Modernized Selected Acquisition Report (MSAR)

CVN 78 Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78)

FY 2025 President's Budget

Effective: December 31, 2023

Defense Acquisition Visibility Environment

Table of Contents

(U) Common DoD Abbreviations

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

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

(U) Program Description

Full Name
CVN 78 Gerald R. Ford Class Nuclear Aircraft Carrier

Short Name
CVN 78

PNO
223

Milestone Decision Authority
Component Acquisition Executive

Lead Component
Department of the Navy

Program Executive Office
PEO Aircraft Carriers

Joint Program
No

Acquisition Type
Major Defense Acquisition Program

Adaptive Acquisition Pathway
Major Capability Acquisition

Acquired Systems
CVN 78

Acquisition Category
IC

Acquisition Status
Active Acquisition

Subprograms

Full Name	Short Name	Acquisition Status	Acquired Systems
EMALS	EMALS	Active Acquisition	EMALS
CVN 78	CVN 78	Active Acquisition	CVN 78

Mission
The CVN 78 Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78) is the successor to the NIMITZ Class (CVN 68) aircraft carrier. The CVN 78 mission is to provide credible, sustainable, independent forward presence during peacetime without access to land bases; operate as the cornerstone of a joint and/or allied maritime expeditionary force in response to crisis; and carry the war to the enemy through joint multi-mission offensive operations by: (a) being able to operate and support aircraft in attacks on enemy forces ashore, afloat, or submerged independent of forward-based land facilities, (b) protecting friendly forces from enemy attack through the establishment and maintenance of battle space dominance independent of forward-based land facilities, and (c) engaging in sustained operations in support of the United States and its allies independent of forward-based land facilities. The CVN 78 Class Aircraft Carrier program includes major efforts for Nuclear Propulsion/Electric Plant Design, Electromagnetic Aircraft Launching System (EMALS) and all electric auxiliary systems. Additional design features and new technologies have been added, including a new/enlarged flight deck, improved weapons handling capabilities, and improved survivability.

(U) Responsible Office

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(U) Executive Summary

Program Highlights Since Last Report

GERALD R. FORD (CVN 78)
CVN 78 departed for her initial operational deployment in May 2023 and, after a two-and-a-half-month extension following the outbreak of conflict in Israel, returned to her homeport in January 2024. While underway, CVN 78 worked with 17 nations throughout its deployment that included dual-carrier operations and exercises with navies from France, Greece, Norway, Turkey, and the United Kingdom. During its deployment, the CVN 78 crew conducted 43 underway replenishments, logged more than 17,826 flight hours and 10,396 sorties, and sailed more than 83,476 nautical miles. With the return of CVN 78 from its initial operational deployment, the program continues to execute the class test plan which includes Live Fire Test and Evaluation (LFT&E) and Initial Operational Test and Evaluation (IOT&E). The Total Ship Survivability Trial is planned for November 2024 and will be the final test event of the LFT&E program. With the first operational deployment being extended for CVN 78, the IOT&E schedule has been adjusted to align with the planned future Composite Training Unit Exercises to demonstrate the Sustained Sortie Generation Rate and Surge Sortie Generation Rate.
JOHN F. KENNEDY (CVN 79)
CVN 79 is 91 percent complete. In August 2023 the Secretary of the Navy notified Congress he was increasing the Cost Limitation Baseline for CVN 79 to $12.936 billion. The increase is the result of implementing the capability-based ship delivery/post-delivery strategy to move planned work from the Post Shakedown Availability (PSA) into the construction period. The Navy awarded a contract modification in June 2023 to implement the ship delivery/post-delivery strategy and as a result the delivery has been adjusted to July 2025. This approach will prepare CVN 79 as the first FORD Class aircraft carrier to operate in the Indo-Pacific region and decrease the amount of time CVN 79 would have been required to be at the shipyard after ship delivery to conduct the PSA. The revised strategy maintains the overall "ready for deployment workups" milestone for CVN 79. In February 2024, the shipbuilder and the crew commenced EMALS dead-load testing, launching large, wheeled, car-like structures of graduated weights up to 80,000 pounds to simulate the weight of actual aircraft.
ENTERPRISE (CVN 80) / DORIS MILLER (CVN 81)
CVN 80 is 37 percent complete. In August 2023 the Secretary of the Navy notified Congress he was increasing the Cost Limitation Baseline for CVN 80 to $13.529 billion and CVN 81 to $14.016 billion. The increases are due to equipment delivery delays resulting from global supply chain disruptions, incorporation of new capabilities, and non-nuclear Government Furnished Equipment cost increases. A Capital Expenditure (CAPEX) incentive for upgrades to Dry Dock 12 was awarded in October 2022. This CAPEX project installs a new watertight intermediate gate lodge to split the dry dock into two sections and enables simultaneous construction of two aircraft carriers in the same dry dock. As a result of this CAPEX project, the ability to deliver FORD Class aircraft carriers on time is increased by reducing risk in the legacy heel-to-toe schedule within the dry dock between the lead and follow-on ship in a two-ship buy. This critical public-private partnership agreement established favorable conditions for keeping aircraft carrier construction on schedule and sets the groundwork for executing a potential future two-ship award. The CVN 81 keel laying remains on schedule or FY 2026.
Electromagnetic Aircraft Launch System (EMALS) - major subprogram
To date, nearly 23,000 EMALS launches have been completed aboard CVN 78. Logistics

contracts are in place with General Atomics (GA) for EMALS sustainment support, fleet interim training and interim spares. NAVAIR awarded the CVN 81 Advanced Arresting Gear (AAG)/ EMALS Pre-production Planning contract to GA in December 2021 and awarded a contract modification for full-production in June 2023. NAVAIR awarded a contract to Kato Engineering in September 2023 for the CVN 81 EMALS Energy Storage Subsystem Motor Generators.
In May 2023 the CVN 78 Class Program Office notified the MDA of schedule and cost deviations. Actions to mitigate the deviations include teaming with PEO Subs to add workforce development and retention incentives, leveraging small business investment in upskilling new hires and incumbent workforce, Capital Improvement investments in facilities, working with shipbuilder to establish an Advanced Weapons Elevator school of excellence, re-sequencing CVN 80 unit erection plan, and continuing to plan for future procurements with a two-ship buy accompanied by three-years of Advanced Procurement to address realities of the supply base lead times. The EMALS Procurement Current Estimate deviation is due to the CVN 81 shipset being purchased on a single-shipset contract without the Economic Order Quantity savings achieved with the previous CVN 79/80 two-shipset contract.
Defense Cost and Resource Center Cost and Software Data Reporting Compliance Rating: Red. Anticipate completion of report and status changing to Green by May 2024.
There are no significant software-related issues with this program at this time.

(U) History of Significant Developments Since Program Inception

Date	Description
June 2023	CVN 79 contract modification was awarded on June 23, 2023 implementing the capability-based ship delivery/post-delivery strategy to move planned work from the Post Shakedown Availability into the construction period. The CVN 79 delivery date adjusted to July 2025.
May 2023	Platform Level Integration Development Test Period Complete achieved in May 2023.
May 2023	CVN 78 conducted first operational deployment from May 2023 to January 2024.
October 2022	CVN 78 conducted a service retained deployment from October to November 2022.
September 2022	Initial Operational Test and Evaluation period commenced.
July 2022	CVN 78 reached Obligation Work Limiting Date.
February 2022	CVN 78 completed Planned Incremental Availability one day early on February 28, 2022.
December 2021	CVN 78 Class IOC achieved with an achievement date of December 22, 2021.
September 2021	CVN 78 began Planned Incremental Availability at Newport News Shipbuilding on September 01, 2021.
August 2021	CVN 78 completed Full Ship Shock Trials on August 08, 2021.
April 2021	CVN 78 completed Post-Delivery Test and Trials phase on April 30, 2021.
April 2021	AAG and EMALS IOC achieved with an achievement date of April 30, 2021.
December 2020	CVN 78 set a new single-day record of 170 launches and 175 arrestments in an 8.5-hour period, an average of 20 sorties per hour, highlighting the increasing capability and growing confidence that a fully trained crew and embarked air wing will achieve the required sortie generation rate.
January 2020	Acting Secretary of the Navy announced on January 20, 2020 that the nuclear-powered aircraft carrier CVN 81 would be named the DORIS MILLER.
December 2019	CVN 79 was christened by the ship's sponsor and daughter of President Kennedy, Ambassador Caroline Kennedy, on December 07, 2019 and launched on December 16,

Date	Description
	2019, more than two months ahead of the baseline schedule.
November 2019	CVN 78 commenced Post-Delivery Test and Trials phase in November 2019.
October 2019	CVN 78 completed Post Shakedown Availability/Selected Restricted Availability on October 30, 2019.
January 2019	CVN 80/81 two-ship buy Detail Design and Construction contract awarded on January 31, 2019.
December 2018	On December 31, 2018 the Secretary of Defense provided Congressional notification in accordance with Section 121 of the FY 2019 National Defense Authorization Act (Public Law 115- 232) certifying the CVN 80/81 two-ship buy cost savings and provided the Secretary of the Navy the authority to enter into a contract for the procurement of CVN 80/81 under a single contract.
July 2018	CVN 78 commenced Post Shakedown Availability/Selected Restricted Availability on July 15, 2018.
June 2018	CVN 78 completed the eighth Independent Steaming Event and completed 747 total successful Electromagnetic Aircraft Launch System catapult launches and 747 successful Advanced Arresting Gear arrestments, including 135 launches and recoveries while underway on January 19, 2018
April 2018	CVN 79 reached the 75% structurally erected milestone with 341 of the 447 total erectables landed in the dry dock.
January 2018	On January 08, 2018 USD(AT&L) designated the CVN 78 Class Acquisition Category 1C (ACAT 1C) and delegated MDA to the Navy.
July 2017	CVN 78 formally entered in the active fleet following her commissioning ceremony on July 22, 2017.
July 2017	CVN 78 made Naval Aviation history by successfully recovering and launching its first fixed-wing aircraft on July 28, 2017. A total of four launches were conducted on the Electromagnetic Aircraft Launching System and four arrestments on the Advanced Arresting Gear.
June 2017	The Electromagnetic Aircraft Launch System completed land-based Aircraft Compatibility Testing, to correct deficiencies with launching the F/A-18E/F with external fuel tanks.
June 2017	CVN 79 reached the 50% structurally erected milestone with 224 of the 447 total erectables landed in the dry dock.
May 2017	CVN 78 delivered to the Navy on May 31, 2017 after successfully completing Builder's Sea Trials in April 2017 and Acceptance Trials in May 2017. With delivery of CVN 78, the carrier force returned to 11 ships as required by 10 U.S.C. 5062(b).
January 2017	The Electromagnetic Aircraft Launch System (EMALS) aboard CVN 78 was turned over to Ship's force. To mitigate future cost growth, EMALS and Advanced Arresting Gear (AAG) CVN 80 Firm Fixed Price options to the CVN 79 EMALS/AAG shipset contract with General Atomics were exercised in January 2017 and May 2017, locking in dual ship savings.
October 2016	CVN 79 delivery date revised from June 2022 to September 2024 as required by Section 121 of the FY 2017 National Defense Authorization Act (Public Law 114-328). Completion of the CVN 79 Detail Design and Construction contract in June 2022 will represent preliminary acceptance from the shipbuilder.
May 2016	Navy awarded a $152M initial contract for CVN 80 long lead time procurements; workload and layout planning; material tracking; development of an integrated master schedule and work packages; as well as other activities necessary to support start of construction in FY 2018.
August 2015	CVN 78 crew moved aboard as scheduled.
August 2015	USD(AT&L) ADM directed the Navy to conduct Full Ship Shock Trials on CVN 78 prior to first deployment.

Date	Description
June 2015	Electromagnetic Aircraft Launching System shipboard catapult testing commenced on schedule, with testing of the bow catapults.
June 2015	Navy awarded Huntington Ingalls Industries - Newport News Shipbuilding a Fixed Price Incentive Firm target contract in the amount of $3.35B for the JOHN F. KENNEDY (CVN 79) Detail Design & Construction effort. The contract represents an 18 percent reduction in man-hours needed to construct CVN 79 as compared to CVN 78. Additionally, a $941M modification to the Construction Preparation contract was awarded the same day. Navy awarded the Electromagnetic Aircraft Launch System CVN 79 shipset contract to General Atomics.
May 2014	Navy awarded the Electromagnetic Aircraft Launch System CVN 79 Long Lead Time Material contract to General Atomics.
April 2014	The Electromagnetic Aircraft Launch System completes land-based Aircraft Compatibility Testing.
February 2014	In President's Budget 2015 the Navy modified CVN 79 acquisition strategy to a two-phased delivery strategy, the basic ship to be constructed and tested in the most efficient manner by the shipbuilder (Phase I). Select ship systems and compartments to be completed in a second phase, wherein the work can be completed more affordably. This approach enables the Navy to replace the Dual Band Radar with the Enterprise Radar Suite, increase competitive opportunities, reduce obsolescence at delivery and increase Government Furnished Equipment cost savings through common purchases of equipment with follow-on ship CVN 80.
November 2013	CVN 78 was christened by the ship's sponsor and daughter of President Ford, Susan Ford Bales, on November 09, 2013 and launched on November 17, 2013 and weighed 77,000 tons. The ship was 70% complete - the highest level attained in aircraft carrier new construction.
April 2013	Electromagnetic Aircraft Launch System designation as a major subprogram approved by USD (AT&L) on April 02, 2013.
March 2013	An extension to the CVN 79 Construction Preparation contract for efforts through FY 2013 was awarded.
January 2013	FY 2013 National Defense Authorization Act extended the full funding period for CVN 79 and CVN 80 from five to six years.
December 2012	Secretary of Navy announced at the December 01, 2012 de-activation ceremony of the ENTERPRISE (CVN 65) that the CVN 80 would be named ENTERPRISE.
August 2012	Navy awarded the Electromagnetic Aircraft Launch System Logistics Product Development contract to General Atomics.
December 2011	FY 2012 National Defense Authorization Act extended the full funding period for CVN 79 from four years to five years and directed the Electromagnetic Aircraft Launch System be designated as a major subprogram.
June 2011	Electromagnetic Aircraft Launch System Aircraft Compatibility Testing began.
May 2011	Secretary of the Navy announced on May 29, 2011 that the nuclear-powered aircraft carrier CVN 79 would be named the JOHN F. KENNEDY.
December 2010	Electromagnetic Aircraft Launch System successfully performed land-based F/A-18E risk reduction launches.
November 2009	General Atomics Electromagnetic Systems division, along with the U.S. Navy Naval Air Systems Command (NAVAIR), celebrated the opening of the Electromagnetic Aircraft Launch System test track at Joint Base McGuire-Dix-Lakehurst, N.J., with a ribbon-cutting ceremony.
June 2009	Navy awarded the Electromagnetic Aircraft Launch System CVN 78 shipset contract to General Atomics.

Date	Description
April 2009	Department of Defense announced the CVN 21 Program would shift from a four-year to a five- year build cycle, thereby placing the program on a more fiscally sustainable path while continuing to support a minimum of 11 aircraft carriers through FY 2040. This change, which was reflected in the FY 2010 President's Budget, moved the ship authorization year for the CVN 79 from FY 2012 to FY 2013 and the ship authorization year for CVN 80 from FY 2016 to FY 2018.
January 2009	CVN 79 Construction Preparation contract awarded.
September 2008	CVN 78 Detail Design and Construction contract awarded.
August 2008	USD(AT&L) chaired Defense Acquisition Board authorized Navy to enter the production phase for CVN 78, and enter the construction preparation phase for the first follow ship, CVN 79.
April 2008	Navy awarded the Electromagnetic Aircraft Launch System CVN 78 Long Lead Time Material contract to General Atomics.
October 2006	FY 2007 National Defense Authorization Act provides contract authority for construction of a CVN 21 Class (subsequently re-designated the CVN 78 Class) aircraft carrier designated CVN 78, CVN 79, or CVN 80. The Navy received authority for the ships to be split funded across four years. The act also provided a sense of Congress that the first ship of the class, CVN 78, should be named U.S.S. GERALD R. FORD.
February 2005	President's Budget FY 2006 moves full funding of the lead ship (CVN 78) from FY 2007 to FY 2008. Key event and acquisition dates have been adjusted to accommodate the change in program funding. Construction contract award delayed from FY 2007 to FY 2008. The overall change to the program is a one year slip in delivery for both the lead ship (CVN 78) and the second ship (CVN 79) which is 2015 and 2019, respectively.
May 2004	Program Office awarded the Construction Preparation contract which funds the Research, Development, Test, and Evaluation), Long Lead Time Material, integrated design, advance procurement and advance construction of components in support of FY 2007 CVN 21 Construction contract.
April 2004	Milestone B Defense Acquisition Board Decision Review held on April 02, 2004. Program major milestones construction contract award in FY 2007 and ship delivery planned for FY 2014 remained unchanged. Approved Acquisition Program Baseline low rate initial production quantity not to exceed three ships. Navy down selected General Atomics as the Electromagnetic Aircraft Launch System Prime Contractor and awarded the System Development and Demonstration contract.
April 2004	CVN 78 Construction Preparation contract awarded.
June 2003	Program reports delay to Early Operational Assessment (from June 2003 to March 2004) and an additional delay to Milestone B to April 2004.
December 2002	Program Decision Memorandum dated December 12, 2002 redesignated CVNX as CVN 21, pulling forward technologies originally planned for CVNX-2. Increases in sortie generation rate requirements and additional manpower reduction requirements previously slated for CVNX-2, such as advanced weapons handling and material movement were pulled forward into the lead ship, the follow on CVN 21 is now considered a modified repeat. Additional design features/new technologies were also added and include: improved/enlarged flight deck, advanced arresting gear, improved weapons handling capabilities, and improved survivability.
September 2002	Milestone B schedule date has been delayed five months from September 2002 to February 2003 due to a delay in the release of the Operational Requirements Document.
February 2002	President's Budget FY 2003 slips the original CVNX-1 program of record for design start construction and delivery by one year to FY 2007, and reflects split funding of CVNX construction over FY 2007 and FY 2008.
April 2001	Completion of the CVNX-1 Systems Requirement Review marked a major milestone toward commencement of design activities to support the Milestone B Defense

Date	Description
	Acquisition Board planned for September 2002.
October 2000	Northrop Grumman Newport News was awarded a cost-plus-fixed-fee contract for research and design development engineering services in support of the CVNX. Design and integration efforts for the class began with the Integrated Product and Process Development contract.
June 2000	Future Aircraft Carrier program (CVNX), the planned successor to the NIMITZ Class aircraft carrier, was granted Milestone I approval on June 15, 2000.
December 1999	Navy awarded two Electromagnetic Aircraft Launch System Program Definition and Risk Reduction contracts to General Atomics and Northrop Grumman.
October 1998	USD(AT&L) approved the Navy request for a large-capacity (75 aircraft) carrier with new nuclear propulsion plant and electric plant design, employing an evolutionary acquisition approach. The first ship of the class (CVNX-1) to be based upon a NIMITZ Class hull.
March 1996	Milestone 0 approval.

EMALS Subprogram

Program Highlights Since Last Report

Program Highlights for the EMALS are provided in the CVN 78 Class summary.

(U) History of Significant Developments Since Program Inception

No Data

CVN 78 Subprogram

Program Highlights Since Last Report

Program Highlights for the CVN 78 Class are provided in the CVN 78 Class summary.

(U) History of Significant Developments Since Program Inception

No Data

(U) Schedule

EMALS Subprogram

(U) Schedule Events

Events		Development APB (Milestone) 4/2/2013 Objective	APB Change 1 (Current) 2/6/2020 Objective / Threshold		Current Estimate 12/31/2023	Actual
EMALS						
Delivery (with Ship)	Other	Sept 2015	May 2017	May 2017	May 2017	-
IOC	IOC	Sept 2016	Jul 2021	Jan 2022	Apr 2021	-
IOT&E						
IOT&E Start	IOT&E	Feb 2017	Aug 2022	Feb 2023	Sept 2022	-
IOT&E Complete	IOT&E	Aug 2019	Nov 2023	May 2024	May 2025*	-
Platform-Level Integration DT Period Complete	Other	Sept 2017	May 2023	Nov 2023	May 2023	-

* Baseline Deviation

Notes

A Program Deviation Report was submitted to the MDA and an APB change will be submitted prior to the next annual MSAR.

Schedule Baseline Deviation Explanation

IOT&E Complete deviation was reported in the December 2022 SAR.

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

Event	Date	Description
Current	12/31/2023	There are currently no schedule risks.
MS B	9/1/2006	Electromagnetic Aircraft Launch System (EMALS). Performance Risk: EMALS - Risk: Component delivery dates may miss required in yard dates for ship. Driver: Land-based testing schedule. Mitigation: Manage scheduled events leading to Low Rate Initial Production decision. Date: September 2009

CVN 78 Subprogram

(U) Schedule Events

Events		Development APB (Milestone) 4/23/2004 Objective	APB Change 4 (Current) 2/6/2020 Objective / Threshold		Current Estimate 12/31/2023	Actual
CVN 21						
Milestone B	MS B	Apr 2004	Apr 2004	Apr 2004	Apr 2004	-
DAB Program Review (PR)	Other	Jan 2006	Jul 2008	Jul 2008	Jul 2008	-
Early Operational Assessment	IOT&E	Mar 2004	Mar 2004	Mar 2004	Mar 2004	-
Start Construction	Other	Jan 2007	Sept 2008	Sept 2008	Sept 2008	-
Launch	Other	Nov 2012	Nov 2013	Nov 2013	Nov 2013	-
Combat Systems Trial Rehearsal (CSTR)	Other	Jul 2014	Jan 2017	Jan 2017	Jan 2017	-
Delivery	Other	Sept 2014	May 2017	May 2017	May 2017	-
Initial Operational Capability (IOC)	IOC	Sept 2015	Jul 2021	Jan 2022	Dec 2021	-
Follow-on Ship						
DAB Program Review	Other	Jan 2010	Apr 2015	Apr 2015	Apr 2015	-
CVN 79 Delivery	Other	Sept 2018	Sept 2024	Mar 2025	Jul 2025*	-
Start Construction (2)	Other	Jan 2011	Jun 2015	Jun 2015	Jun 2015	-
IOT&E						
IOT&E Start	IOT&E	-	Aug 2022	Feb 2023	Sept 2022	-
IOT&E Complete	IOT&E	-	Nov 2023	May 2024	May 2025*	-
Platform-Level Integration DT Period Complete	Other	-	May 2023	Nov 2023	May 2023	-
Follow-on Ship (CVN 80)						
CVN 80 Delivery	Other	-	Mar 2028	Mar 2029	Sept 2029*	-
Follow-on Ship (CVN 81)						
CVN 81 Delivery	Other	-	Feb 2032	Feb 2033	Feb 2032	-

* Baseline Deviation

Notes

A Program Deviation Report was submitted to the MDA and an APB change will be submitted prior to the next annual MSAR.

Schedule Baseline Deviation Explanation

CVN 79 Delivery deviation was reported in the December 2022 SAR.
IOT&E Complete deviation was reported in the December 2022 SAR.
CVN 80 Delivery is being adjusted to September 2029 due to shipbuilder performance.

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

Event	Date	Description
Current	12/31/2023	CVN 80/81: If CVN 80 Launch is delayed beyond the working schedule milestone date of May 2027, then delays would cascade directly to CVN 81.
Current	12/31/2023	CVN 79. If AN/SPY-6(V)3 Enterprise Air Surveillance Radar integration with Ship Self-Defense System (SSDS) isn't satisfactorily demonstrated at land-based test sites, then Combat System Light Off and later ship milestones may be delayed due to additional shipboard integration and test.
Current	12/31/2023	CVN 80/81: If shipyard and supplier performance for material procurement and Contractor Furnished Equipment for CVN 80/81 components doesn't improve as a result of COVID and other global supply chain challenges, then the planned work schedule will be impacted causing both cost and schedule impacts.
MS B	9/1/2006	CVN 78. Schedule Risk: Contracts. Driver: Ship design maturity. Mitigation: Alpha contracting process implemented. Date: December 2007.
MS B	9/1/2006	CVN 78. Schedule Risk: Lack of Build Contract for the Dual Band Radar potential impacts to Lead Design Yard construction. Driver: Technology maturity. Mitigation: Award contract to build carrier version of the Dual Band Radar, control of common array power system and common array cooling system, unique power, unique cooling design, air traffic control, and firm delivery dates.

(U) Performance

(U) EMALS Subprogram

(U) Performance Attributes

None		KPP
Current Estimate 12/31/2023		-
Demonstrated Performance -		-
APB Change 1 (Current) 2/6/2020	Objective	NA
	Threshold	NA
Development APB (Milestone) 4/2/2013	Objective	NA

(U) Requirement Source:

Sponsor(s): United States Navy

1. Operational Requirements Document*, ORD Change 2*
   Validated By: Joint Requirements Oversight Council, April 27, 2015
   Notes: ORD Change 2 dated June 22, 2007 was revalidated by the JROC on April 27, 2015

Notes

CVN 78 performance Threshold and Objectives apply to all ships in the class. Current estimates for the follow-on ship will be updated, if different from the lead ship, when they become available.
For additional description regarding CVN 78 and follow-on ship Interoperability and other Performance Characteristics, see Table 4.4, KPPs, contained in the Future Aircraft Carrier (CVN 21) ORD Change 2 dated June 22, 2007.

Performance Deviation Explanation

None

(U) CVN 78 Subprogram

Additional information for this section is provided in the classified annex to this submission.

(U) Performance Attributes

CVN 78 Class

Sustained Sortie Rate		KPP
Current Estimate 12/31/2023		172
Demonstrated Performance -		TBD
APB Change 4 (Current) 2/6/2020	Objective	220
	Threshold	160
Development APB (Milestone) 4/23/2004	Objective	220

Surge Sortie Rate		KPP
Current Estimate 12/31/2023		284
Demonstrated Performance -		TBD
APB Change 4 (Current) 2/6/2020	Objective	310
	Threshold	270
Development APB (Milestone) 4/23/2004	Objective	310

Ship Service Electrical Generating Capacity (times NIMITZ Class capacity in MW)		KPP
Current Estimate 12/31/2023		3.25
Demonstrated Performance 10/1/2019		3.25
APB Change 4 (Current) 2/6/2020	Objective	3.0
	Threshold	2.5
Development APB (Milestone) 4/23/2004	Objective	3.0

Weight Service Life Allowance (% of full load displacement in long tons)		KPP
Current Estimate 12/31/2023		5.82
Demonstrated Performance 2/1/2022		5.82
APB Change 4 (Current) 2/6/2020	Objective	7.5
	Threshold	5.0
Development APB (Milestone) 4/23/2004	Objective	7.5

Stability Service Life Allowance (feet)		KPP
Current Estimate 12/31/2023		1.62
Demonstrated Performance 2/1/2022		1.62
APB Change 4 (Current)	Objective	2.5
2/6/2020	Threshold	1.5
Development APB (Milestone) 4/23/2004	Objective	2.5
Ship's Force Manpower (billets)		**KPP**
Current Estimate 12/31/2023		2716
Demonstrated Performance 2/28/2024		2716
APB Change 4 (Current)	Objective	2391
2/6/2020	Threshold	2791
Development APB (Milestone) 4/23/2004	Objective	2391
Net-Ready		**KPP**
Current Estimate 12/31/2023		Meets 100% of top level IERs designated as critical
Demonstrated Performance -		TBD
APB Change 4 (Current)	Objective	Meets 100% of top level IERs
2/6/2020	Threshold	Meets 100% of top level IERs designated as critical
Development APB (Milestone) 4/23/2004	Objective	-
Force Protection and Survivability in an Asymmetric Threat Environment		
Survivability		**KPP**
Current Estimate 12/31/2023		Level II as defined by OPNAV Instruction 9070.1 with the exception of Collective Protection System
Demonstrated Performance 4/27/2023		Level II as defined by OPNAV Instruction 9070.1 with the exception of Collective Protection System
APB Change 4 (Current)	Objective	Level III as defined by OPNAV Instruction 9070.1

2/6/2020	**Threshold**	Level II as defined by OPNAV Instruction 9070.1 with the exception of Collective Protection System
Development APB (Milestone) **4/23/2004**	**Objective**	-

(U) Requirement Source:
Sponsor(s): United States Navy

1. Operational Requirements Document*, ORD Change 2*
   Validated By: Joint Requirements Oversight Council, April 27, 2015
   Notes: ORD Change 2 dated June 22, 2007 was revalidated by the JROC on April 27, 2015

Notes

Classified Performance Table is available in the Classified Annex.
CVN 78 performance Threshold and Objectives apply to all ships in the class. Current estimates for the follow-on ship will be updated, if different from the lead ship, when they become available.
Sustained and Surge Sortie Generation Rate demonstrations to be conducted with the CVN 78 planned future Composite Training Unit Exercises in FY 2025 and FY 2027.
For additional description regarding CVN 78 and follow-on ship Interoperability and other Performance Characteristics, see Table 4.4, KPPs, contained in the Future Aircraft Carrier (CVN 21) ORD Change 2 dated June 22, 2007.

Performance Deviation Explanation

None

(U) Acquisition Budget Estimate

(U) EMALS Subprogram

(U) Total Acquisition Estimates and Quantities

Category ($M) Base Year: 2000	Development APB (Milestone) 4/2/2013 CY$ obs Objective	APB Change 1 (Current) 2/6/2020 CY$ obs Objective / Threshold		Current Estimate PB 2025 CY$ obs / TY$ obs	
RDT&E	651.2	1,000.5	1,100.6	884.0	1,079.7
Procurement	1,593.4	1,510.5	1,661.6	1,713.9*	3,300.1
MILCON	18.8	18.8	20.7	18.7	20.6
O&M	0.0	0.0	0.0	-	-
Total Acquisition	2,263.4	2,529.8	-	2,616.6	4,400.4
Program Acquisition Unit Cost	754.467	632.450	695.695	654.150	1,100.100
Average Procurement Unit Cost	531.133	377.625	415.388	428.475*	825.025
Program End-Item Quantity					
Development	0	0		-	
Procurement	3	4		4	
O&M-Acquired	-	-		-	

* Baseline Deviation

Budget Notes

None

Quantity Notes

None

Cost Baseline Deviation Explanation

Parameter	Explanation
Acquisition Cost (Procurement)	EMALS Procurement Current Estimate deviation is due to the CVN 81 shipset being purchased on a single-shipset contract without the Economic Order Quantity savings achieved with the previous CVN 79/80 two-shipset contract.
Program Acquisition Unit Cost	None
Average Procurement Unit Cost	EMALS Average Procurement Unit Cost deviation is due to the CVN 81 shipset being purchased on a single-shipset contract without the Economic Order Quantity savings achieved with the previous CVN 79/80 two-shipset contract.

(U) Risk and Sensitivity Analysis

Current Procurement Estimate Risks (12/31/2023)	
1	In accordance with Section 121(b) of the Fiscal Year 2019 NDAA (Public Law 115-232), the Secretary of Defense provided a detailed certification package in support of the CVN 80/81 two-ship buy Detailed Design and Construction contract to the Congressional defense committees on December 31, 2018. The two-ship acquisition strategy resulted in $4 billion in procurement savings on CVN 80 and CVN 81 compared to the Navy single-ship estimates. The Navy's projected cost of CVN 80 and CVN 81, as negotiated with the shipbuilder, and the estimated cost avoidance described in the Department's certification package are realistic; informed by a thorough review with the Navy's cost estimating, engineering, and contracting organizations. Also, the Department of Defense's Office of CAPE developed an Independent Estimate of Savings for the two- ship procurement and forecast savings of $3.1 billion (Then-Year), or approximately 11 percent. The Navy projects $4 billion in savings. The primary differences between CAPE and Navy estimates of savings are in Government Furnished Equipment and production change orders.
Current Baseline Risks (2/6/2020)	
In accordance with Section 121(b) of the Fiscal Year 2019 National Defense Authorization Act (NDAA) (Public Law 115-232), the Secretary of Defense provided a detailed certification package in support of the CVN 80/81 two-ship buy Detailed Design and Construction contract to the Congressional defense committees on December 31, 2018. The two-ship acquisition strategy resulted in $4 billion in procurement savings on CVN 80 and CVN 81 compared to the Navy single-ship estimates. The Navy's projected cost of CVN 80 and CVN 81, as negotiated with the shipbuilder, and the estimated cost avoidance described in the Department's certification package are realistic; informed by a thorough review with the Navy's cost estimating, engineering, and contracting organizations. Also, the Department of Defense's Office of Cost Assessment and Program Evaluation (CAPE) developed an Independent Estimate of Savings for the two-ship procurement and forecast savings of $3.1 billion (Then-Year), or approximately 11 percent. The Navy projects $4 billion in savings. The primary differences between CAPE and Navy estimates of savings are in Government Furnished Equipment and production change orders.	
Original Baseline Risks (4/2/2013)	
No cost estimate conforming to the Enhanced SAR guidelines for developing a risk statement was performed associated with the Original Baseline, April 2013. The Original Baseline reflects APB Change 3 which established EMALS as a major sub-program as directed by Section 221 of the National Defense Authorization Act (NDAA) for FY 2012 and updated selected program schedule dates to reflect the known schedule changes.	

(U) CVN 78 Subprogram

(U) Total Acquisition Estimates and Quantities

Category ($M) Base Year: 2000	Development APB (Milestone) 4/23/2004 CY$ obs Objective	APB Change 4 (Current) 2/6/2020 CY$ obs Objective	Threshold	Current Estimate PB 2025 CY$ obs	TY$ obs
RDT&E	3,875.3	3,704.4	4,074.8	3,850.8	4,885.1
Procurement	24,825.9	28,800.2	31,680.2	31,213.4	58,664.2
MILCON	0.0	283.9	312.3	196.8	338.1
O&M	0.0	98.1	107.9	147.0*	227.7
Total Acquisition	28,701.2	32,886.6	-	35,408.0	64,115.1
Program Acquisition Unit Cost	9,567.067	8,221.650	9,043.815	8,852.000	16,028.775
Average Procurement Unit Cost	8,275.300	7,200.050	7,920.055	7,803.350	14,666.050
Program End-Item Quantity					

Development	0	0		-	
Procurement	3	4		4	
O&M-Acquired	-	-		-	

* Baseline Deviation

Budget Notes

None

Quantity Notes

None

Cost Baseline Deviation Explanation

Parameter	Explanation
Acquisition Cost (O&M)	CVN 78 Class Acquisition O&M PB 2025 budget estimate adjustment is in accordance with Navy policy for new construction berthing.

(U) Risk and Sensitivity Analysis

Current Procurement Estimate Risks (12/31/2023)	
1	In accordance with Section 121(b) of the Fiscal Year 2019 NDAA (Public Law 115-232), the Secretary of Defense provided a detailed certification package in support of the CVN 80/81 two-ship buy Detailed Design and Construction contract to the Congressional defense committees on December 31, 2018. The two-ship acquisition strategy resulted in $4 billion in procurement savings on CVN 80 and CVN 81 compared to the Navy single-ship estimates. The Navy's projected cost of CVN 80 and CVN 81, as negotiated with the shipbuilder, and the estimated cost avoidance described in the Department's certification package are realistic; informed by a thorough review with the Navy's cost estimating, engineering, and contracting organizations. Also, the Department of Defense's Office of CAPE developed an Independent Estimate of Savings for the two- ship procurement and forecast savings of $3.1 billion (Then-Year), or approximately 11 percent. The Navy projects $4 billion in savings. The primary differences between CAPE and Navy estimates of savings are in Government Furnished Equipment and production change orders.
Current Baseline Risks (2/6/2020)	
In accordance with Section 121(b) of the Fiscal Year 2019 National Defense Authorization Act (NDAA) (Public Law 115-232), the Secretary of Defense provided a detailed certification package in support of the CVN 80/81 two-ship buy Detailed Design and Construction contract to the Congressional defense committees on December 31, 2018. The two-ship acquisition strategy resulted in $4 billion in procurement savings on CVN 80 and CVN 81 compared to the Navy single-ship estimates. The Navy's projected cost of CVN 80 and CVN 81, as negotiated with the shipbuilder, and the estimated cost avoidance described in the Department's certification package are realistic; informed by a thorough review with the Navy's cost estimating, engineering, and contracting organizations. Also, the Department of Defense's Office of Cost Assessment and Program Evaluation (CAPE) developed an Independent Estimate of Savings for the two-ship procurement and forecast savings of $3.1 billion (Then-Year), or approximately 11 percent. The Navy projects $4 billion in savings. The primary differences between CAPE and Navy estimates of savings are in Government Furnished Equipment and production change orders.	
Original Baseline Risks (4/23/2004)	

The Cost Analysis Improvement Group (CAIG) and Navy life cycle cost estimates differed by $1.55 billion (FY04) or 5.6%. The majority of the delta resides in the production effort. There were three important contributors to the production effort: production labor, the hourly billing rates applied to production labor, and the cost of the material to be incorporated in the ship. The Research, Development, Test and Evaluation (RDT&E) estimates and Operations and Support (O&S) estimates differences are not considered significant.

(U) Unit Costs

(U) EMALS Subprogram

(U) Current Estimate Compared with Current Baseline

Category (CY$M) Base Year: 2000	Current Baseline 02/06/2020	Current Estimate PB 2025	% Change
Program Acquisition Unit Cost			
Acquisition Cost	2,529.8	2,616.6	
Program Quantity	4	4	
PAUC	632.450	654.150	3.43%
Average Procurement Unit Cost			
Procurement Cost	1,510.5	1,713.9	
Procurement Quantity	4	4	
APUC	377.625	428.475	13.47%

(U) Current Estimate Compared with Original Baseline

Category (CY$M) Base Year: 2000	Original Baseline 04/02/2013	Current Estimate PB 2025	% Change
Program Acquisition Unit Cost			
Acquisition Cost	2,263.4	2,616.6	
Program Quantity	3	4	
PAUC	754.467	654.150	-13.30%
Average Procurement Unit Cost			
Procurement Cost	1,593.4	1,713.9	
Procurement Quantity	3	4	
APUC	531.133	428.475	-19.33%

Notes

None

(U) CVN 78 Subprogram

(U) Current Estimate Compared with Current Baseline

Category (CY$M) Base Year: 2000	Current Baseline 02/06/2020	Current Estimate PB 2025	% Change
Program Acquisition Unit Cost			
Acquisition Cost	32,886.6	35,408.0	
Program Quantity	4	4	
PAUC	8,221.650	8,852.000	7.67%
Average Procurement Unit Cost			
Procurement Cost	28,800.2	31,213.4	
Procurement Quantity	4	4	
APUC	7,200.050	7,803.350	8.38%

(U) Current Estimate Compared with Original Baseline

Category (CY$M) Base Year: 2000	Original Baseline 04/23/2004	Current Estimate PB 2025	% Change
Program Acquisition Unit Cost			
Acquisition Cost	28,701.2	35,408.0	
Program Quantity	3	4	
PAUC	9,567.067	8,852.000	-7.47%
Average Procurement Unit Cost			
Procurement Cost	24,825.9	31,213.4	
Procurement Quantity	3	4	
APUC	8,275.300	7,803.350	-5.70%

Notes

None

(U) Life-Cycle Costs

(U) CVN 78 Subprogram

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

Category ($M) Base Year: 2000	Development APB (Milestone) 4/23/2004 CY$ obs Objective	APB Change 4 (Current) 2/6/2020 CY$ obs Objective / Threshold		Current Estimate CY$ obs / TY$ obs	
Total O&S	14,394.0	88,360.2	97,196.2	59,960.0	214,325.1
Total Disposal	-	-	-	6,789.1	37,229.6

(U) Current Cost Estimate Sources

Operating and Support Cost
Type: Program Office Estimate
Approved by: Program Office, May 04, 2023

Disposal/Demilitarization Cost
Type: Program Office Estimate
Approved by: Program Office, May 23, 2023

Operating and Support Baseline Deviation Explanation

None

Cost Notes

None

(U) Operating and Support Variance with Prior Estimate

(CY$M) Base Year: 2000	Estimate	
Prior Estimate (1/10/2020)	59,960.0	
Current Estimate	59,960.0	
Category	**Variance**	**Explanation**
Unit-Level Manpower	0.0	N/A
Unit Operations	0.0	N/A
Maintenance	0.0	N/A
Sustaining Support	0.0	N/A

(CY$M) Base Year: 2000	Estimate	
Continuing System Improvements	0.0	N/A
Other	0.0	N/A
Not Categorized	0.0	

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

(CY$M) Base Year: 2000							
System	Unit-Level Manpower	Unit Operations	Maintenance	Sustaining Support	Continuing System Improvements	Other	Total
CVN 78	28,520.0	2,940.0	21,780.0	2,940.0	3,780.0	-	**59,960.0**
Program	**28,520.0**	**2,940.0**	**21,780.0**	**2,940.0**	**3,780.0**	**-**	**59,960.0**

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

(CY$M) Base Year: 2000							
System	Unit-Level Manpower	Unit Operations	Maintenance	Sustaining Support	Continuing System Improvements	Other	Total
CVN 78	142.6	14.7	108.9	14.7	18.9	-	**299.8**
CVN 68 (Antecedent)	169.2	10.5	141.0	14.2	20.3	-	**355.2**

(U) Operating and Support Cost Estimate Assumptions

System	Quantity to Sustain	Unit Expected Service Life (Years)	Unit of Measure	Fiscal Years Operational
CVN 78	4	50.0	Ships	2017 - 2082
CVN 68 (Antecedent)	10	50.0	Ship	1975 - 2059

Additional O&S Estimate Assumptions

Program Office Estimate.

Antecedent Estimate Assumptions

The CVN 68 Class is the antecedent for the CVN 78 Class. The CVN 68 O&S costs were derived from requirements, actual returns, and the Naval Visibility and Management of Operating and Support Costs (VAMOSC) database, with the primary focus using requirements. Unit level manpower was based on authorized billets (3,354) as detailed in the CVN 68 Ship Manpower Document (SMD); the billets were multiplied against the OSD composite rates for calculating the unit level manpower.

Depot Maintenance (3.4) was derived from OPNAVLTR 4700 (dated June 6, 2022).
Unit operations, intermediate maintenance, sustaining support, and continuing system improvements were derived from VAMOSC, with data pulled from FY 2000 through FY 2020, using full year data and excluding forward deployed ships.

O&S Annual Cost Calculation Memo

Total Cost = Average annual cost per ship * number of ships * service life = $299.8M * 4 * 50 = $59.960M

(U) Follow-on Ship Subprogram

No Data

(U) EMALS Subprogram

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

Category ($M) Base Year: 2000	Development APB (Milestone) 4/2/2013 CY$ obs Objective	APB Change 1 (Current) 2/6/2020 CY$ obs Objective / Threshold		Current Estimate CY$ obs / TY$ obs	
Total O&S	2,574.3	4,899.6	5,389.6	4,148.6	14,069.0
Total Disposal	-	-	-	-	-

(U) Current Cost Estimate Sources

Operating and Support Cost
Type: Program Office Estimate
Approved by: Program Office, January 12, 2024

Disposal/Demilitarization Cost
Type: No estimate. Not Required

Operating and Support Baseline Deviation Explanation

None

Cost Notes

EMALS inactivation and disposal costs are included in the CVN 78 Class inactivation and disposal cost.

(U) Operating and Support Variance with Prior Estimate

(CY$M) Base Year: 2000	Estimate	
Prior Estimate (12/31/2022)	4,162.2	
Current Estimate	4,148.6	
Category	**Variance**	**Explanation**
Unit-Level Manpower	7.9	Updated escalation and labor rates.
Unit Operations	0.0	N/A
Maintenance	-23.0	Updated escalation and labor rates.
Sustaining Support	12.4	Updated delivery dates, escalation, and labor rates.
Continuing System Improvements	-10.9	Updated delivery dates, escalation, and labor rates.
Other	0.0	N/A
Not Categorized	0.0	

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

(CY$M) Base Year: 2000							
System	**Unit-Level Manpower**	**Unit Operations**	**Maintenance**	**Sustaining Support**	**Continuing System Improvements**	**Other**	**Total**
EMALS	988.6	-	1,871.2	507.8	781.0	-	**4,148.6**
Program	**988.6**	**-**	**1,871.2**	**507.8**	**781.0**	**-**	**4,148.6**

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

(CY$M) Base Year: 2000							
System	**Unit-Level Manpower**	**Unit Operations**	**Maintenance**	**Sustaining Support**	**Continuing System Improvements**	**Other**	**Total**
EMALS	4.9	-	9.4	2.5	3.9	-	**20.7**

(U) Operating and Support Cost Estimate Assumptions

System	Quantity to Sustain	Unit Expected Service Life (Years)	Unit of Measure	Fiscal Years Operational
EMALS	4	50.0	Shipset	2017 - 2082

Additional O&S Estimate Assumptions

Program Office Estimate.

Antecedent Estimate Assumptions

No antecedent. EMALS is specifically designed to meet the requirements of the CVN 78 Class. The advanced technologies and capabilities, and unique ship interface requirements of EMALS do not exist in any legacy launcher systems. As such, there are no comparable antecedent systems.

O&S Annual Cost Calculation Memo

Total Cost = Average annual cost per shipset * number of shipsets * service life = $20.743M * 4 * 50 = $4,148.6M

(U) Technologies and Systems Engineering

(U) CVN 78 Subprogram

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

Event	Date	Description
Current	12/31/2023	There are no risks identified with this program
MS B	9/10/2006	CVN 78. Performance Risk: Meeting Threshold Key Performance Parameters. Driver: Performance vs Cost trade-off. Mitigation: Balanced whole ship design supported by timely technical decisions. Date: February 2007 (Interim Weight Report # 16).
MS B	9/10/2006	CVN 78. Performance Risk: Critical Technology Maturity and Ship Integration. Advanced Arresting Gear - Risk: Funding reductions will cause schedule delays. Drivers: Funding Deficiencies. Mitigation: Restore marks. Date: April 2007. Dual Band Radar - Risk: Integration with carrier systems may not support CVN 78 delivery dates. Drivers: Integration complexity. Mitigation: Integration studies, analysis, testing and monitoring of the DDG 1000 radar development effort. Date: June 2008. Electromagnetic Aircraft Launch System - Risk: Component delivery dates may miss required in yard dates for ship. Driver: Land-based testing schedule. Mitigation: Manage scheduled events leading to Low Rate Initial Production decision. Date: September 2009.

(U) EMALS Subprogram

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

Event	Date	Description
Current	12/31/2023	There are no risks identified with this program.
MS B	9/10/2006	Electromagnetic Aircraft Launch System (EMALS). Performance Risk: EMALS - Risk: Component delivery dates may miss required in yard dates for ship. Driver: Land-based testing schedule. Mitigation: Manage scheduled events leading to Low Rate Initial Production decision. Date: September 2009

(U) Performing Activities and Contracts

(U) CVN 78 Subprogram

(U) External Government Activities

None

(U) Contracts and Efforts

Contract Title	Contract Number / Effort	Contractor	Phase
CVN 79 Construction Preparation (CP)	N00024-09-C-2116 / 1	Huntington Ingalls Industries (HII) Newport News Shipbuilding (NNS)	Production
CVN 79 Detail Design & Construction (DD&C)	N00024-15-C-2114 / 1	Huntington Ingalls Industries (HII) Newport News Shipbuilding (NNS)	Production
CVN 80 Detail Design & Construction (DD&C)	N00024-16-C-2116/2 / 2	Huntington Ingalls Industries (HII) Newport News Shipbuilding (NNS)	Production
CVN 81 Detail Design & Construction (DD&C)	N00024-16-C-2116/3 / 3	Huntington Ingalls Industries (HII) Newport News Shipbuilding (NNS)	Production

(U) Contract and Effort Identification, Price, Quantity and Performance			
Contract Number:	N00024-09-C-2116	**Order Number:**	-
Contract Title:	CVN 79 Construction Preparation (CP)	**Strategy:**	FAR 15: Negotiated Contracts
CAGE:	43689 - Huntington Ingalls Industries (HII) Newport News Shipbuilding (NNS)	**Contracting Office:**	NAVSEA
City, State/Province:	Newport News, VA		
Effort Number:	1	**Supported Phase:**	Production
Type:	Other	**Award Date:**	January 15, 2009
Latest Modification Date:	January 10, 2024	**Definitization Date:**	December 8, 2010
Latest Modification No.:	P00171	**Work Start Date:**	December 15, 2010
Technical Data Rights:	Unlimited Rights		
Notes:	Contract Notes: The Navy has transitioned CVN 79 from a two-phase delivery to a single-phase delivery, which will deliver the ship from the current construction period with its complete warfare systems and meet a Congressional mandate of ensuring CVN 79 is capable of operating and deploying the F-35C aircraft before completing the post-shakedown availability in accordance with the FY 2020 NDAA. The shipbuilder cost and progress metrics have been revised to reflect this change to the contract. The CVN 79 CP		

contract is 97.1 percent complete based on dollars.

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
373.5	0.0	4,370.0	-	4,236.5	4,236.5	-	-	-

Work Completed (%): 97.10%
Cost Variance (TY$M): -301.5
Schedule Variance (TY$M): -63.2

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable net change in the cost variance is due to the increase in overhead rates and direct buy materials such as electrical, complex machinery, maintenance material, valves, and services such as outside services and production leased labor.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable net change in the schedule variance is due to various direct buy material commodities arriving late, including raw materials, complex machinery, and electrical. Other indirect material cost such as outside services, stock and support material also contributed to the unfavorable schedule variance.

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

Contract Number:	N00024-15-C-2114	**Order Number:**	-
Contract Title:	CVN 79 Detail Design & Construction (DD&C)	**Strategy:**	FAR 15: Negotiated Contracts
CAGE:	43689 - Huntington Ingalls Industries (HII) Newport News Shipbuilding (NNS)	**Contracting Office:**	NAVSEA
City, State/Province:	Newport News, VA		
Effort Number:	1	**Supported Phase:**	Production
Type:	Other	**Award Date:**	June 5, 2015
Latest Modification Date:	December 22, 2023	**Definitization Date:**	June 5, 2015
Latest Modification No.:	P00133	**Work Start Date:**	June 5, 2015
Technical Data Rights:	Unlimited Rights		

Notes: Contract Notes:
The Navy has transitioned CVN 79 from a two-phase delivery to a single-phase delivery, which will deliver the ship from the current construction period with its complete warfare systems and meet a Congressional mandate of ensuring CVN 79 is capable of operating and deploying the F-35C aircraft before completing the post-shakedown availability in accordance with the FY 2020 NDAA. The shipbuilder cost and progress metrics have been revised to reflect this change to the contract. The CVN 79 DD&C contract is 81.3 percent complete based on dollars.

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
3,352.6	0.0	4,347.2	4,631.1	4,520.5	4,520.5	1	1	-

Work Completed (%): 81.30%

Cost Variance (TY$M): -850.1

Schedule Variance (TY$M): -153.0

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable net change in the cost variance is due to labor performance, increased overhead rates, increased indirect material costs and resolving first-of-class technical issues. The cost variance is driven by execution and performance challenges in assembly trades (production/construction trades, machinery install, electrical), nuclear engineering and testing, and platform engineering. These trades are experiencing resequencing deferred/delayed work, rework, green labor, and constrained shared labor resources across all shipbuilding programs at the shipbuilder.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable net change in the schedule variance is due to assembly trades (electrical, sheet metal, machinery install, and production trades), facilities trades, platform engineering, and nuclear engineering and testing. These trades are experiencing resequencing deferred/delayed work, rework, green labor, and constrained shared labor resources across all shipbuilding programs at the shipbuilder.

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

Contract Number:	N00024-16-C-2116/2	**Order Number:**	-
Contract Title:	CVN 80 Detail Design & Construction (DD&C)	**Strategy:**	FAR 15: Negotiated Contracts
CAGE:	43689 - Huntington Ingalls Industries (HII) Newport News Shipbuilding (NNS)	**Contracting Office:**	NAVSEA
City, State/Province:	Newport News, VA		
Effort Number:	2	**Supported Phase:**	Production
Type:	Other	**Award Date:**	January 31, 2019
Latest Modification Date:	January 31, 2024	**Definitization Date:**	January 31, 2019
Latest Modification No.:	P00127	**Work Start Date:**	August 24, 2017
Technical Data Rights:	Unlimited Rights		

Notes: Contract Notes:
On January 31, 2019, a $14,917,738,145 fixed-price-incentive-firm target modification to previously awarded contract N00024-16-C-2116 for DD&C efforts for CVN 80 and CVN 81 was awarded. The CVN 80 DD&C contract is 37 percent complete based on CLIN 0001 dollars.

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
152.0	-	8,515.1	9,537.0	8,703.5	8,703.5	-	1	-

Work Completed (%): 42.82%

Cost Variance (TY$M): -844.3

Schedule Variance (TY$M): -647.3

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable net change in the cost variance is due to poor shop construction performance. Poor shop

construction performance and poor material availability led to an unfavorable assembly construction labor variance, driven by out of sequence work, green labor, and poor services spending control. Unfavorable material cost variance was driven by outside services, electrical, steel, production leased labor, and complex machinery. Increase to overhead rates also contributed to the unfavorable cost variance.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable net change in the schedule variance is due to poor facilities, production trades, and component fabrication shop schedule performance and material availability. Poor facilities, production trades, and component fabrication shop schedule performance is driven by labor resource shortages, material availability, and green labor. Unfavorable material schedule variance was driven by valves, support materials, complex machinery, outside machining and production leased labor.

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

Contract Number:	N00024-16-C-2116/3	**Order Number:**	-
Contract Title:	CVN 81 Detail Design & Construction (DD&C)	**Strategy:**	FAR 15: Negotiated Contracts
CAGE:	43689 - Huntington Ingalls Industries (HII) Newport News Shipbuilding (NNS)	**Contracting Office:**	NAVSEA
City, State/Province:	Newport News, VA		
Effort Number:	3	**Supported Phase:**	Production
Type:	Fixed-Price Incentive (Firm Target)	**Award Date:**	January 31, 2019
Latest Modification Date:	January 31, 2024	**Definitization Date:**	January 31, 2019
Latest Modification No.:	P00127	**Work Start Date:**	April 1, 2020
Technical Data Rights:	Unlimited Rights		
Notes:	Contract Notes: On January 31, 2019, a $14,917,738,145 fixed-price-incentive-firm target modification to previously awarded contract N00024-16-C-2116 for DD&C efforts for CVN 80 and CVN 81 was awarded.		

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
7,954.3	8,926.7	7,905.3	8,881.7	6,889.1	6,889.1	1	1	-

Work Completed (%):	13.74%
Cost Variance (TY$M):	-129.0
Schedule Variance (TY$M):	-43.6

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable net change in the cost variance is due to direct material cost, driven by complex machinery and steel.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable net change in the schedule variance is due to poor structural fabrication shop and unit assembly schedule performance, driven by shipyard footprint and labor resource shortages, material availability, and green labor.

(U) EMALS Subprogram

(U) External Government Activities

None

(U) Contracts and Efforts

Contract Title	Contract Number / Effort	Contractor	Phase
CVN 81 Advanced Arresting Gear (AAG)/EMALS Production	N00019-22-C-0033 / 1	General Atomics (GA) Electromagnetic Systems	Production
EMALS CVN 79/CVN 80 Production	N00019-14-C-0037 / 1	General Atomics (GA) Electromagnetic Systems	Production

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

Contract Number:	N00019-22-C-0033	**Order Number:**	-
Contract Title:	CVN 81 Advanced Arresting Gear (AAG)/EMALS Production	**Strategy:**	FAR 15: Negotiated Contracts
CAGE:	4V360 - General Atomics (GA) Electromagnetic Systems	**Contracting Office:**	-
City, State/Province:	San Diego, CA		
Effort Number:	1	**Supported Phase:**	Production
Type:	Firm-Fixed-Price	**Award Date:**	December 29, 2021
Latest Modification Date:	December 1, 2023	**Definitization Date:**	December 29, 2021
Latest Modification No.:	P00011	**Work Start Date:**	-
Technical Data Rights:	Limited Rights		
Notes:	Contract N00019-22-C-0033 is a combined CVN 81 EMALS and AAG Production contract with a total contract value of $1,362.39 million. The PM's estimated price reflects the EMALS production related funding only. Naval Air Systems Command modified this base contract on June 7, 2023, to add CVN 81 EMALS and AAG shipset production.		

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
37.8	-	928.1	-	928.1	928.1	-	1	-

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

Contract Number:	N00019-14-C-0037	**Order Number:**	1
Contract Title:	EMALS CVN 79/CVN 80 Production	**Strategy:**	FAR 15: Negotiated Contracts
CAGE:	4V360 - General Atomics (GA) Electromagnetic Systems	**Contracting Office:**	-
City, State/Province:	San Diego, CA		

Effort Number:	1	**Supported Phase:**	Production
Type:	Firm-Fixed-Price	**Award Date:**	May 9, 2014
Latest Modification Date:	January 31, 2024	**Definitization Date:**	December 23, 2016
Latest Modification No.:	P00095	**Work Start Date:**	-
Technical Data Rights:	Limited Rights		

Notes: Contract Notes:
Contract N00019-14-C-0037 is a combined EMALS and Advanced Arresting Gear (AAG) CVN 79/CVN 80 Production contract with a total contract value of $1,700.21 million.
The Current Target Price reflects EMALS-related funding only.
The Advanced Arresting Gear (AAG) program submitted a FY 2024 annual MSAR that included procurement funding which is also reported in the CVN 78 Class MSAR.

Initial Price (TY$M) Target / Ceiling		Current Price (TY$M) Target / Ceiling		Estimate at Completion (TY$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
1,072.5	-	1,181.2	-	-	-	2	2	-

(U) Production

(U) CVN 78 Subprogram

(U) Low-Rate Initial Production

	Original LRIP Determination	Current LRIP Determination
Total LRIP Quantity	3	3
Date	4/26/2004	4/26/2004
Reference	Milestone B ADM	Milestone B ADM
LRIP Period	FY 2004 - 2018	FY 2004 - 2018
Total Procurement Quantity	4	4
LRIP Percentage of Total	75.0%	75.0%

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

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the Acquisition Decision Memorandum (ADM) dated April 26, 2004, approving three ships.

LRIP Notes

The current LRIP quantity reflects three ships as approved by the CVN 21 (Future Aircraft Carrier) Program ADM of April 26, 2004.
On December 31, 2018 the Secretary of Defense provided Congressional notification in accordance with Section 121 of the FY 2019 National Defense Authorization Act (Public Law 115-232) certifying the CVN 80/81 two-ship buy cost savings and provided the Secretary of the Navy the authority to enter into a contract for the procurement of CVN 80/81 under a single contract.
A fourth ship was awarded in January 2019 with award of the CVN 80/81 two-ship buy Detail Design and Construction contract awarded on January 31, 2019.

(U) EMALS Subprogram

(U) Low-Rate Initial Production

No Data

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

None

LRIP Notes

EMALS has no LRIP quantities because the current LRIP decision occurred prior to the establishment of EMALS as a major subprogram.

(U) Deliveries and Expenditures

(U) EMALS Subprogram

(U) Acquisition Funding

	Total Estimate	Actual to Date	Actual, Percent Complete
Years Appropriated	31	25	80.6%
Appropriations (TY, $M)	4,400.4	3,480.4	79.1%
Expenditures (TY, $M)	4,400.4	2,878.5	65.4%

(U) End Items Delivered

	Total Required	Planned to Date	Actual to Date	Actual, Percent Complete
Procurement	4			
EMALS		1	1	
Total	**4**	**1**	**1**	**25.0%**

Notes

As of 03/11/2024

(U) CVN 78 Subprogram

(U) Acquisition Funding

	Total Estimate	Actual to Date	Actual, Percent Complete
Years Appropriated	37	28	75.7%
Appropriations (TY, $M)	64,115.1	41,501.8	64.7%
Expenditures (TY, $M)	64,115.1	38,377.1	59.9%

(U) End Items Delivered

	Total Required	Planned to Date	Actual to Date	Actual, Percent Complete
Procurement	4			

	Total Required	Planned to Date	Actual to Date	Actual, Percent Complete
CVN 78		1	1	
Total	**4**	**1**	**1**	**25.0%**

Notes

As of 03/11/2024

(U) International Program Aspects

General Memo

The Program Executive Office for Aircraft Carriers does not have any cooperative development agreements with any foreign governments.

Exportability and Business Issues

N/A

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

N/A

(U) Agreements

No International Agreements have been defined for CVN 78

(U) CVN 78 Subprogram

General Memo

The Program Executive Office for Aircraft Carriers does not have any cooperative development agreements with any foreign governments.

Exportability and Business Issues

N/A

Is design for international exportability planned?	No	**Industry/Partner Exportability Cost-Sharing?**	No

Program Protection: Technology Security and Foreign Disclosure Issues

N/A

(U) Agreements

No International Agreements have been defined for CVN 78

(U) EMALS Subprogram

General Memo

The Program Executive Office for Aircraft Carriers does not have any cooperative development agreements with any foreign governments.

Exportability and Business Issues

N/A

Is design for international exportability planned?	No	**Industry/Partner Exportability Cost-Sharing?**	No

Program Protection: Technology Security and Foreign Disclosure Issues

N/A

(U) Agreements

No International Agreements have been defined for EMALS

Modernized
Selected Acquisition Report
Supplement

CVN 78 Gerald R. Ford Class Nuclear Aircraft Carrier
(CVN 78)

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

MSAR Supplement Sections

Program Description

Program Use of the Adaptive Acquisition Framework

Technologies and Systems Engineering

Funding Sources (Acquisition)

Funding Sources (Operating and Support)

Acquisition Estimate and Quantity Summary

Annual Acquisition Estimates by Appropriation Account

Acquired System Annual End-Item Quantities by Appropriation Account

Nuclear Costs

Operational Fielding Plan

O&S Independent Cost Estimate

Annual Operating and Support Estimates by Cost Element

Program Description

Full Name
CVN 78 Gerald R. Ford Class Nuclear Aircraft Carrier

Short Name
CVN 78

PNO
223

Lead Component
Navy

AAF Pathway
MCA

Acquisition Type
MDAP

Acquired Systems

Subprograms

Full Name	Short Name	Acquired Systems
CVN 78	CVN 78	CVN 78
EMALS	EMALS	EMALS

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

CVN 78 Subprogram

Major Software Efforts

Title	Status	Fielding Date	Description
N/A			

Major Engineering Changes

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

Technologies and Systems Engineering

EMALS Subprogram

Major Software Efforts

Title	Status	Fielding Date	Description
N/A			

Major Engineering Changes

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

Funding Sources (Acquisition)

Acquisition Funding Notes

N/A

CVN 78 Subprogram

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
RDT&E	1319N	04	0603570N - Advanced Nuclear Power Systems	0603570N	2692 - CVN 21 Propulsion Plant Development		x
RDT&E	1319N	05	0604567N - Ship Contract Design/ Live Fire T&E	0604567N	4007 - CVN 21 LFT&E		
RDT&E	1319N	05	0604567N - Ship Contract Design/ Live Fire T&E	0604567N	3179 - CVN-79 Total Ship Integration		
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	2208 - CVN 21		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	9999 - Congressional Add		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	999999 -		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	42693 - Ship System Definition		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	4006 - Cvn 79		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	9181 - Adv Battlestation/Decision		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	9349 - Aviation Ship Integration Center		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	9516 - Surface Ship Composite Moisture Separators		x
RDT&E	1319N	XX	OTHER - Other or New 1319N Line Item	XXX	XXX - --		x
RDT&E	1319N	04	0603564N - Ship Preliminary Design & Feasibility Studies	0603564N	9999 - Congressional Add		x

CVN 78 Subprogram

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
RDT&E	1319N	04	0603564N - Ship Preliminary Design & Feasibility Studies	0603564N	999999 -		x
RDT&E	1319N	05	0604567N - Ship Contract Design/ Live Fire T&E	0604567N	2301 - CVN-77 Design		x
RDT&E	1319N	05	0604567N - Ship Contract Design/ Live Fire T&E	0604567N	4008 - CVN 78 Total Ship Integration		x
RDT&E	1319N	XX	OTHER - Other or New 1319N Line Item	XXX	XXX - --		x
RDT&E	1319N	04	0604112N - Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78 - 80)	0604112N	2208 - CVN 21		
RDT&E	1319N	05	0604567N - Ship Contract Design/ Live Fire T&E	0604567N	3108 - CVN 80 Total Ship Integration		
RDT&E	1319N	04	0604112N - Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78 - 80)	0604112N	9999 - Congressional Add		x
RDT&E	1319N	05	0604567N - Ship Contract Design/ Live Fire T&E	0604567N	9999 - Congressional Add		x
RDT&E	1319N	XX	OTHER - Other or New 1319N Line Item	XXX	XXX - --		
Procurement	1810N	04	5664 - Surface Training Equipment	0204112N	-	x	
Procurement	1611N	05	5110 - Outfitting	0204112N	-	x	
Procurement	1611N	02	2001 - Carrier Replacement Program	0204112N	-	x	
Procurement	1611N	02	2001 - Carrier Replacement Program	0702898N	-	x	
Procurement	1611N	05	5300 - Completion of PY Shipbuilding Programs	0204112N	-	x	
Procurement	1611N	02	2004 - CVN-81	0204112N	-		
O&M	1804N	01	1B2B - Ship Operations Support & Training	0702827N	-	x	
O&M	1804N	01	1B1B - Mission and Other Ship Operations	0204112N	-		x

CVN 78 Subprogram

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
O&M	1804N	01	1B5B - Ship Depot Operations Support	0204112N	-	x	
MILCON	1205N	01	32443998 - Drydock 8 Electrical Distribution Upgrade	0702776N	-		x
MILCON	1205N	01	62688500 - Pier 11 Power Upgrades for CVN-78	0203176N	-		x
MILCON	1205N	01	32443678 - Dry Dock Saltwater System for CVN-78 (INC)	0712776N	-		
MILCON	1205N	01	002461079 -	0712776N	-		
Note: MILCON project 1079 is West Cost Homeporting (NAS North Island)							
MILCON	1205N	XX	OTHER - Other or New 1205N Line Item	XXX	XXX - --		
Note: MILCON project 1073 Infrastructure Upgrade New Platform-Ford Class CVN							

Funding Sources (Acquisition)

Acquisition Funding Notes

N/A

EMALS Subprogram

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	4004 - Emals		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	9999 - Congressional Add		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	999999 -		x
RDT&E	1319N	04	0603512N - Carrier Systems Development	0603512N	2208 - CVN 21		x
RDT&E	1319N	04	0604112N - Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78 - 80)	0604112N	4004 - EMALS		
Procurement	1611N	02	2001 - Carrier Replacement Program	0204112N	-	x	
Procurement	1611N	02	2004 - CVN-81	0204112N	-		
MILCON	1205N	01	N0400024 - EMALS FACILITY	0816376N	-		x

Funding Sources (Operating and Support)

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

Operating and Support Funding Notes

N/A

CVN 78 Subprogram

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

Funding Sources (Operating and Support)

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

Operating and Support Funding Notes

N/A

EMALS Subprogram

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

Acquisition Estimate and Quantity Summary

CVN 78 Subprogram

Acquisiton Estimates

Category	PB 2025	TY ($M)	Current Base Year CY2000 ($M)	Original Base Year CY2000 ($M)	Report Fiscal Year CY2024 ($M)
RDT&E		4,885.1	3,850.8	3,850.8	6,453.5
Procurement		58,664.2	31,213.4	31,213.4	52,310.1
MILCON		338.1	196.8	196.8	329.9
O&M		227.7	147.0	147.0	246.3
Total Acquisition		64,115.1	35,408.1	35,408.1	59,339.8
PAUC		16,028.776	8,852.015	8,852.015	14,834.950
APUC		14,666.059	7,803.357	7,803.357	13,077.521

Acquisiton End-Item Quantities

System	PB 2025	Development	Procurement
CVN 78		-	4
Total		**-**	**4**

Unit Description

CVN 78 Gerald R. Ford Class Nuclear Aircraft Carrier

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

Appropriation	Prior	2024	2025	2026	2027	2028	2029	To Complete	Total
RDT&E	4,139.0	117.4	86.9	93.9	95.4	55.8	57.0	239.8	4,885.1
Procurement	39,115.5	2,386.4	2,036.0	3,056.0	4,051.6	4,440.8	2,873.1	704.9	58,664.2
MILCON	182.0	81.1	-	75.0	-	-	-	-	338.1
O&M	128.0	21.7	19.7	7.0	16.9	17.0	17.4	-	227.7
PB 2025 Total	**43,564.5**	**2,606.5**	**2,142.6**	**3,231.9**	**4,163.8**	**4,513.6**	**2,947.5**	**944.6**	**64,115.1**

Acquisition Estimate and Quantity Summary

EMALS Subprogram

Acquisiton Estimates

Category PB 2025	TY ($M)	Current Base Year CY2000 ($M)	Original Base Year CY2000 ($M)	Report Fiscal Year CY2024 ($M)
RDT&E	1,079.7	884.0	884.0	1,481.5
Procurement	3,300.1	1,713.9	1,713.9	2,872.2
MILCON	20.6	18.7	18.7	31.4
O&M	-	-	-	-
Total Acquisition	4,400.4	2,616.6	2,616.6	4,385.2
PAUC	1,100.105	654.157	654.157	1,096.291
APUC	825.025	428.464	428.464	718.056

Acquisiton End-Item Quantities

System PB 2025	Development	Procurement
EMALS	-	4
Total	**-**	**4**

Unit Description

Electromagnetic Aircraft Launching System (EMALS)

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

Appropriation	Prior	2024	2025	2026	2027	2028	2029	To Complete	Total
RDT&E	1,025.7	0.8	9.8	19.9	17.5	2.9	2.7	0.6	1,079.7
Procurement	2,248.4	184.9	206.7	185.4	191.5	283.3	-	-	3,300.1
MILCON	20.6	-	-	-	-	-	-	-	20.6
O&M	-	-	-	-	-	-	-	-	-
PB 2025 Total	**3,294.7**	**185.7**	**216.5**	**205.3**	**208.9**	**286.1**	**2.7**	**0.6**	**4,400.4**

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

CVN 78 Subprogram

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

1319N - Research, Development, Test & Eval, Navy					
fiscal year		Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2000 ($M)
Total		**4,885.1**	**4,885.1**	**-**	**3,850.8**
1997		0.900	0.9	0.975795	0.9
1998		46.140	46.1	0.983787	46.9
1999		83.280	83.3	0.995370	83.7
2000		136.780	136.8	1.009939	135.4
2001		189.550	189.6	1.023796	185.1
2002		240.530	240.5	1.034144	232.6
2003		272.430	272.4	1.049304	259.6
2004		268.770	268.8	1.078595	249.2
2005		300.280	300.3	1.106983	271.3
2006		245.540	245.5	1.141476	215.1
2007		229.460	229.5	1.169435	196.2
2008		191.490	191.5	1.190767	160.8
2009		201.780	201.8	1.206057	167.3
2010		179.610	179.6	1.224147	146.7
2011		119.940	119.9	1.253376	95.7
2012		113.300	113.3	1.274163	88.9
2013		104.290	104.3	1.287542	81.0
2014		103.760	103.8	1.305735	79.5
2015		122.580	122.6	1.322164	92.7
2016		101.400	101.4	1.346704	75.3
2017		111.290	111.3	1.371901	81.1
2018		109.770	109.8	1.405505	78.1
2019		97.760	97.8	1.432575	68.2
2020		131.420	131.4	1.485257	88.5
2021		148.170	148.2	1.552010	95.5
2022		148.470	148.5	1.633091	90.9
2023		140.340	140.3	1.681709	83.5
2024		117.400	117.4	1.720098	68.3
2025		86.880	86.9	1.756587	49.5
2026		93.910	93.9	1.793475	52.4
2027		95.360	95.4	1.831138	52.1
2028		55.820	55.8	1.869592	29.9
2029		56.990	57.0	1.908853	29.9
2030		58.130	58.1	1.948939	29.8
2031		59.230	59.2	1.989867	29.8
2032		60.420	60.4	2.031654	29.7
2033		61.970	62.0	2.074319	29.9

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

CVN 78 Subprogram

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

1611N (BLS Hist) - Shipbuilding and Conversion, Navy									
fiscal year	End Item Recurring Flyaway	Non-End Item Recurring Flyaway	Non-Recurring Flyaway	Initial Spares	Depot Activation	Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2000 ($M)
Total	**53,928.6**	**-**	**4,684.6**	**-**	**-**	**-**	**58,613.1**	**-**	**31,180.8**
1997							-	1.000788	-
1998							-	1.023310	-
1999							-	1.039587	-
2000							-	1.066002	-
2001	21.660						21.7	1.102670	19.6
2002	135.340						135.3	1.108947	122.0
2003	243.700		151.790				395.5	1.173105	337.1
2004	955.190		207.690				1,162.9	1.215661	956.6
2005	274.410		348.660				623.1	1.269544	490.8
2006	241.580		377.280				618.9	1.314317	470.9
2007	358.280		424.470				782.8	1.374711	569.4
2008	1,774.590		1,008.380				2,783.0	1.421534	1,957.7
2009	3,661.600		58.830				3,720.4	1.465021	2,539.5
2010	942.690		252.940				1,195.6	1.515920	788.7
2011	1,945.890		552.920				2,498.8	1.565650	1,596.0
2012	532.630		108.170				640.8	1.601566	400.1
2013	399.010		82.810				481.8	1.635063	294.7
2014	1,214.950		267.310				1,482.3	1.668173	888.6
2015	1,655.000		93.804				1,748.8	1.706620	1,024.7
2016	2,314.100		133.480				2,447.6	1.750262	1,398.4
2017	2,369.850		119.810				2,489.7	1.800469	1,382.8
2018	3,662.830		119.680				3,782.5	1.859118	2,034.6
2019	1,461.360		222.500				1,683.9	1.928293	873.2
2020	2,283.770		18.330				2,302.1	2.007751	1,146.6
2021	2,650.370		42.190				2,692.6	2.088927	1,289.0
2022	2,621.860		41.470				2,663.3	2.161868	1,232.0
2023	2,683.970		43.070				2,727.0	2.212740	1,232.4
2024	2,374.940		9.000				2,383.9	2.260209	1,054.7
2025	2,033.570						2,033.6	2.307758	881.2
2026	3,053.360						3,053.4	2.356221	1,295.9
2027	4,048.890						4,048.9	2.405701	1,683.0
2028	4,438.020						4,438.0	2.456221	1,806.8
2029	2,870.260						2,870.3	2.507802	1,144.5
2030	284.120						284.1	2.560465	111.0
2031	123.300						123.3	2.614235	47.2
2032	248.140						248.1	2.669134	93.0
2033	49.330						49.3	2.725186	18.1

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

CVN 78 Subprogram

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

1810N - Other Procurement, Navy									
fiscal year	End Item Recurring Flyaway	Non-End Item Recurring Flyaway	Non-Recurring Flyaway	Initial Spares	Depot Activation	Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2000 ($M)
Total	**51.1**	**-**	**-**	**-**	**-**	**-**	**51.1**	**-**	**32.6**
1997							-	0.980961	-
1998							-	0.989285	-
1999							-	1.001756	-
2000							-	1.015683	-
2001							-	1.029289	-
2002							-	1.043011	-
2003							-	1.063631	-
2004							-	1.089873	-
2005							-	1.120559	-
2006							-	1.157688	-
2007							-	1.182889	-
2008							-	1.202112	-
2009							-	1.217959	-
2010							-	1.241500	-
2011							-	1.259653	-
2012							-	1.279695	-
2013							-	1.297218	-
2014							-	1.314481	-
2015							-	1.333437	-
2016							-	1.357576	-
2017	4.490						4.5	1.386411	3.2
2018	12.010						12.0	1.418006	8.5
2019	7.940						7.9	1.452416	5.5
2020	1.410						1.4	1.503558	0.9
2021	4.460						4.5	1.577114	2.8
2022	2.480						2.5	1.644002	1.5
2023	2.470						2.5	1.691595	1.5
2024	2.430						2.4	1.729938	1.4
2025	2.470						2.5	1.766624	1.4
2026	2.650						2.7	1.803723	1.5
2027	2.700						2.7	1.841601	1.5
2028	2.760						2.8	1.880275	1.5
2029	2.820						2.8	1.919760	1.5

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

CVN 78 Subprogram

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

1205N - Military Construction, Navy					
fiscal year		Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2000 ($M)
Total		**338.1**	**338.1**	**-**	**196.8**
1997			-	0.984448	-
1998			-	0.993393	-
1999			-	1.009120	-
2000			-	1.022140	-
2001			-	1.033698	-
2002			-	1.048438	-
2003			-	1.071772	-
2004			-	1.099837	-
2005			-	1.131052	-
2006			-	1.161730	-
2007			-	1.185355	-
2008			-	1.205557	-
2009			-	1.222075	-
2010			-	1.252660	-
2011			-	1.280798	-
2012			-	1.299722	-
2013		30.880	30.9	1.318236	23.4
2014		3.380	3.4	1.338009	2.5
2015			-	1.375721	-
2016			-	1.407784	-
2017			-	1.444045	-
2018			-	1.497635	-
2019			-	1.555248	-
2020			-	1.620921	-
2021			-	1.677248	-
2022		100.000	100.0	1.714970	58.3
2023		47.720	47.7	1.754806	27.2
2024		81.080	81.1	1.792403	45.2
2025			-	1.830140	-
2026		75.000	75.0	1.868572	40.1

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

CVN 78 Subprogram

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

1804N - Operation & Maintenance, Navy					
fiscal year		Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2000 ($M)
Total		**227.7**	**227.7**	**-**	**147.0**
1997			-	0.975431	-
1998			-	0.984345	-
1999			-	0.993722	-
2000			-	1.007911	-
2001			-	1.022761	-
2002			-	1.034577	-
2003			-	1.047483	-
2004			-	1.075049	-
2005			-	1.104849	-
2006			-	1.135804	-
2007			-	1.165120	-
2008			-	1.188419	-
2009			-	1.204137	-
2010			-	1.219311	-
2011			-	1.247089	-
2012			-	1.263358	-
2013			-	1.282925	-
2014			-	1.299531	-
2015		4.770	4.8	1.314823	3.6
2016		25.400	25.4	1.334794	19.0
2017		40.660	40.7	1.359689	29.9
2018		20.610	20.6	1.388332	14.8
2019		8.720	8.7	1.415083	6.2
2020		6.420	6.4	1.449492	4.4
2021		5.250	5.3	1.511404	3.5
2022		6.280	6.3	1.609212	3.9
2023		9.880	9.9	1.664297	5.9
2024		21.650	21.7	1.704150	12.7
2025		19.710	19.7	1.740644	11.3
2026		7.020	7.0	1.777197	4.0
2027		16.860	16.9	1.814518	9.3
2028		17.040	17.0	1.852623	9.2
2029		17.400	17.4	1.891528	9.2

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

EMALS Subprogram

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

1319N - Research, Development, Test & Eval, Navy					
fiscal year		Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2000 ($M)
Total		**1,079.7**	**1,079.7**	**-**	**884.0**
1997			-	0.975795	-
1998			-	0.983787	-
1999			-	0.995370	-
2000		41.000	41.0	1.009939	40.6
2001		41.000	41.0	1.023796	40.0
2002		41.000	41.0	1.034144	39.6
2003		44.240	44.2	1.049304	42.2
2004		37.170	37.2	1.078595	34.5
2005		49.450	49.5	1.106983	44.7
2006		56.850	56.9	1.141476	49.8
2007		108.170	108.2	1.169435	92.5
2008		40.480	40.5	1.190767	34.0
2009		113.210	113.2	1.206057	93.9
2010		90.890	90.9	1.224147	74.2
2011		59.060	59.1	1.253376	47.1
2012		31.000	31.0	1.274163	24.3
2013		54.930	54.9	1.287542	42.7
2014		46.870	46.9	1.305735	35.9
2015		11.320	11.3	1.322164	8.6
2016		12.190	12.2	1.346704	9.1
2017		36.790	36.8	1.371901	26.8
2018		25.250	25.3	1.405505	18.0
2019		32.060	32.1	1.432575	22.4
2020		20.330	20.3	1.485257	13.7
2021		4.050	4.1	1.552010	2.6
2022		11.660	11.7	1.633091	7.1
2023		16.700	16.7	1.681709	9.9
2024		0.780	0.8	1.720098	0.5
2025		9.790	9.8	1.756587	5.6
2026		19.860	19.9	1.793475	11.1
2027		17.450	17.5	1.831138	9.5
2028		2.860	2.9	1.869592	1.5
2029		2.740	2.7	1.908853	1.4
2030		0.550	0.6	1.948939	0.3

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

EMALS Subprogram

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

1611N (BLS Hist) - Shipbuilding and Conversion, Navy									
fiscal year	End Item Recurring Flyaway	Non-End Item Recurring Flyaway	Non-Recurring Flyaway	Initial Spares	Depot Activation	Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2000 ($M)
Total	**3,300.1**	**-**	**-**	**-**	**-**	**-**	**3,300.1**	**-**	**1,713.9**
1997							-	1.000788	-
1998							-	1.023310	-
1999							-	1.039587	-
2000							-	1.066002	-
2001							-	1.102670	-
2002							-	1.108947	-
2003							-	1.173105	-
2004							-	1.215661	-
2005							-	1.269544	-
2006							-	1.314317	-
2007	5.800						5.8	1.374711	4.2
2008	25.580						25.6	1.421534	18.0
2009	177.200						177.2	1.465021	121.0
2010	138.600						138.6	1.515920	91.4
2011	251.820						251.8	1.565650	160.8
2012							-	1.601566	-
2013	12.640						12.6	1.635063	7.7
2014	65.300						65.3	1.668173	39.1
2015	206.100						206.1	1.706620	120.8
2016	211.640						211.6	1.750262	120.9
2017	149.490						149.5	1.800469	83.0
2018	460.190						460.2	1.859118	247.5
2019	9.940						9.9	1.928293	5.2
2020	122.250						122.3	2.007751	60.9
2021	73.120						73.1	2.088927	35.0
2022	19.580						19.6	2.161868	9.1
2023	319.190						319.2	2.212740	144.3
2024	184.880						184.9	2.260209	81.8
2025	206.660						206.7	2.307758	89.6
2026	185.410						185.4	2.356221	78.7
2027	191.450						191.5	2.405701	79.6
2028	283.260						283.3	2.456221	115.3

Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

EMALS Subprogram

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

1205N - Military Construction, Navy					
fiscal year		Other/ Unallocated	Total TY($M)	Weighted Rate	Total CY2000 ($M)
Total		**20.6**	**20.6**	**-**	**18.7**
1997			-	0.984448	-
1998			-	0.993393	-
1999			-	1.009120	-
2000			-	1.022140	-
2001			-	1.033698	-
2002			-	1.048438	-
2003			-	1.071772	-
2004		20.620	20.6	1.099837	18.7

Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

CVN 78 Subprogram

1319N - Research, Development, Test & Eval, Navy				
fiscal year	CVN 78			Total
Total	-			-

Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

CVN 78 Subprogram

1611N (BLS Hist) - Shipbuilding and Conversion, Navy				
fiscal year	CVN 78			Total
Total	**4**			**4**
Undistributed	-			-
2008	1			1
2009	-			-
2010	-			-
2011	-			-
2012	-			-
2013	1			1
2014	-			-
2015	-			-
2016	-			-
2017	-			-
2018	1			1
2019	-			-
2020	1			1

Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

CVN 78 Subprogram

1810N - Other Procurement, Navy				
fiscal year	CVN 78			Total
Total	**-**			**-**

Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

EMALS Subprogram

1319N - Research, Development, Test & Eval, Navy				
fiscal year	EMALS			Total
Total	**-**			**-**

Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

EMALS Subprogram

1611N (BLS Hist) - Shipbuilding and Conversion, Navy				
fiscal year	EMALS			Total
Total	**4**			**4**
Undistributed	-			-
2008	1			1
2009	-			-
2010	-			-
2011	-			-
2012	-			-
2013	1			1
2014	-			-
2015	-			-
2016	-			-
2017	-			-
2018	1			1
2019	-			-
2020	1			1

Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

EMALS Subprogram

1810N - Other Procurement, Navy				
fiscal year	EMALS			Total
Total	**-**			**-**

Nuclear Costs

CVN 78 Subprogram

Program's Use of Department of Energy Resources

None. All nuclear costs are captured within the Navy funding line.

Nuclear Costs

EMALS Subprogram

Program's Use of Department of Energy Resources

None. All nuclear costs are captured within the Navy funding line.

Operational Fielding Plan

CVN 78 Subprogram

System: CVN 78

Fielding and Inventory Notes
None.

CVN 78 Fielding Plan and Inventory

fiscal year	Store	Field	Expend/Loss	Decommission	Inventory
2023					1
2024	-	-	-	-	1
2025	-	1	-	-	2
2026	-	-	-	-	2
2027	-	-	-	-	2
2028	-	-	-	-	2
2029	-	1	-	-	3

Operational Fielding Plan

EMALS Subprogram

System: EMALS

Fielding and Inventory Notes
None.

EMALS Fielding Plan and Inventory

fiscal year	Store	Field	Expend/Loss	Decommission	Inventory
2023					1
2024	-	-	-	-	1
2025	-	1	-	-	2
2026	-	-	-	-	2
2027	-	-	-	-	2
2028	-	-	-	-	2
2029	-	1	-	-	3

O&S Independent Cost Estimate

CVN 78 Subprogram

Independent and Current Cost Estimate Comparison

Category CY2000 ($M)	Independent Cost Estimate 4/23/2015	Current Estimate 5/4/2023	Variance with ICE (%)
Unit-Level Manpower	26,694.4	28,520.0	7%
Unit Operations	2,026.0	2,940.0	45%
Maintenance	21,941.2	21,780.0	-1%
Sustaining Support	2,469.6	2,940.0	19%
Continued System Improvements	4,764.4	3,780.0	-21%
Other			-
Total O&S	**57,895.6**	**59,960.0**	**4%**

Independent Cost Estimate Source

Event:	Tailored Milestone C
Type:	Component Cost Position
Approved by:	Naval Center for Cost Analysis, April 23, 2015
Note:	Independent Cost Estimate per the April 23, 2015 Memo subject "Department of the Navy Service Cost Position for the Gerald R. Ford Class CVN 78 Aircraft Carrier Program"

Current Cost Estimate Source

Type:	Program Office Estimate
Approved by:	POE, May 4, 2023
Note:	Current Estimate reflects POE as of May 2023

Cost Estimate Variance Explanation

1.0 Unit Level Manpower - Increased billets assigned per hull and annual DoD paygrade changes.
2.0 Unit Operations - Additional years of VAMOSC data impacted average cost per year.
3.0 Maintenance - Scheduled Depot Maintenance repair days and Material Unit Cost reflect latest OPNAVLTR 4700, latest public and private yard labor rates, additional years of VAMOSC data impacted average cost per year.
4.0 Sustaining Support - Additional years of VAMOSC data impacted average cost per year.
5.0 Continued System Improvements - Updated data impacted average cost per year, basis is now system VAMOSC data with additional data impacting average cost per year.

The 2015 SCP occurred when the CAPE O&S structure reflected 2014 guidance, including 6.0 Indirect Support. Current CAPE 2020 structure removed element 6.0. Therefore 6.0 costs are not shown in the 5/4/2023 Current Estimate in the comparison table.

O&S Independent Cost Estimate

EMALS Subprogram

Independent and Current Cost Estimate Comparison

Category CY2000 ($M)	Independent Cost Estimate 4/23/2015	Current Estimate 1/12/2024	Variance with ICE (%)
Unit-Level Manpower	890.6	988.5	11%
Unit Operations	-	-	-
Maintenance	1,199.0	1,871.2	56%
Sustaining Support	298.8	507.8	70%
Continued System Improvements	731.6	781.0	7%
Other	-		-
Total O&S	**3,120.0**	**4,148.5**	**33%**

Independent Cost Estimate Source

Event:	Tailored Milestone C
Type:	Component Cost Position
Approved by:	Naval Center for Cost Analysis, April 23, 2015
Note:	Independent Cost Estimate per the April 23, 2015 Memo subject "Department of the Navy Service Cost Position for the Gerald R. Ford Class CVN 78 Aircraft Carrier Program"

Current Cost Estimate Source

Type:	Program Office Estimate
Approved by:	POE, January 12, 2024
Note:	Current Estimate reflects POE as of January 2024

Cost Estimate Variance Explanation

1.0 Unit Level Manpower - Increased billets assigned per hull and annual DoD paygrade changes.
2.0 Unit Operations - N/A
3.0 Maintenance - Updated data and estimating level of detail impacted average cost per year.
4.0 Sustaining Support - Revised methodology. Increased support team size and inclusion of costs originally assumed captured in indirect rates.
5.0 Continued System Improvements - Updated methodology from analogy estimate to engineering build up impacted average cost per year.

The 2015 SCP occurred when the CAPE O&S structure reflected 2014 guidance, including 6.0 Indirect Support. Current CAPE 2020 structure removed element 6.0. Therefore 6.0 costs are not shown in the 1/12/2024 Current Estimate in the comparison table.

Annual Operating and Support Estimates by Cost Element

CVN 78 Subprogram

System: CVN 78

Source for TY-CY Conversion: ASN FMB-6 Inflation Rates and Outlay factors for Army, Navy, and Defense-wide Accounts

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 CY2000 ($M)
Total	**28,520.0**	**2,940.0**	**21,780.0**	**2,940.0**	**3,780.0**	**-**	**59,960.0**
2018	142.600	14.700	108.900	14.700	18.900		299.8
2019	142.600	14.700	108.900	14.700	18.900		299.8
2020	142.600	14.700	108.900	14.700	18.900		299.8
2021	142.600	14.700	108.900	14.700	18.900		299.8
2022	142.600	14.700	108.900	14.700	18.900		299.8
2023	142.600	14.700	108.900	14.700	18.900		299.8
2024	142.600	14.700	108.900	14.700	18.900		299.8
2025	142.600	14.700	108.900	14.700	18.900		299.8
2026	285.200	29.400	217.800	29.400	37.800		599.6
2027	285.200	29.400	217.800	29.400	37.800		599.6
2028	285.200	29.400	217.800	29.400	37.800		599.6
2029	285.200	29.400	217.800	29.400	37.800		599.6
2030	427.800	44.100	326.700	44.100	56.700		899.4
2031	427.800	44.100	326.700	44.100	56.700		899.4
2032	427.800	44.100	326.700	44.100	56.700		899.4
2033	570.400	58.800	435.600	58.800	75.600		1,199.2
2034	570.400	58.800	435.600	58.800	75.600		1,199.2
2035	570.400	58.800	435.600	58.800	75.600		1,199.2
2036	570.400	58.800	435.600	58.800	75.600		1,199.2
2037	570.400	58.800	435.600	58.800	75.600		1,199.2
2038	570.400	58.800	435.600	58.800	75.600		1,199.2
2039	570.400	58.800	435.600	58.800	75.600		1,199.2
2040	570.400	58.800	435.600	58.800	75.600		1,199.2
2041	570.400	58.800	435.600	58.800	75.600		1,199.2
2042	570.400	58.800	435.600	58.800	75.600		1,199.2
2043	570.400	58.800	435.600	58.800	75.600		1,199.2
2044	570.400	58.800	435.600	58.800	75.600		1,199.2
2045	570.400	58.800	435.600	58.800	75.600		1,199.2
2046	570.400	58.800	435.600	58.800	75.600		1,199.2
2047	570.400	58.800	435.600	58.800	75.600		1,199.2
2048	570.400	58.800	435.600	58.800	75.600		1,199.2
2049	570.400	58.800	435.600	58.800	75.600		1,199.2
2050	570.400	58.800	435.600	58.800	75.600		1,199.2

System: CVN 78

Source for TY-CY Conversion: ASN FMB-6 Inflation Rates and Outlay factors for Army, Navy, and Defense-wide Accounts

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 CY2000 ($M)
2051	570.400	58.800	435.600	58.800	75.600		1,199.2
2052	570.400	58.800	435.600	58.800	75.600		1,199.2
2053	570.400	58.800	435.600	58.800	75.600		1,199.2
2054	570.400	58.800	435.600	58.800	75.600		1,199.2
2055	570.400	58.800	435.600	58.800	75.600		1,199.2
2056	570.400	58.800	435.600	58.800	75.600		1,199.2
2057	570.400	58.800	435.600	58.800	75.600		1,199.2
2058	570.400	58.800	435.600	58.800	75.600		1,199.2
2059	570.400	58.800	435.600	58.800	75.600		1,199.2
2060	570.400	58.800	435.600	58.800	75.600		1,199.2
2061	570.400	58.800	435.600	58.800	75.600		1,199.2
2062	570.400	58.800	435.600	58.800	75.600		1,199.2
2063	570.400	58.800	435.600	58.800	75.600		1,199.2
2064	570.400	58.800	435.600	58.800	75.600		1,199.2
2065	570.400	58.800	435.600	58.800	75.600		1,199.2
2066	570.400	58.800	435.600	58.800	75.600		1,199.2
2067	570.400	58.800	435.600	58.800	75.600		1,199.2
2068	427.800	44.100	326.700	44.100	56.700		899.4
2069	427.800	44.100	326.700	44.100	56.700		899.4
2070	427.800	44.100	326.700	44.100	56.700		899.4
2071	427.800	44.100	326.700	44.100	56.700		899.4
2072	427.800	44.100	326.700	44.100	56.700		899.4
2073	427.800	44.100	326.700	44.100	56.700		899.4
2074	427.800	44.100	326.700	44.100	56.700		899.4
2075	427.800	44.100	326.700	44.100	56.700		899.4
2076	285.200	29.400	217.800	29.400	37.800		599.6
2077	285.200	29.400	217.800	29.400	37.800		599.6
2078	285.200	29.400	217.800	29.400	37.800		599.6
2079	285.200	29.400	217.800	29.400	37.800		599.6
2080	142.600	14.700	108.900	14.700	18.900		299.8
2081	142.600	14.700	108.900	14.700	18.900		299.8
2082	142.600	14.700	108.900	14.700	18.900		299.8

Annual Operating and Support Estimates by Cost Element

EMALS Subprogram

System: EMALS

Source for TY-CY Conversion: ASN FMB-6 Inflation Rates and Outlay factors for Army, Navy, and Defense-wide Accounts

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 CY2000 ($M)
Total	**988.5**	**-**	**1,871.2**	**507.8**	**781.0**	**-**	**4,148.5**
2018	4.967	-	2.441	4.032	0.248	-	11.7
2019	4.967	-	2.441	6.736	6.423	-	20.6
2020	4.967	-	2.441	6.732	6.423	-	20.6
2021	4.967	-	9.509	6.721	10.465	-	31.7
2022	4.967	-	9.509	6.749	10.465	-	31.7
2023	4.967	-	9.509	7.673	10.465	-	32.6
2024	4.967	-	9.509	7.534	9.302	-	31.3
2025	9.935	-	19.019	8.066	10.897	-	47.9
2026	9.935	-	19.019	7.700	10.991	-	47.6
2027	9.935	-	19.019	7.700	11.246	-	47.9
2028	9.935	-	19.019	7.700	10.897	-	47.6
2029	9.935	-	19.019	7.700	10.897	-	47.6
2030	14.902	-	28.528	8.072	13.190	-	64.7
2031	14.902	-	28.528	7.706	12.935	-	64.1
2032	14.902	-	28.528	7.706	12.841	-	64.0
2033	19.870	-	38.038	7.912	15.134	-	81.0
2034	19.870	-	38.038	7.912	14.785	-	80.6
2035	19.870	-	38.038	8.278	14.785	-	81.0
2036	19.870	-	38.038	7.912	15.228	-	81.0
2037	19.870	-	38.038	7.912	14.785	-	80.6
2038	19.870	-	38.038	7.912	14.785	-	80.6
2039	19.870	-	38.038	7.912	15.134	-	81.0
2040	19.870	-	38.038	8.278	14.785	-	81.0
2041	19.870	-	38.038	7.912	14.879	-	80.7
2042	19.870	-	38.038	7.912	15.134	-	81.0
2043	19.870	-	38.038	7.912	14.785	-	80.6
2044	19.870	-	38.038	7.912	14.785	-	80.6
2045	19.870	-	38.038	8.278	15.134	-	81.3
2046	19.870	-	38.038	7.912	14.879	-	80.7
2047	19.870	-	38.038	7.912	14.785	-	80.6
2048	19.870	-	38.038	7.912	15.134	-	81.0
2049	19.870	-	38.038	7.912	14.785	-	80.6
2050	19.870	-	38.038	8.278	14.785	-	81.0

System: EMALS

Source for TY-CY Conversion: ASN FMB-6 Inflation Rates and Outlay factors for Army, Navy, and Defense-wide Accounts

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 CY2000 ($M)
2051	19.870	-	38.038	7.912	15.228	-	81.0
2052	19.870	-	38.038	7.912	14.785	-	80.6
2053	19.870	-	38.038	7.912	14.785	-	80.6
2054	19.870	-	38.038	7.912	15.134	-	81.0
2055	19.870	-	38.038	8.278	14.785	-	81.0
2056	19.870	-	38.038	7.912	14.879	-	80.7
2057	19.870	-	38.038	7.912	15.134	-	81.0
2058	19.870	-	38.038	7.912	14.785	-	80.6
2059	19.870	-	38.038	7.912	14.785	-	80.6
2060	19.870	-	38.038	8.278	15.134	-	81.3
2061	19.870	-	38.038	7.912	14.879	-	80.7
2062	19.870	-	38.038	7.912	12.841	-	78.7
2063	19.870	-	38.038	7.912	13.190	-	79.0
2064	19.870	-	38.038	7.912	12.841	-	78.7
2065	19.870	-	38.038	8.278	12.841	-	79.0
2066	19.870	-	38.038	7.912	13.284	-	79.1
2067	14.902	-	28.528	7.851	12.841	-	64.1
2068	14.902	-	28.528	7.851	12.841	-	64.1
2069	14.902	-	28.528	7.851	13.190	-	64.5
2070	14.902	-	28.528	8.217	10.897	-	62.5
2071	14.902	-	28.528	7.851	10.991	-	62.3
2072	14.902	-	28.528	7.851	11.245	-	62.5
2073	14.902	-	28.528	7.851	10.897	-	62.2
2074	14.902	-	28.528	7.851	10.897	-	62.2
2075	9.935	-	19.019	8.066	9.302	-	46.3
2076	9.935	-	19.019	7.700	9.047	-	45.7
2077	9.935	-	19.019	7.700	8.953	-	45.6
2078	9.935	-	19.019	7.700	2.879	-	39.5
2079	9.935	-	19.019	7.700	2.530	-	39.2
2080	4.967	-	9.509	8.109	2.530	-	25.1
2081	4.967	-	9.509	7.743	2.973	-	25.2
2082	4.967	-	9.509	7.743	2.530	-	24.7