,000 lbs external load, no refuel	110 w/ 27,000lbs external load (no refuel) during IOT&E		
(KPP) - Sortie Generation Rate (SGR)/Average Sortie Duration (ASD)					
	(T=O) 2.6 sorties/ 2.25 hrs	2.6 sorties/ 2.25 hrs	2.77 sorties/ 2.25 hrs		

Requirement Reference

CH-53K CPD v1.2 dated March 25, 2021

Deviation Explanation

No deviations for this program/subprogram

Notes

None

Acquisition Budget Estimate

CH-53K

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	2017	4,782.8	8,216.8	9,038.5	8,175.3	8,067.4	
Procurement	2017	13,301.6	21,526.6	23,679.3	20,462.3	26,607.6	
MILCON	2017	0	123.2	135.5	116.7	152.7	
Acq. O&M	2017	0	0	0	0	0	
Total		18,084.4	29,866.6		28,754.3	34,827.7	
PAUC	2017	115.926	149.333	164.266	143.772	174.139	
APUC	2017	87.511	109.830	120.813	104.399	135.753	

Appropriation Category Deviation Explanations

PAUC Deviation Explanation

APUC Deviation Explanation

Budget Notes

Current estimate represents the Full Rate Production Component Cost Position (FRP CCP) signed December 14, 2022. The estimate includes Acquisition Strategy elements for savings such as Block Buy for Lots 7 and 8, Multiyear Procurement for Lots 9-13, and savings due to Foreign Military Sales to Israel.

Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	4	4
Procurement	196	196
O&M-Acquired		

Quantity Notes

Since the last reported December 2021 SAR, the procurement quantity total remains the same, however, the year-by-year quantity profile has been adjusted. The aircraft quantity per year decreased by 3 in FY2028 and FY2029 from 24 to 21. Aircraft quantity in FY2030 decreased from 20 to 16 and an additional procurement year was added to ramp down production with FY2031 having 10 aircraft.

Unit Cost**CH-53K**

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Category (\$M) Base Year:2017	Current UCR Baseline	Current Estimate	% Change
Program Acquisition Unit Cost			
Cost	29,866.6	28,754.3	
Quantity	200	200	
Unit Cost	149.333	143.772	-3.72%
Average Procurement Unit Cost			
Cost	21,526.6	20,462.3	
Quantity	196	196	
Unit Cost	109.830	104.399	-4.94%

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Category (\$M) Base Year:2006	Original UCR Baseline	Current Estimate	% Change
Program Acquisition Unit Cost			
Cost	14,980.9	24,008.9	
Quantity	156	200	
Unit Cost	96.031	120.044	25.01%
Average Procurement Unit Cost			
Cost	11,018.9	17,085.3	
Quantity	152	196	
Unit Cost	72.493	87.170	20.25%

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**

Since the last reported December 2019 SAR, the procurement quantity total remains the same; however the year by year quantity profile has been adjusted taking 13 aircraft out of the FYDP and adding two aircraft in FY 2021 and 11 aircraft at the end of the procurement program in FY 2030. This results in a 0.13 percent increase of the unit costs as the quantities decrease due to reduced economy of scale and production efficiencies.

Impacts of Performance Changes on Unit Cost

Actions Taken or Proposed to Control Future Cost Growth

Program continues to focus on a cost reduction program. To mitigate cost growth, the program plans to reduce acquisition cost through targeted cost reduction initiatives; strategic contractual agreements, including a Block Buy Contract and Multi-year Procurements for airframes and engines; and FMS opportunities. Cost Reduction Initiatives have been implemented from Lots 1 through Lot 6 and will continue throughout production. Program is planning an airframe Block Buy Contract for Lot 7 in FY 2023 and Lot 8 in FY 2024. The program is planning a Multi-year Procurement for Lots 9-13 in FY 2025-FY 2029. FMS opportunities include an increase of quantity for Israel MoD procurement from 12 to 18 aircraft and a potential case with Germany for 44 aircraft. FMS opportunities will improve the USMC unit cost by accelerating learning curve impacts and reducing fixed costs across the remaining USMC procurement.

Risk and Sensitivity Analysis**CH-53K****Risk and Sensitivity Analysis****Current Procurement Cost(December - 2022)**

The current procurement cost reflects the December 14, 2022, Component Cost Position that was approved in support of the CH-53K Full Rate Production Decision and CH-53K APB Change 4 (Procurement). The current baseline estimate remains unchanged. The risk and sensitivity analysis performed in support of the proposed FRP CCP APB Change 4 takes into consideration overruns in early LRIP lots and material cost growth above inflation.

Original Baseline Estimate (December - 2005)

Total program costs - Cost Analysis Improvement Group (CAIG) was 4% higher than POE. SDD costs due to labor and material - CAIG estimate was 8% higher due to contractor fee, total engineering development effort, and engineering change orders. Procurement costs - CAIG estimate was 12% higher than POE (mostly due to airframe material and production support costs). O&S effort - CAIG estimate was 1% lower than POE.

Current Baseline Estimate (February - 2023)

Schedule Risk		
Technical Risks		
Current	December 25, 2022	Component Lives Not Meeting Requirements
Current	December 25, 2022	Engine Degradation in Sand and Dust
Current	December 25, 2022	Flight Test and Production Concurrency

Low Rate Initial Production

CH-53K

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	04/04/2017	01/06/2020
Approved Quantity	26	38
Reference	MS C ADM	CH-53K LRIP ADM
Start Year	2017	2017
End Year	2020	2022

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

-Maintains production continuity pending completion of IOT&E-Permits resolution of identified deficiencies, maturation of manufacturing processes, and completion of Full Rate Production entrance criteria requirements.

Notes

In FY21 there were two (2) Congressional plus up aircraft for LRIP Lot 5, increasing total aircraft from seven (7) to nine (9). In FY22 there were two(2) additional plus up aircraft for LRIP Lot 6, increasing total aircraft from nine (9) to eleven (11). The 2020 ADM approving LRIP Lots 5 and 6 authorized 38 LRIP aircraft, although the program only planned to procure 36 LRIP aircraft. Subsequent approval of four (4) Congressional additions increased the total planned LRIP quantity to 40 aircraft.

Contracts & Efforts

Contract Data	
Contract Number	N00019-16-C-0048
Effort Number	3
Modification Number	60
Award Date	04/18/2016
Definitization Date	08/31/2017
Order Number	
CAGE Code/CAGE Legal Name	78286/Sikorsky Aircraft Corporation
Contract Title	LRIP Lot 1
Contract Address	Stratford, CT
Contracting Office	NAVAIR
Supported Phase	Production
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Fixed-Price Incentive (Firm Target)
Modification Date	November 15, 2021
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	96.75%

Contracts/Effort Price, Quantity, and Performance (TY\$M)

Initial Target Price	Current Target Price	
\$25	\$332.3	
Initial Ceiling Price	Current Ceiling Price	
Contractor EAC	PM EAC	
\$312.5	\$308.6	
Initial Quantity	Current Quantity	Delivered Quantity
0	2	2
BAC	BCWP	ACWP

\$280.4	\$271.3	\$292.7
BCWS	Cost Variance	Schedule Variance
\$276.5	-\$21.4	-\$5.2

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The main drivers for the unfavorable cost variance are the Systems Engineering and Program Management (SEPM) and Aircraft Build CLINs.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The main drivers for the unfavorable cost variance are the Systems Engineering and Program Management (SEPM) and Aircraft Build CLINs.

Contract Data	
Contract Number	N00019-16-C-0048
Effort Number	4
Modification Number	72
Award Date	05/22/2017
Definitization Date	05/17/2019
Order Number	
CAGE Code/CAGE Legal Name	78286/Sikorsky Aircraft Corporation
Contract Title	LRIP Lot 2
Contract Address	Stratford, CT
Contracting Office	NAVAIR
Supported Phase	Production
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Fixed-Price Incentive (Firm Target)
Modification Date	December 08, 2022
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$55.5	\$0	
Initial Ceiling Price	Current Ceiling Price	
	\$0	
Contractor EAC	PM EAC	
\$0	\$0	
Initial Quantity	Current Quantity	Delivered Quantity
0	5	3
BAC	BCWP	ACWP
\$0	\$0	\$0

BCWS	Cost Variance	Schedule Variance
\$0	\$0	\$0

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data. LRIP Lots 2 & 3 are in a reporting black-out for the November and December reporting periods, to correct an alignment issue with the Work Breakdown Structure. Reporting to resume with January 2023 month-end.

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	N00019-16-C-0048
Effort Number	6
Modification Number	72
Award Date	02/13/2018
Definitization Date	05/17/2019
Order Number	
CAGE Code/CAGE Legal Name	78286/Sikorsky Aircraft Corporation
Contract Title	LRIP Lot 3
Contract Address	Stratford, CT
Contracting Office	NAVAIR
Supported Phase	Production
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Fixed-Price Incentive (Firm Target)
Modification Date	December 08, 2022
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$126.5	\$0	
Initial Ceiling Price	Current Ceiling Price	
	\$0	
Contractor EAC	PM EAC	
\$0	\$0	
Initial Quantity	Current Quantity	Delivered Quantity
0	7	0
BAC	BCWP	ACWP
\$0	\$0	\$0

BCWS	Cost Variance	Schedule Variance
\$0	\$0	\$0

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data. LRIP Lots 2 & 3 are in a reporting black-out for the November and December reporting periods to correct an alignment issue with the Work Breakdown Structure. Reporting to resume with January 2023 month-end.

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	N00019-16-C-0048
Effort Number	7
Modification Number	72
Award Date	08/12/2019
Definitization Date	10/26/2020
Order Number	
CAGE Code/CAGE Legal Name	78286/Sikorsky Aircraft Corporation
Contract Title	LRIP Lot 4
Contract Address	Stratford, CT
Contracting Office	NAVAIR
Supported Phase	Production
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Fixed-Price Incentive (Firm Target)
Modification Date	December 08, 2022
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	6.08%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$107.4	\$599.9	
Initial Ceiling Price	Current Ceiling Price	
	\$661	
Contractor EAC	PM EAC	
\$559.8	\$543.1	
Initial Quantity	Current Quantity	Delivered Quantity
0	6	0
BAC	BCWP	ACWP
\$530.7	\$32.3	\$25.4

BCWS	Cost Variance	Schedule Variance
\$32.6	\$6.8	-\$0.4

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

While Cost Variances are favorable, Contractor Estimates at Completion have increased due to inflationary pressures experienced on material purchases.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

There is no reportable schedule variance at this time.

Contract Data	
Contract Number	N00019-20-C-0047
Effort Number	8
Modification Number	13
Award Date	03/26/2020
Definitization Date	06/25/2021
Order Number	
CAGE Code/CAGE Legal Name	78286/Sikorsky Aircraft Corporation
Contract Title	LRIP Lot 5
Contract Address	Stratford, CT
Contracting Office	NAVAIR
Supported Phase	Production
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Fixed-Price Incentive (Firm Target)
Modification Date	September 08, 2022
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	2.12%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$861.3	\$861.6	
Initial Ceiling Price	Current Ceiling Price	
	\$911	
Contractor EAC	PM EAC	
\$762.7	\$773.7	
Initial Quantity	Current Quantity	Delivered Quantity
0	9	0
BAC	BCWP	ACWP
\$708.3	\$15	\$11.3

BCWS	Cost Variance	Schedule Variance
\$15.1	\$3.7	-\$0.1

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

While Cost Variances are favorable, Contractor Estimates at Completion have increased due to inflationary pressures experienced on material purchases.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

There is no reportable schedule variance at this time.

Contract Data	
Contract Number	N00019-06-C-0081
Effort Number	2
Modification Number	P00315
Award Date	05/30/2013
Definitization Date	05/30/2013
Order Number	
CAGE Code/CAGE Legal Name	78286/Sikorsky Aircraft Corporation
Contract Title	System Demonstration Test Articles (SDTA)
Contract Address	Stratford, CT
Contracting Office	NAVAIR
Supported Phase	Development
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Cost
Modification Date	March 31, 2022
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	99.96%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$435.3	\$692.4	
Initial Ceiling Price	Current Ceiling Price	
Contractor EAC	PM EAC	
\$623.8	\$623.4	
Initial Quantity	Current Quantity	Delivered Quantity
6	4	4
BAC	BCWP	ACWP
\$616	\$615.8	\$622.9
BCWS	Cost Variance	Schedule Variance

\$616	-\$7.1	-\$0.2
-------	--------	--------

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data. This contract is complete and will no longer be reported in future SARs.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

Unfavorable cumulative cost performance is due to overruns on the SDTA 1 through SDTA 6 aircraft builds.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

Contract Data	
Contract Number	N00019-06-C-0081
Effort Number	1
Modification Number	P00326
Award Date	01/03/2006
Definitization Date	01/03/2006
Order Number	
CAGE Code/CAGE Legal Name	78286/Sikorsky Aircraft Corporation
Contract Title	System Development and Demonstration (SDD)
Contract Address	Stratford, CT
Contracting Office	NAVAIR
Supported Phase	Development
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Cost
Modification Date	December 13, 2022
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	94.69%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$3,052.2	\$3,056.1	
Initial Ceiling Price	Current Ceiling Price	
Contractor EAC	PM EAC	
\$5,221.6	\$5,634.7	
Initial Quantity	Current Quantity	Delivered Quantity
5	5	1
BAC	BCWP	ACWP
\$5,144.8	\$4,871.4	\$4,979
BCWS	Cost Variance	Schedule Variance

\$4,933.2	-\$107.6	-\$61.8
-----------	----------	---------

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The main driver for the unfavorable cumulative cost performance is delayed completion of flight test events, as well as more material required than planned (e.g. APU assembly, Main Rotor Servo, and Sponson Assembly).

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The main driver for the unfavorable cumulative schedule performance is delayed completion of flight test events, as well as delayed allocation of spare detail dynamic components to SDD because these assets were provided to the production builds in support of the delivery schedule.

Contract Data	
Contract Number	N00019-20-C-0047
Effort Number	9
Modification Number	13
Award Date	01/31/2022
Definitization Date	
Order Number	
CAGE Code/CAGE Legal Name	78286/Sikorsky Aircraft Corp
Contract Title	LRIP 6
Contract Address	Stratford, CT
Contracting Office	NAVAIR
Supported Phase	Production
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Fixed-Price Incentive (Firm Target)
Modification Date	September 08, 2022
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	0.78%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,401	\$1,392.8	
Initial Ceiling Price	Current Ceiling Price	
\$1,281.2	\$1,473.1	
Contractor EAC	PM EAC	
\$1,230.5	\$1,227.6	
Initial Quantity	Current Quantity	Delivered Quantity
0	15	0
BAC	BCWP	ACWP
\$1,139.5	\$8.9	\$7.7

BCWS	Cost Variance	Schedule Variance
\$8.9	\$1.2	\$0

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

While Cost Variances are favorable, Contractor Estimates at Completion have increased due to inflationary pressures experienced on material purchases.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

There is no reportable schedule variance at this time.

Contract Data	
Contract Number	N00019-18-C-1007
Effort Number	5
Modification Number	24
Award Date	11/16/2017
Definitization Date	11/16/2017
Order Number	
CAGE Code/CAGE Legal Name	99207/GE Aircraft Engines
Contract Title	LRIP Lot 1,2,3,4 and 5 engines
Contract Address	Lynn, MA
Contracting Office	NAVAIR
Supported Phase	Production
Contract Strategy	FAR 15 (Negotiated)
Contract Type	Firm-Fixed-Price
Modification Date	September 12, 2022
Work Start Date	
Technical Data Rights	Government Purpose License Rights to Technical Data--Noncommercial Items & Software
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$143.5	\$501.3	
Initial Ceiling Price	Current Ceiling Price	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
11	94	
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

--	--	--

Contract Notes:

Other Data Rights applicable: Unlimited Rights to Technical Data, Restricted Rights to Technical Data, Limited Rights to Technical Data. Engines do not have an EVM/IPMR requirement (FFP Contract).

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

CH-53K

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	4	4	4	100.00%
Production	6	5	196	2.55%
Total Program Quantity Delivered	10	9	200	4.50%

Expended and Appropriated (TY \$M)

Years Appropriated to date: 21

Total Years Appropriated Funding (Current Baseline): 30

Percent Years Appropriated: 70.00%

Then-Year Funding Appropriated as Percentage of Total Acquisition Estimate: 28.00%

Then-Year Funding Expended as Percentage of Total Acquisition Estimate: 46.90%

Total Acquisition Cost: 34,827.7

Deliveries & Expenditures Notes:

* Total Years Appropriated Funding (Current Baseline) value is based on total planned funding. This data is current as of March 13, 2023.

Operating and Support Costs

CH-53K

O&S Cost Breakdown:

Category (BY\$ Million)	CH-53K
Unit-Level Manpower	5,378.2
Unit Operations	1,420.0
Maintenance	23,389.8
Sustaining Support	2,080.1
Continued System Improvements	4,233.2
Other	
Total	36,501.3

Cost Estimate Source: CCP dated December 14, 2022

O&S Cost Notes:

Estimate to support the 2022 SAR is from the FRP CCP dated December 14, 2022.

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	36,501.3	40,151.4	36,501.3	63,027.7	

Note:

None

O&S Cost Deviation Explanation

Operating and Support Costs - Disposal and Unitized Costs**CH-53K****Annual Unitized O&S Cost Definition and Calculation Relative to Total O&S Cost:**

Unitized Cost per Operating Aircraft in Program Baseline CY17\$K. The 2022 FRP O&S Estimate removed Indirect Support costs category to align with the 2020 O&S CAPE structure which was shown in the Other category in the previous SAR submission.

Sustainment Factors	System Name: CH-53K	Antecedent System Name: CH-53E
Quantity to Sustain	200	135
Unit of Measure	Aircraft	Aircraft
Unit Expected Service Life	30	30

Base Year:

Annual Unitized O&S Cost by Category Base Year \$ Unit:(\$K)	System Name: CH-53K	Antecedent System Name: CH-53E
Unit-Level Manpower	1,487.5	1,923.0
Unit Operations	392.8	396.4
Maintenance	6,469.3	6,529.8
Sustaining Support	575.3	310.0
Continued System Improvements	1,170.9	796.3
Other		
Total O&S	10,095.8	9,955.5

Disposal/Demilitarization Cost Estimate

(Base Year \$Millions)	System Name: CH-53K	Antecedent System Name: CH-53E
Total Disposal	58.2	

Cost Estimate Source - Disposal	
Type:	Program Office Estimate
Approval Authority and Date:	PMA-261 Program Manager 02/01/2023
Note:	
Disposal Cost Notes:	
Accounts for all 200 aircraft projected attrition and retirements.	
Additional O&S Estimate Assumptions:	

- Aircraft Attrition Rate: 1.0% of Total Aircraft Inventory (TAI) per year - Aircraft Pipeline Factor: 16.7% of TAI - Squadrons: 8 Marine Heavy Helicopter (HMH) squadrons (5 active / 2 reserve) / 1 Marine Training (HMHT) squadron - Helicopters per HMH (active) squadron: 16 / 20 - Helicopters per HMH (reserve) squadron: 8 - Helicopters per HMHT squadron: 17 - Monthly Flight Hours per Helicopter (Primary Aircraft Authorized (PAA)): 16.1 - Aircraft reliability projections per NAVAIR-4.1.10 input - Total Operating Helicopter Years: 3,611 (Phase-in of PAA required, 30 years operating life per aircraft, phase-out of PAA)

Sustainment Strategy:

The CH-53K will be sustained utilizing Organizational, Intermediate, and Depot levels of maintenance. Repair and Overhaul capability establishment will be phased in over five years and will be based on component maturity, operational readiness and affordability factors. For components determined to require organic repair capability, a time-phased entry approach will be utilized to enable optimization of capacity as well as stabilization of repair processes and ensure repair capability will be established no later than IOC +4 years. Product Support analyses are being matured and will be compared to data obtained during flight test and initial operations to establish sustainment baselines at the component level. A Fleet Common Operating Environment (FCOE) has been established to fuse information from operations and sustainment activities across the Naval Aviation Enterprise and provide near real-time comparisons of actual environmental, reliability, cost and sustainment infrastructure performance against the established baselines. Current sustainment planning activities are facilitating engagement with both public and private industrial support services in the development of performance-based product support arrangements as well as utilizing the FCOE to enable more agile and effective product support packages during CH-53K sustainment operations.

Antecedent Estimate Assumptions:

The antecedent system is CH-53E. CH-53E average annual costs per aircraft captured in Naval Visibility and Management of Operating and Support Costs (VAMOSC) from FY19-FY21 demonstrated in CY17 economics. CH-53E is not capable of meeting Joint Requirements Oversight Council Key Performance Parameter requirements established for the CH-53K.