

GAO Highlights

Highlights of [GAO-24-106546](#), a report to the Committee on Armed Services, House of Representatives

Why GAO Did This Study

In 2017, the Navy began the frigate program in response to the shortcomings of the Littoral Combat Ship and evolving threats. Construction began on the first ship, FFG 62, in August 2022.

A House report includes a provision for GAO to examine the frigate program. GAO's review assesses (1) progress made in frigate design and construction within planned cost and schedule; (2) technical uncertainties to planned frigate capabilities and any plans to resolve them; and (3) opportunities to incorporate leading practices for product development within the frigate program.

GAO reviewed program documents, interviewed Navy and contractor officials, and compared the frigate program to leading practices for product development.

What GAO Recommends

GAO is making five recommendations, including that the Navy restructure its design stability metric to measure progress based more on the quality than quantity of design documents; use the improved metric to assess the design stability before beginning construction of the second frigate; incorporate additional land-based testing into the frigate test plan; and identify opportunities to further incorporate leading practices for product development into the frigate acquisition strategy. The Navy agreed with four recommendations and partially agreed with the recommendation related to updating the test plan. GAO maintains that all five recommendations should be fully implemented.

View [GAO-24-106546](#). For more information, contact Shelby S. Oakley at (202) 512-4841 or OakleyS@gao.gov.

May 2024

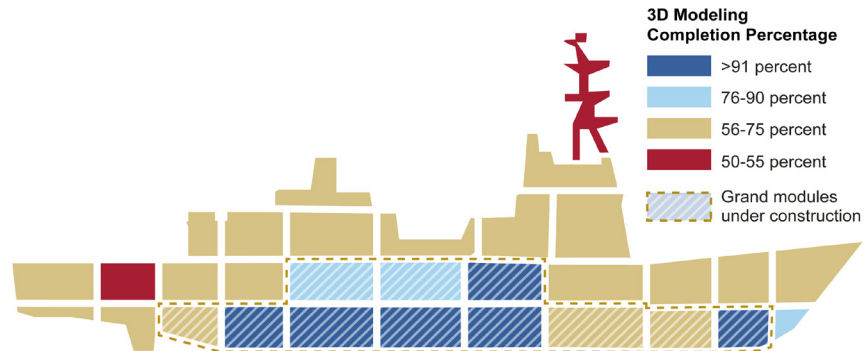
NAVY FRIGATE

Unstable Design Has Stalled Construction and Compromised Delivery Schedules

What GAO Found

Over at least 2 decades, the Navy's *Constellation* class Guided Missile Frigate program plans to acquire and deliver up to 20 frigates—multi-mission, small surface combatant warships—at a combined cost of over \$22 billion. To reduce technical risk, the Navy and its shipbuilder modified an existing design to incorporate Navy specifications and weapon systems. However, the Navy's decision to begin construction before the design was complete is inconsistent with leading ship design practices and jeopardized this approach. Further, design instability has caused weight growth. The figure shows the frigate's 3D design—a component of design stability—as incomplete over 1 year after construction began.

Lead Frigate 3D Modeling Progress by Grand Module, as of October 2023



Source: GAO (analysis); Navy (image and data). | GAO-24-106546

Delays in completing the ship design have created mounting construction delays. The Navy acknowledges that the April 2026 delivery date, set in the contract at award, is unachievable. The lead frigate is forecasted to be delivered 36 months later than initially planned. The program office tracks and reports design progress, but its design stability metric hinges largely on the quantity—rather than quality—of completed design documents. This limits insight into whether the program's schedule is achievable. If the Navy begins construction on the second frigate without improving this metric, it risks repeating the same errors that resulted in construction disruptions and delays with the lead frigate.

The frigate is using many mission systems already proven on Navy ships. However, the Navy has yet to demonstrate two systems—the propulsion and machinery control systems. A planned update to the frigate test plan—combined with the opportunity afforded by schedule delays—could offer the Navy the chance to conduct land-based testing of these two unproven systems. This testing would reduce the risk of discovering issues after the ship is at sea.

The frigate is using a traditional, linear development approach for design and construction. The Navy has historically experienced schedule delays, cost growth, or both in prior shipbuilding programs using this approach. The Navy has incorporated elements of leading practices into its acquisition strategy. However, further incorporating these practices in an updated acquisition strategy could position the program, when contracting for future frigates, to better respond to evolving mission needs.