

Highlights of [GAO-12-113](#), a report to the Ranking Member, Subcommittee on Defense, Committee on Appropriations, House of Representatives

Why GAO Did This Study

After nearly a decade and almost \$10 billion in development on Zumwalt class destroyers, the Navy changed its acquisition approach from procuring Zumwalts to restarting production of Arleigh Burke class destroyers (DDG 51) and building a new version, known as Flight III. As requested, GAO reviewed the Navy's plans for DDG 51 and missile defense capabilities by (1) evaluating how the Navy determined the most appropriate platform to meet surface combatant requirements; (2) identifying and analyzing differences in design, cost, and schedule of the restart ships compared with previous ships; and (3) assessing the feasibility of Navy plans for maturing and integrating new technologies and capabilities. GAO analyzed Navy and contractor documentation and interviewed Navy, contractor, and other officials.

What GAO Recommends

GAO is making several recommendations to the Secretary of Defense, including requiring the Navy to conduct thorough analyses of alternatives for its future surface combatant program and conduct realistic operational testing of the integrated missile defense capability of the DDG 51's upgrade, ensuring that the Navy does not include the lead Flight III ship in a multiyear procurement request, and raising the level of oversight for this program. DOD agreed with the recommendations to varying degrees, but generally did not offer specific actions to address them. GAO believes all recommendations remain valid and has included matters for congressional consideration to ensure the soundness of the Navy's business case.

View [GAO-12-113](#). For more information, contact Belva Martin at (202) 512-4841 or MartinB@gao.gov.

ARLEIGH BURKE DESTROYERS

Additional Analysis and Oversight Required to Support the Navy's Future Surface Combatant Plans

What GAO Found

The Navy relied on its 2009 Radar/Hull Study as the basis to select DDG 51 over DDG 1000 to carry the Air and Missile Defense Radar (AMDR) as its preferred future surface combatant—a decision that may result in a procurement of up to 43 destroyers and cost up to \$80 billion over the next several decades. The Radar/Hull Study may not provide a sufficient analytical basis for a decision of this magnitude. Specifically, the Radar/Hull Study:

- focuses on the capability of the radars it evaluated, but does not fully evaluate the capabilities of different shipboard combat systems and ship options under consideration,
- does not include a thorough trade-off analysis that would compare the relative costs and benefits of different solutions under consideration or provide robust insight into all cost alternatives, and
- assumes a significantly reduced threat environment from other Navy analyses, which allowed radar performance to seem more effective than it may actually be against more sophisticated threats.

The Navy's planned production schedules of the restart DDG 51 ships are comparable with past performance and officials told us that hull and mechanical systems changes are modest, but these ships will cost more than previous DDG 51s. A major upgrade to the ship's combat system software also brings several challenges that could affect the restart ships, due in part to a key component of this upgrade that has already faced delays. Further delays could postpone delivery to the shipyard for the first restart ship, and could also jeopardize the Navy's plan to install and test the upgrade on an older DDG 51 prior to installation on the restart ships. This first installation would serve to mitigate risk, and if it does not occur on time the Navy will be identifying, analyzing, and resolving any combat system problems on the first restart ship. Further, the Navy does not plan to fully test new capabilities until after certifying the upgrade as combat-ready, and has not planned for realistic operational testing necessary to fully demonstrate its integrated cruise and ballistic missile defense performance.

The Navy faces significant technical risks with its new Flight III DDG 51 ships, and the current level of oversight may not be sufficient given these risks. The Navy is pursuing a reasonable risk mitigation approach to AMDR development, but it will be technically challenging. According to Navy analysis, selecting the DDG 51 hullform to carry AMDR requires significant redesign and reduces the ability of these ships to accommodate future systems. This decision also limits the radar size to one that will be at best marginally effective and incapable of meeting the Navy's desired capabilities. The Navy may have underestimated the cost of Flight III, and its plan to include the lead ship in a multiyear procurement contract given the limited knowledge about the configuration and the design of the ship creates potential cost risk. Finally, the current level of oversight may not be commensurate with a program of this size, cost, and risk and could result in less information being available to decision makers.