

Updated August 7, 2025

Navy DDG(X) Next-Generation Destroyer Program: Background and Issues for Congress

Introduction

The Navy's DDG(X) program envisages procuring a class of next-generation guided-missile destroyers (DDGs) to replace the Navy's Ticonderoga (CG-47) class Aegis cruisers and older Arleigh Burke (DDG-51) class Aegis destroyers. The Navy wants to procure the first DDG(X) in the early 2030s. The Navy's proposed FY2026 budget requests \$133.5 million in research and development funding for the program.

Navy Large Surface Combatants (LSCs)

Force-Level Goal

The Navy refers to its cruisers and destroyers collectively as large surface combatants (LSCs). The Navy's preferred 381-ship force-level goal, released in June 2023, calls for achieving and maintaining a force of 87 LSCs.

Existing LSCs

The Navy's CG-47s and DDG-51s are commonly called Aegis cruisers and Aegis destroyers, respectively, because they are equipped with the Aegis combat system, an integrated collection of sensors and weapons named for the mythical shield that defended Zeus. The Navy procured 27 CG-47s between FY1978 and FY1988. The ships entered service between 1983 and 1994. The first five, which were built to an earlier technical standard, were judged by the Navy to be too expensive to modernize and were removed from service in 2004-2005. The Navy began retiring the remaining 22 ships in FY2022 and wants to retire all 22 by the end of FY2027.

The first DDG-51 was procured in FY1985 and entered service in 1991. The version of the DDG-51 that the Navy is currently procuring is called the Flight III version. The Navy also has three Zumwalt (DDG-1000) class destroyers that were procured in FY2007-FY2009 and are equipped with a combat system that is different than the Aegis system. (For more on the DDG-51 and DDG-1000 programs, see CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke.)

LSC Industrial Base

All LSCs procured for the Navy since FY1985 have been built at General Dynamics/Bath Iron Works (GD/BIW) of Bath, ME, and Huntington Ingalls Industries/Ingalls Shipbuilding (HII/Ingalls) of Pascagoula, MS. Lockheed Martin and Raytheon are major contractors for Navy surface ship combat system equipment. The surface combatant industrial base also includes hundreds of additional component and material supplier firms.

DDG(X) Program

Program Designation and Lead Ship Procurement

In the program designation DDG(X), the X means the precise design for the ship has not yet been determined. As mentioned earlier, the Navy wants to procure the first DDG(X) in the early 2030s. Procurement of DDG-51s—the type of LSC currently being procured by the Navy—would end sometime after procurement of DDG(X)s begins.

Navy's General Concept for the Ship

Figure 1 shows a Navy rendering of a notional DDG(X) design. The Navy approved the DDG(X)'s top-level requirements (i.e., its major required features) in December 2020. A January 2025 Congressional Budget Office (CBO) report on the Navy's FY2025 30-year shipbuilding plan states, "The Navy has indicated that the initial [DDG(X)] design now prescribes a displacement of 14,500 tons—1,000 tons more than the design under the [FY]2024 [30-year shipbuilding] plan and 4,800 tons [about 49.5%] more than a DDG-51."

Figure 1. Navy Rendering of Notional DDG(X) Design



Source: Navy rendering of notional DDG(X) design accompanying Sam LaGrone, "Navy Wants 3-Year Overlap Between Arleigh Burkes and DDG(X), Considering Propulsion System," *USNI News*, January 10, 2024.

The Navy envisages the DDG(X) as having (1) Flight III DDG-51 Aegis combat system elements; (2) more growth margin than the Flight III DDG-51 design, meaning more space, weight-carrying capacity, electrical power, and cooling capacity (aka SWAP-C) for accepting additional or higher-power equipment and weapons (including directed-energy weapons) over the ship's service life; (3) an integrated power system (IPS); (4) reduced vulnerability due to reduced infrared, acoustic, and underwater electromagnetic signatures; (5) increased cruising range and time on station; and (6) increased weapon capacity.

The Navy states that the baseline DDG(X) design, like the Flight III DDG-51 design, is to include 96 standard Vertical Launch System (VLS) cells, with an ability to incorporate 12 large missile launch cells in place of 32 of the 96 standard VLS cells. It is also to include two 21-cell Rolling Airframe Missile (RAM) launchers, and possibly also an ability to be built with an additional mid-body hull section, called the Destroyer Payload Module, that would provide additional payload capacity. The Navy states that

The Future Naval Force Study (FNFS) and the Future Surface Combatant Force Analysis of Alternatives (FSCF AoA) identified the requirement for future large surface combatants (LSCs) to be capable of hosting directed energy (DE) weapons, larger missiles for increased range and speed, increased magazine depth, growth in organic sensors, and an efficient integrated power system to manage the dynamic loads. DDG 51 is highly capable, but after over 40 years in production and 30 years of upgrades the hull form does not provide sufficient space and center of gravity margin to host future capabilities. To reset these design allowances for the future, requirements tradeoff and design studies were performed from FY 2018 to FY 2020 that considered modification of existing surface combatant and amphibious ships in addition to new concepts. These studies concluded that DDG(X) is required to deliver the necessary margins and flexibility to succeed the DDG 51 Class as the next enduring LSC combining the DDG 51 FLT III combat system elements with new hull form, an efficient Integrated Power System (IPS) and greater endurance, reducing the Fleet logistics burden....

(Source: *Department of Defense Fiscal Year (FY) 2026 Budget Estimates, Navy, Justification Book, Volume 2 of 5, Research, Development, Test & Evaluation, Navy*, June 2025, p. 467.)

Procurement Quantities and Procurement Cost

The Navy's FY2025 30-year shipbuilding plan projected LSCs being procured in FY2032 and subsequent years in annual quantities of generally one to two ships per year. The January 2025 CBO report estimates the DDG(X)'s average procurement cost in constant FY2024 dollars at \$4.4 billion—about 33% more than the Navy's estimate (shown in the CBO report) of \$3.3 billion. The CBO report states that “the Navy's estimates for its destroyers imply that the DDG(X) would cost about 22 percent more than the DDG-51 Flight III but would have a full-load displacement that was 50 percent greater than that ship. Such an outcome, however, seems unlikely given the history of surface combatants.”

Technical Risk

A June 2025 Government Accountability Office (GAO) report on selected Department of Defense acquisition programs stated

The Navy approved changes to the operational requirements for the [DDG(X)] program in August

2024. The program is assessing how the changes affect its schedule and cost estimates and officials did not provide a time frame for when they will update these estimates. The changes were based on additional input from the fleet and Navy leadership to increase speed and [electrical] power.... The Navy plans to model the IPS at a land-based test site, but the results may not be available to fully inform the ship's design prior to detailed design. The second critical technology is the ship's hull form. The program continues to conduct risk reduction activities for both critical technologies.

Issues for Congress

Issues for Congress regarding the DDG(X) program include the following: (1) Would a new LSC larger than the Flight III DDG-51 design be consistent with shifting to a more distributed fleet architecture that includes a larger number of smaller ships? (2) The Navy in the past has studied options for a lengthened version of the DDG-51 design. Would the DDG(X) be more cost-effective than a lengthened DDG-51? (3) Has the Navy accurately identified the DDG(X)'s required operational capabilities? (4) Why is there a 33% difference between the CBO and Navy estimates of the DDG(X)'s average procurement cost? (5) Would future Navy budgets permit the procurement of DDG(X)s in desired numbers while adequately funding other Navy priorities? (6) Is the Navy taking adequate steps to mitigate technical, schedule, and cost risk in the program? (7) Is the Navy planning adequately for the transition from DDG-51 procurement to DDG(X) procurement?

FY2026 Funding Request

The Navy's proposed FY2026 budget requests \$51.6 million for Project 0411 (DDG[X] Concept Development) within Program Element (PE) 0603564N (Ship Preliminary Design & Feasibility Studies), which is line 46 in the Navy's FY2026 research and development (R&D) account, and \$81.9 million for “DDG(X) Power & Propulsion Risk Mitigation & Demonstration,” which forms part of Project 2471 (Integrated Power Systems [IPS]) within PE 0603573N (Advanced Surface Machinery Systems), which is line 48. The Senate Armed Services Committee, in its report (S.Rept. 119-39 of July 15, 2025) on the FY2026 National Defense Authorization Act (NDAA) (S. 2296), recommended approving the funding requests for lines 46 and 48. The report directs the Navy to provide a briefing on the DDG(X) program (pages 198-199). The House Appropriations Committee, in its report (H.Rept. 119-162 of June 16, 2025) on the FY2026 DOD Appropriations Act (H.R. 4016), recommended \$93.9 million for line 46. The report also recommended increasing the request for line 48 by \$30.0 million for “development and test of dual DDG(x) propulsion motors.” (Page 175) The Senate Appropriations Committee, in its report (S.Rept. 119-52 of July 31, 2025) on the on the FY2026 DOD Appropriations Act (S. 2572), recommended approving the requests for R&D funding for the DDG(X) program in lines 46 and 48. (Page 172)

Ronald O'Rourke, Specialist in Naval Affairs

Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.