



Highlights of [GAO-07-943T](#), a testimony before the Subcommittee on Seapower and Expeditionary Forces, Committee on Armed Services, House of Representatives

Why GAO Did This Study

The Navy is beset with long-standing problems that affect its ability to accomplish ambitious goals for its shipbuilding portfolio. Significant cost growth and long schedule delays are persistent problems. Making headway on these problems is essential in light of the serious budget pressures facing the nation.

This testimony focuses on (1) cost growth in shipbuilding, (2) acquisition approaches in the LPD 17, Littoral Combat Ship, DDG 1000 and CVN 78 programs and (3) steps the Navy can take to improve its acquisition decision-making, particularly the adoption of a knowledge-based framework.

What GAO Recommends

While GAO is making no new recommendations in this testimony, GAO has made numerous recommendations through the years to improve business cases for Navy acquisitions as well as other Department of Defense weapon acquisitions. The Department's acquisition policies largely incorporate these recommendations, but they have not been implemented on actual programs.

www.gao.gov/cgi-bin/getrpt?GAO-07-943T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Paul L. Francis at (202) 512-4841 or francisp@gao.gov.

DEFENSE ACQUISITIONS

Realistic Business Cases Needed to Execute Navy Shipbuilding Programs

What GAO Found

The Navy has exceeded its original budget by more than \$4 billion for the 41 ships under construction at the beginning of this fiscal year. And more cost growth is coming. Cost growth is not just a problem for lead ships of a new class but also for follow-on ships. For example, costs for the first two Littoral Combat Ships have more than doubled. Similarly, costs for the first two San Antonio class (LPD 17 and LPD 18) amphibious ships have increased by over \$1.3 billion—almost a 77 percent increase above the initial budgets. Cost growth of this magnitude leads to lost opportunities for tomorrow's needs.

These types of problems point to the wisdom of using solid, executable business cases to design and build ships. A business case requires a balance between the concept selected to satisfy warfighter needs and the resources—technologies, design knowledge, funding, time, and management capacity—needed to transform the concept into a product, in this case a ship. Neither LPD 17 nor the Littoral Combat Ship programs was framed around an executable business case; rather, the programs pushed ahead without a stable design and without realistic cost estimates, resulting in higher costs, schedule delays, and quality problems. The Navy has a more thoughtful business case for its next generation aircraft carrier and destroyer programs (CVN 78 and DDG 1000, respectively) before construction, but the programs remain at risk for cost growth partly because of continuing efforts to mature technologies. GAO's work on best practices highlights the need for a disciplined, knowledge-based approach to help shipbuilding, and other defense acquisition programs achieve more successful outcomes. This approach is predicated on certain essentials, including:

- ensuring that technology maturity is proven before a design is considered stable and understanding that production outcomes cannot be guaranteed until a stable design is demonstrated;
- improving cost estimating to develop initial shipbuilding budgets that are realistically achievable; and
- improving cost management through increased use of fixed-price contracting and comprehensive cost surveillance.

A significant challenge to adapting a knowledge-based approach is the lack of a common understanding across programs regarding the definition, timing, and criteria for key knowledge junctures. For example, each shipbuilding program seems to have a different measure as to how much of the design needs to be complete before beginning ship construction. Similarly, there appears to be little criteria across programs regarding how much knowledge—such as the percent of ship units built—is needed at different decision points, including keel lay, fabrication start, and ship launch.