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Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

Selected Acquisition Report (SAR)



Cooperative Engagement Capability (CEC)

FY 2024 President's Budget

Defense Acquisition Visibility Environment
(DAVE)

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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

Cooperative Engagement Capability

DoD Component

Navy

Responsible Office

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Mission and Description

The Cooperative Engagement Capability (CEC) acquisition program is an ACAT IC program which is based on the Mission Needs Statement (MNS) M030-086-093 approved by the Chief of Naval Operations (CNO) on February 5, 1993. The CEC system makes it possible for multiple surface ships and aircrafts to form an air defense network for the purpose of sharing radar target measurements in real-time, thus a “cooperative engagement.” Sharing data from all capable sensors’ assets in a battle force provides increased timeliness, accuracy, and continuity for greater engagement decision and prosecution responsiveness. The CEC program provides a sensor network with Integrated Fire Control capability that significantly improves battle force air and missile defense capabilities by coordinating measurement data from air search sensors on CEC-equipped units into a single, integrated real-time, composite track air picture. The CEC sensor netting system extracts sensor-derived information and distributes a superset of the best Anti Air Warfare (AAW) sensor data to all CEC Cooperating Units (CUs) participating in Naval Carrier and Expeditionary Strike Groups. Each CU independently employs high capacity, parallel processing and advanced algorithms to combine all distributed sensor data into a fire control quality track picture improving own unit track precision, consistency and continuity; expanding detection range; and increasing reaction time. CEC also provides situational awareness by enabling longer range, cooperative, multiple or layered engagement strategies to improve strike force effectiveness and is highly resistant to jamming and delivers accurate gridlocking between CUs. CEC is comprised of the following:

- AN/USG-2/2A/2B: Shipboard designation of CEC deployed aboard CG, DDG, FFG, LPD, LHD, LHA and CVN ship platforms
- AN/USG-3/3B: Airborne designation of CEC deployed in Hawkeye, Navy Airborne Warning and Control System Aircraft (E-2C) and Advanced Hawkeye (AHE), Navy Airborne Warning and Control System Aircraft (E-2D)
- AN/USG-4B: USMC Ground Mobile designation of CEC Composite Tracking Network (CTN)
- AN/USG-7B: CEC designation for Shipboard Foreign Military Sales (FMS) to Australia
- AN/USG-10B: CEC designation for Shipboard FMS to Japan

Executive Summary

CEC

Program Highlights Since Last Report

The CEC program has been in FRP for the AN/USG-2/2B (shipboard variant) since CY 2002 and for the AN/USG-3B (E-2D airborne variant) since CY 2014. Development efforts continue in order to keep pace with the security threats and ensure producibility. The program remains focused on ensuring compatibility and interoperability.

- DDG 1000 and CEC have implemented the Accelerated Mid-Term Interoperability Improvement Plan (AMIIP) for the DDG 1000 Zumwalt combat system. Fielded in FY 2022.
- Fielding of Identification Friend or Foe (IFF) Mode 5 updates is complete for the majority of CEC equipped platforms. Efforts continue for DDG 1000 class ships and United States Marine Corps (USMC) Composite Tracking Network (CTN).

CEC follows an evolutionary acquisition process, delivering capability in increments of hardware and/or software upgrades. This evolutionary approach actively addresses the need for future capability improvements to overmatch evolving threats. The quantity remained at 366 for PB24. There are no significant software-related issues with this program at this time.

Significant Accomplishments:• CEC Test and Evaluation Master Plan Rev 6 Change 1 in signature cycle. Expect completion 2Q FY23• Completed certification of CEC S/W 11.04 for CP 22-1 DDGs• Completed Certification of CEC S/W 10.52 for AEGIS B/L 7 and 9• Completed Combat System Ship's Qualification Trials (CSSQTs) on JS Maya (DDG 179) and JS Haguro (DDG 180)• CEC integration with Ship Self-Defense System (SSDS) Baseline 12/EASR:

Development and integration continues. Significant Issues:• No significant issues to report

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
Apr - 2014	CEC Acquisition Decision Memorandum - Authorized entrance into FRP for the CEC AN/USG-3B (E-2D Airborne Variant) System in support of E-2D Advance Hawkeye FRP
May - 2012	CEC Acquisition Decision Milestone Program Decision Memorandum - Approved the LRIP Lot 3 for up to five complete AN/USG-3B systems. Designate the CEC program as an ACAT 1C program with the Navy as the lead Component
May - 2012	The USD(AT&L) memorandum of May 25, 2012 - Re-designated CEC from an ACAT 1D to an ACAT 1C program with the Navy as lead component and authorized the Navy to procure the third increment of LRIPs for the CEC Airborne variant
Dec - 2011	CEC Acquisition Decision Milestone Program Decision Memorandum - Authorized the Navy to procure one additional CEC AN/USG-3B unit as part of the FY 2011 LRIP Lot 2, approved via ADM on February 12, 2010. This decision now authorizes procurement of up to eight complete AN/UGS-3B units as CEC LRIP Lot 2. Also authorize an increase in the total CEC AN/USG-3A/B LRIP quantity to not more than 16 units
Aug - 2010	CEC Acquisition Decision Milestone Program Decision Memorandum - Authorized the Navy to procure one additional CEC AN/USG-3B system as part of the second LRIP Lot, increasing the total CEC LRIP Lot 2 quantity authorized to 7
Feb - 2010	CEC Acquisition Decision Milestone Program Decision Memorandum - Approved the procurement of up to two (2) additional SDP-S components, to support the E-2D Advanced Hawkeye LRIP
Feb - 2009	CEC Acquisition Decision Milestone Program Decision Memorandum - Approved the second LRIP of up to six (6) complete AN/USG-3B systems
Jan - 2009	CEC Acquisition Decision Milestone Program Decision Memorandum - Approved an increase in the total LRIP quantity for CEC program of an additional 14 AN/USG-3A systems
May - 2005	CEC achieves FOC
Apr - 2002	CEC MS III ADM - Approved for the AN/USG-2 Surface-based CEC system for MS III for FRP

Apr - 2002	CEC MS III ADM - Approved the FY 2002 and FY 2003 AN/USG-3 Airborne-based CEC System LRIP quantity (5 units each year)
Apr - 2002	CEC MS III ADM - Approved the updated APB
Apr - 1998	Initial production of AN/USG-2 equipment was awarded
Feb - 1998	AN/USG-2 equipment LRIP award
Dec - 1997	Initial Operation Testing and Evaluation (IOT&E) of AN/USG-2 equipment
May - 1997	CDR CEC Airborne Transceiver
Dec - 1996	Critical Design Review (CDR) CEC Shipboard
Jul - 1996	Preliminary Design Review CEC Shipboard
May - 1995	CEC Acquisition Decision Milestone CEC Milestone (MS) I/II Navy Program Decision - Approved to proceed into EMD

Schedule CEC

Events	Milestone Baseline Objective	Current Baseline Objective/Threshold		Current Estimate/Actual	Deviation
Milestone II Complete	May 1995	May 1995	May 1995	May 1995	
Development Contract Modification Complete	May 1995	May 1995	May 1995	May 1995	
Preliminary Design Review Complete Complete	Feb 1996	Jul 1996	Jul 1996	Jul 1996	
Baseline System Initial Operational Capability Complete	Sep 1996	Sep 1996	Sep 1996	Sep 1996	
Critical Design Review Complete Complete	Aug 1996	Dec 1996	Dec 1996	Dec 1996	
IOT&E (DT-IIB/OT-IIA1)-Start (1)	May 1997	May 1997	May 1997	May 1997	
IOT&E (DT-IIB/OT-IIA1)-Complete (1)	Aug 1997	Aug 1997	Aug 1997	Aug 1997	
LRIP Decision Complete	Dec 1997	Feb 1998	Feb 1998	Feb 1998	
Low Rate Production Contract Award Complete	Apr 1998	Apr 1998	Apr 1998	Apr 1998	
Service Depot Support Date Complete	Oct 2000	Oct 2000	Oct 2000	Oct 2000	
Service Final DT&E-Complete (2)	Nov 2000	May 2001	May 2001	May 2001	
Service Final DT&E-Start (2)	Jul 2000	Jan 2001	Jan 2001	Jan 2001	
IOT&E - OPEVAL (OT-IIA2)-Complete (3)	Nov 2000	May 2001	May 2001	May 2001	
IOT&E - OPEVAL (OT-IIA2)-Start (3)	Sep 2000	Mar 2001	Mar 2001	Mar 2001	
Organic Support Date Complete	Oct 2001	Oct 2001	Oct 2001	Oct 2001	
FOT&E-1 (DT-IIIA/OT-IIIA) E-2C-Start (4)	Jan 2002	Jan 2002	Jan 2002	Jan 2002	

FOT&E-1 (DT-III A/OT-III A) E-2C-Complete (4)	Aug 2002	Nov 2002	Nov 2002	Nov 2002	
Milestone III Complete	Apr 2002	Apr 2002	Apr 2002	Apr 2002	
Full Rate Production Contract Award Complete	May 2002	Apr 2002	Apr 2002	Apr 2002	
FOT&E-2 (DT-III B/OT-III B) E-2C-Start (6)	Mar 2003	Mar 2004	Mar 2004	Mar 2004	
FOT&E-2 (DT-III B/OT-III B) E-2C-Complete (6)	Jul 2003	Apr 2004	Apr 2004	Apr 2004	
Full Operational Capability Complete	Dec 2003	May 2005	May 2005	May 2005	
Airborne IOC Complete	Dec 2003	May 2005	May 2005	May 2005	
AN/USG-3B Full Rate Production Decision for E-2D Complete		Apr 2014	Apr 2014	Apr 2014	

Notes

All events listed in the APB are completed.

Deviation Explanation

Performance

CEC

Performance Characteristics					
Milestone Baseline	Current Baseline Objective/Threshold	Demonstrated Performance	Current Estimate/Actual	Deviation	
(KPP)Interoperability - Information Exchange Requirements (IER) (2)					
	100% of top-level IERs.	100% of top-level IERs designated critical	100% of top-level IER's designated critical	100% of top-level IER's designated critical	
(KPP)Interoperability - Track File Consistency (2)					
	CEC integration will improve track file consistency as measured in each host system	CEC integration must not degrade track file consistency (0% degradation)as measured in each host system	Integration will improve track file consistency as measured in each host system	Integration will improve track file consistency as measured in each host system	

Requirement Reference

Validated:

CEC Increment 1 CPD as validated by JROC memorandum dated August 12, 2016 which replaces the 2011 Change 1 CEC ORD, which was rescinded.

Deviation Explanation

No deviations for this program/subprogram

Notes

CEC Security Classification Guide approved on 12 Aug 2022. Current classification notes Operational Availability (Ao) as UNCLASSIFIED, however, Ao will be reported in the classified annex with the performance/KPP/KSA data.

Acquisition Budget Estimate

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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	2002	2,028.1	3,326.9	3,662.3	3,351.3	3,760	
Procurement	2002	2,095.2	2,104.2	2,314.6	2,070.9	2,759.1	
MILCON	2002	0	0	0	0	0	
Acq. O&M	2002	0	0	0	0	0	
Total		4,123.3	5,431.1		5,422.2	6,519.1	
PAUC	2002	15.159	15.171	16.696	14.815	17.812	
APUC	2002	8.184	6.415	7.057	6.163	8.211	

Appropriation Category Deviation Explanations

PAUC Deviation Explanation

APUC Deviation Explanation

Budget Notes

None

Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	30	30
Procurement	328	336
O&M-Acquired		

Quantity Notes

The quantity remained at 366 for PB24.

Unit Cost

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Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Category (\$M) Base Year:2002	Current UCR Baseline	Current Estimate	% Change
Program Acquisition Unit Cost			
Cost	5,431.1	5,422.2	
Quantity	358	366	
Unit Cost	15.171	14.815	-2.35%
Average Procurement Unit Cost			
Cost	2,104.2	2,070.9	
Quantity	328	336	
Unit Cost	6.415	6.163	-3.92%

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Category (\$M) Base Year:1995	Original UCR Baseline	Current Estimate	% Change
Program Acquisition Unit Cost			
Cost	2,221.9	5422.1	
Quantity	183	366	
Unit Cost	12.142	14.815	0.00%
Average Procurement Unit Cost			
Cost	1,150.3	2070.9	
Quantity	174	336	
Unit Cost	6.611	6.16	0.00%

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

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

1 Base Year-Total Acquisition Cost \$5,422.17M, Average Procurement Unit Cost (APUC) \$6.16M, Program Acquisition Unit Cost \$14.815M

2 Then Year-Total Acquisition Cost \$6,519.0M

3 Multi-system interoperability remains a technical risk with cost implications to the CEC program. To mitigate these risks the CEC program is continuing their evolutionary acquisition approach of delivering capability in increments, reducing technical and cost risk, while maintaining effectiveness and producibility.

Original Baseline Estimate (July - 1995)

(1) Base Year-Total Acquisition Cost \$2221.9M, Average Procurement Unit Cost (APUC) \$6.611M, Program Acquisition Unit Cost \$12.142M. (2) Then Year-Total Acquisition Cost \$2573.1M, Average Procurement Unit Cost (APUC) \$8.222M, Program Acquisition Unit Cost \$14.061M. (3) At program inception, interoperability between combat systems and tactical data links was a known risk with cost implications. To mitigate these risks the CEC program began pursuing an evolutionary acquisition process that would deliver capability in increments, reducing technical and cost risk, while maintaining effectiveness and producibility.

Current Baseline Estimate (January - 2019)

(1) Base Year-Total Acquisition Cost \$5431.1M, Average Procurement Unit Cost (APUC) \$6.415M, Program Acquisition Unit Cost \$15.171M. (2) Then Year-Total Acquisition Cost \$6416.1M, Average Procurement Unit Cost (APUC) \$8.383M, Program Acquisition Unit Cost \$17.922M. (3) Interoperability remains a technical risk with cost implications to the CEC program. To mitigate these risks the CEC program is continuing their evolutionary acquisition approach of delivering capability in increments, reducing technical and cost risk, while maintaining effectiveness and producibility. (4) Track File Concurrence (TFC) Performance Shortfall: required software updates to resolve shortfalls. (5) Cybersecurity Vulnerabilities in Deployed CEC Assets. (6) Common Array Block-Shipboard (CAB-S) Antenna Late Delivery.

Schedule Risk		
Technical Risks		
Current	December 21, 2022	AN/SPY-6 Integration Site Availability
Current	December 21, 2022	Canada CEC Software Certification
Current	December 21, 2022	DDG 1000 Capability Integration - AMIIP
Current	December 21, 2022	DDG 1000 Capability Integration – DDS Network Controls
Current	December 21, 2022	E-2D DSSC 5 Alignment
Current	December 21, 2022	FMS Releasability – safeguard implementation
Current	December 21, 2022	GFE (SBC) Availability
Current	December 21, 2022	Insufficient CUT Integration Testing

Low Rate Initial Production

CEC

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	03/02/1998	10/31/2013
Approved Quantity	7	84
Reference	LRIP 1 ADM	LRIP 14 ADM
Start Year	1998	1998
End Year	1998	2013

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

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the requirements to meet ship installation schedules, outfit Land Based Test Sites in preparation for completion of Operational Testing (OT), and to maintain the Minimum Sustaining Rate for production of CEC systems pending completion of OT and entry into FRP.

Notes

Contracts & Efforts

Contract Data	
Contract Number	N00024-15-C-5228
Effort Number	0
Modification Number	P00072
Award Date	12/07/2022
Definitization Date	02/25/2015
Order Number	
CAGE Code/CAGE Legal Name	0ERB9/
Contract Title	DRS Laurel Technologies
Contract Address	Johnstown, PA
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

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

Initial Target Price	Current Target Price	
\$2	\$120.9	
Initial Ceiling Price	Current Ceiling Price	
\$2	\$227	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
2	78	396
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

Contract Notes:

The Firm Fixed Price (FFP) portion of the Contract N00024-15-C-5228 includes production and testing for AN/USG-2B (Shipboard), AN/USG-3B (Airborne), AN/USG-4B (USMC) Cooperative Engagement Capability (CEC) systems and backfit kits to convert AN/USG-2/2A to AN/USG-2B. The Cost Plus Fixed Fee (CPFF) portion of the contract includes Engineering Services in support of the manufacture, assembly and testing of the CEC production systems under this contract. The 396 Delivery to Date reflects the number of principal items actually delivered to date. The 2 Original Quantity reflects the number of principal items procured under the initial contract. The 78 Current Quantity reflects the number of Principal items procured with the latest authorized modification. P00072 no cost modification change to ship short equipment for AN/USG-3B systems.

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	N00024-17-C-5201
Effort Number	0
Modification Number	P00024
Award Date	12/21/2022
Definitization Date	08/24/2017
Order Number	
CAGE Code/CAGE Legal Name	0ERB9/
Contract Title	DRS Laurel Technologies
Contract Address	Johnstown, PA
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$0.5	\$16.1	
Initial Ceiling Price	Current Ceiling Price	
\$82	\$82	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
3	163	156
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

Contract Notes:

This CEC SDP Production (FY 2017 - FY 2023) contract is a follow-on to the CEC Signal Data Processor – Sierra II Chip (SDP-S) Production (FY 2011 - FY 2016) contract and includes the manufacture, assembly, test, and repair of a SDP assembly for the Cooperative Engagement Transmission Processing Set. Total contracted quantity is 163 SDP-S. 156 units, including initial quantity of 3, have been delivered to date and seven (7) SDPs remain to be delivered. SDP-S Production delay has been partially resolved; yet manufacturer has yet to meet contractual required output of 10 units per month. Continue monitoring and working the seams issues for SDP-S deliveries and contractor's performance. Utilizing repaired and converted assets we are meeting our install schedules. NAVSUP orders are delayed and have increased the Mean Logistics Delay Time (MLDT) for fleet units needing assets. The Government team is also conducting a deep-dive into contractor's production and quality management processes to

determine root cause of the current delivery delays. The 3 Original Quantity reflects the number of principal items procured under the initial contract.

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	N00024-22-C-5218
Effort Number	0
Modification Number	P00004
Award Date	10/31/2022
Definitization Date	07/21/2022
Order Number	
CAGE Code/CAGE Legal Name	1BRA6/
Contract Title	L3 Technologies
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$3.4	\$79.2	
Initial Ceiling Price	Current Ceiling Price	
\$3.4	\$79.2	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

Contract Notes:

FY2022 – 2027 CEC Production and Sustainment Contract, N00024-22-C-5218, was a competitively awarded 18 July 2022. This contract consolidates USG-xB Repair and SDP Production and supports Navy, Marine Corps, and future Foreign Military Sales requirements. The contract is a fixed-price incentive (firm target), firm-fixed-price, cost-plus-incentive-fee, cost-plus-fixed-fee, cost-plus-award-fee, and cost reimbursement contract for CEC system production, repair, and sustainment. The CEC System Production/Repair contract provides manufacturing, assembling, modification, testing, integration, and repair of CEC AN/USG-xB systems, spares, and INCO (comprised of CEC Hardware and SDP minus shipboard antenna). This does not include production of the Planar Array Antenna Assembly (PAAA), Antenna Environmental Control Unit (AECU), or the Shipboard Active Antenna (SBAA), but may include repair of these items.

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	N00024-19-C-5200
Effort Number	0
Modification Number	P00046
Award Date	12/13/2022
Definitization Date	05/08/2019
Order Number	
CAGE Code/CAGE Legal Name	00724/
Contract Title	Raytheon
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	99.84%

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

Initial Target Price	Current Target Price	
\$8	\$188.7	
Initial Ceiling Price	Current Ceiling Price	
\$279.3	\$350.2	
Contractor EAC	PM EAC	
\$9.4	\$9.4	
Initial Quantity	Current Quantity	Delivered Quantity
0	0	0
BAC	BCWP	ACWP
\$9.5	\$9.5	\$8.8
BCWS	Cost Variance	Schedule Variance
\$9.5	\$0.8	\$0.36

Contract Notes:

The FY 2019 - FY 2024 Design Agent/Engineering Services (DA/ES) contract N00024-19-C-5200 is a competitively awarded follow on to the N00024-13-C-5212 and includes design, development, integration, test, and maintenance to system capabilities for all baselines applicable to the CEC System, supporting the evolution and maintenance of the CEC System and Single Source Library required for CEC Design Agent. The N00024-19-C-5200 contract includes development environment infrastructure that supports the complete CEC System development, verification, and support. The Contractor shall maintain the CEC hardware and Software Development Environment (SDE) and testing infrastructure and provide requisite facility and security infrastructure to support existing CEC baselines. Support provided by the Contractor under this contract shall include Program Management, Systems Engineering, Software Development, System Tech Refresh and Obsolescence Update Support, Test and Analysis,

Quality Assurance (QA), Configuration Management (CM), ILS, Reliability and Maintainability (R&M), System Safety, System Security, and Cost Estimation. The Design Agent/Engineering Services (FY 2019 - FY 2024), N00024-19-C-5200 has the following efforts: 1) CEC Capabilities for Integration with AEGIS Advanced Capability Build (ACB) 20 with a period of performance of 8 May 2019 through 30 September 2022; 2) CEC Facilities Management (FY 2019 Design Agent); 3) Advanced Studies and Integration (FY 2019); 4) Software Sustainment (FY 2019); 5) CEC Facilities Management (FY 2020 Design Agent); 6) Advanced Studies and Integration (FY 2021); 7) Software Sustainment (FY 2021); 8) CEC Facilities Management (FY 2021 Design Agent); 9) Provisioned Item Order; 10) Advanced Studies and Integration (FY 2022); 11) Software Sustainment (FY 2022). The Design Agent/Engineering Services (FY 2019 - FY 2024), N00024-19-C-5200, Effort 0, is a cumulative total of CLINs 0001, 0002, 0100, 0300, 1002, 1100, 1300, 2002, 0700, 2100, 2300, 2500, 3002, and 1400. The following methodology ensures values for Design Agent/Engineering Services Competitive FY 2019 - FY 2024 DA/ES Efforts are not double counted. The PM's Estimated Price (\$133.00M) reported for the FY 2019 - FY 2024 DA/ES Effort 0 is not reflected in the Contract Cost Report section. Open Efforts are reported separately, and when completed, moved into the Completed Contracts line. PM and Contractor Estimated Ceiling Price is Target Cost (\$263.36M) plus Maximum Fee (\$15.98M). The Current Negotiated Contract Cost (\$125.66M) is the current dollar value (excluding fee of profit) on which contractual agreement was reached as of the reflected report period. The EVM effort for CLIN 001 was completed in Sep 2022 and there is no further EVM data to report beyond Sep 2022.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

Cost Variance above 1 is favorable.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

Schedule variance below 1 is unfavorable, but the variance in days to the baseline schedule is 0 work days. This effort was not adversely affected by the unfavorable schedule variance and completed prior to the end of the contract period of performance.

Contract Data	
Contract Number	N00024-20-C-5203
Effort Number	0
Modification Number	P00020
Award Date	12/12/2022
Definitization Date	05/07/2020
Order Number	
CAGE Code/CAGE Legal Name	00724/
Contract Title	Raytheon
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$32.7	\$106.4	
Initial Ceiling Price	Current Ceiling Price	
\$32.7	\$106.4	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
12	52	
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

Contract Notes:

The Firm Fixed Price (FFP) portion of the Contract N00024-20-C-5203 includes the manufacture, assembly, and test of the Planar Array Antenna Assembly (PAAA) for the Cooperative Engagement Transmission Processing Set. The Cost Plus Fixed Fee (CPFF) portion of the contract includes Engineering Services in support of the design, manufacture, assembly and testing of the PAAA production systems under this 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

CEC

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	30	30	30	100.00%
Production	336	227	336	67.56%
Total Program Quantity Delivered	366	257	366	70.22%

Expended and Appropriated (TY \$M)

Years Appropriated to date: 29

Total Years Appropriated Funding (Current Baseline): 38

Percent Years Appropriated: 76.32%

Then-Year Funding Appropriated as Percentage of Total Acquisition Estimate: 84.78%

Then-Year Funding Expended as Percentage of Total Acquisition Estimate: 79.01%

Total Acquisition Cost: 6,519.05

Deliveries & Expenditures Notes:

Assumed that all funding through FY23 is appropriated (O&M values not included). The above data is current as of March 13, 2023.

Operating and Support Costs

CEC

O&S Cost Breakdown:

Category (BYS Million)	CEC
Unit-Level Manpower	.0
Unit Operations	.0
Maintenance	.2
Sustaining Support	.1
Continued System Improvements	.1
Other	.0
Total	.4

Category (BYS Million)	CEC Airborne Sustainment (AN/USG-3B)
Unit-Level Manpower	
Unit Operations	
Maintenance	
Sustaining Support	
Continued System Improvements	
Other	
Total	.0

Category (BYS Million)	CEC Airborne Sustainment (AN/USG-3)
Unit-Level Manpower	
Unit Operations	
Maintenance	
Sustaining Support	
Continued System Improvements	
Other	
Total	.0

Category (BY\$ Million)	CEC Shipboard Sustainment (AN/USG-2/2A)
Unit-Level Manpower	
Unit Operations	
Maintenance	
Sustaining Support	
Continued System Improvements	
Other	
Total	.0

Category (BY\$ Million)	CEC Shipboard Sustainment (AN/USG-2B)
Unit-Level Manpower	
Unit Operations	
Maintenance	
Sustaining Support	
Continued System Improvements	
Other	
Total	.0

Cost Estimate Source: CCP dated December 13, 2018

O&S Cost Notes:

NAVSEA 05C Component S-ICE dated July 2022 completed in coordination with required Gate 7 review; Update to NAVSEA letter 7000 Ser 05C/037 dated December 13, 2018

O&S Cost Notes

a. Disposal/Demilitarization Cost Estimate and Source of

Estimate: \$12.5TY\$M; NAVSEA 05C S-ICE dated July 2022 completed in coordination with required Gate 7 review

b. Sustainment Strategy: Sustainment strategy efforts include: Maintenance and repair of CEC fielded systems (AN/USG-2, Land Based Test Sites, AN/USG-3), Integrated Logistics Support, Software Trouble Reports, Original Equipment Manufacturer Design Agent support, In-Service Engineering, Diminishing Manufacturing Supply Material Shortages, Obsolescence Management.

c. For Each Acquired System or System Variant:

i. Quantity to Sustain: 366

ii. First Operational Fiscal Year: FY 1994

iii. Final Operational Fiscal Year: FY 2054

iv. Unit Expected Service Life: 20 years

d. Antecedent System(s) O&S Costs: No Antecedent

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	1,757.6	1,933.4	1845.4	3,332.9	

Note:

Deviation Explanation: As a result of Component S-ICE completed for Gate 7 review, programmatic updates include: increase of 8 additional units (PB24); increase in sustainment duration until FY54 (increase of 2 years); and transition from CAB to PAAA antenna. Additionally, updated cost estimating methodology for government depot (NAVSUP) and inflation/ escalation assumptions per OSD CAPE Guidance. The current estimate includes both internal and external funds based on the Gate 7 estimate.

O&S Cost Deviation Explanation

Operating and Support Costs - Disposal and Unitized Costs

CEC

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

Sustainment Factors	System Name: Cooperative Engagement Capability	Antecedent System Name:
Quantity to Sustain	366	
Unit of Measure	Complete CEC System	
Unit Expected Service Life	20	

Base Year:

Annual Unitized O&S Cost by Category Base Year \$ Unit:	System Name: Cooperative Engagement Capability	Antecedent System Name:
Unit-Level Manpower	0	
Unit Operations	10	
Maintenance	160	
Sustaining Support	80	
Continued System Improvements	100	
Other	0	
Total O&S	350	0

Disposal/Demilitarization Cost Estimate

(Base Year \$Millions)	System Name: Cooperative Engagement Capability	Antecedent System Name:	System Name:
Total Disposal	5.8		

Cost Estimate Source - Disposal

Type:	Independent Cost Estimate
Approval Authority and Date:	NAVSEA 05C 07/19/2022
Note:	
Disposal Cost Notes:	
Disposal/Demilitarization Cost Estimate and Source of Estimate: \$12.5TY\$M; NAVSEA 05C S-ICE dated July 2022 completed	

in coordination with required Gate 7 review

Additional O&S Estimate Assumptions:

Sustainment Strategy:

Sustainment strategy efforts include: Maintenance and repair of CEC fielded systems (AN/USG-2, Land Based Test Sites, AN/USG-3), Integrated Logistics Support, Software Trouble Reports, Original Equipment Manufacturer Design Agent support, In-Service Engineering, Diminishing Manufacturing Supply Material Shortages, Obsolescence Management.

Antecedent Estimate Assumptions: