

GAO

Testimony

For Release  
on Delivery  
Expected at  
2:00 p.m. est  
Wednesday  
January 24,  
1990

NAVY SHIPBUILDING: Cost and Schedule Problems  
on the DDG-51 AEGIS Destroyer Program

Statement of  
Martin M Ferber, Director  
National Security and International Affairs  
Division

Before the  
Subcommittee on Seapower and Strategic and  
Critical Materials  
Committee on Armed Services  
House of Representatives



047533 / 140453

Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss the results of our review of the cost and schedule of the Arleigh Burke (DDG-51 class) guided missile destroyers. I would like to briefly summarize our report, which we issued last week, and ask that the report be entered into the record.

### Background

In April 1985, the Navy awarded Bath Iron Works a fixed-price incentive contract for the lead ship of the DDG-51 class destroyers. The ships will replace retiring destroyers and be equipped with the AEGIS combat system. The lead ship's complex design incorporates features to increase the ship's ability to survive during battle. For example, it will have a seakeeping hull, all steel construction and extensive armor around vital spaces, and a system to protect the crew from contaminated air.

Bath Iron Works is responsible for designing this ship, including integrating the AEGIS combat system and other government-furnished equipment. Initially, construction was to begin in May 1987 and the ship was scheduled for delivery in September 1989. The Navy has awarded contracts for seven additional, or follow ships. The contract for the second ship (DDG-52) was awarded to Ingalls

Shipbuilding in May 1987, and the contract for the third ship (DDG-53) was awarded to Bath Iron Works in September 1987.

Contracts for five additional ships were awarded in December 1988 -- three to Bath Iron Works and two to Ingalls Shipbuilding. The Navy currently plans to acquire at least 33 ships at a total cost of about \$27 billion.

Costs, Affordability, and Schedule Should be  
Reevaluated Before Additional Contracts are Awarded

Bath Iron Works has encountered problems in designing and constructing the lead ship. For example, it had planned to use mostly computer-aided design, but it was unable to and it was also unable to do as much construction in its fabrication buildings as it had planned. As a result of these problems and Navy changes in the contract requirements, costs have increased substantially over the original contract estimate. Schedule delays in 1987 and 1988 delayed the expected delivery by 17 months. Bath Iron Works is now accelerating construction to meet the planned delivery in February 1991.

Although Bath Iron Works estimates that about 50 percent of the lead ship is complete, the major part of outfitting the ship still has to be done. The combat system and other technical components have to be installed and integrated within the ship. Often, in the

development of new systems, it is during these activities and subsequent testing of the complete system that problems surface that could affect follow ships' schedule and cost.

The Navy has awarded contracts for seven follow ships and is getting ready to award additional contracts. The Navy could have as many as 17 ships under construction or awarded before the lead ship has finished testing and has been delivered. Currently, the Department of Defense and the Navy are exploring options for reducing forces to respond to budget constraints and recent geopolitical events. Therefore, we believe it is an opportune time to reexamine the DDG-51 program. In our report, we recommend that the Secretary of Defense ensure that sufficient information exists on the DDG-51 program development and affordability to justify the award of additional follow ships beyond the seven awarded to date.

Cost Growth on Shipbuilding Contracts  
and DDG-51 Contract Restructuring

According to the June 1989 DDG-51 cost performance report, the total target cost for Bath Iron Works to design and construct the lead ship was estimated at about \$500 million (in May 1984 dollars). Design costs were expected to more than double from the original target cost of \$111 million to \$247 million, and construction costs were expected to grow more than 60 percent, from \$157 million to \$253 million. These costs exclude the government-

furnished equipment, such as the AEGIS combat system. However, the Department of Defense believes that the total cost after integrating all systems will still be under the original estimate of \$1.25 billion (in 1985 dollars).

In September 1989, Bath Iron Works and the Navy modified the lead ship contract to resolve outstanding contractual issues. The issues were varied and included many technical matters, including changes to give the DDG-51 a reduced radar cross section. The modification restructured the sharing ratios of both the design and construction phases. Design had a 90-to-10 sharing ratio, which meant that the government was responsible for 90 percent of costs above the target costs up to the ceiling price and that Bath Iron Works was responsible for 10 percent of the costs up to the ceiling price and all costs above the ceiling price. Construction costs above the target cost up to the ceiling price were shared equally. The modification combined both design and construction into a 80-to-20 sharing ratio, with the government responsible for 80 percent. The ceiling price also was increased from the then current \$438 million to about \$530 million. The modification could increase Navy compensation to Bath Iron Works by as much as \$71.7 million and Bath Iron Work's projected losses would be eliminated.

Last year we reported that over 50 percent of competitively awarded fixed-price incentive shipbuilding contracts was experiencing cost

growth (GAO/NSIAD-89-189, Navy Contracting: Status of Cost Growth on Shipbuilding Contracts, August 4, 1989). At that time the net increase over target costs was projected at \$3 billion -- the shipyards were potentially liable for \$1.8 billion and the Navy was liable for \$1.2 billion. The Navy said that sufficient funds were included in the shipbuilding appropriations to cover most of its additional costs. Similarly, for the DDG-51 the Navy says it has shipbuilding appropriations to cover the additional costs from the contract modification, but it may not have enough solely in the DDG-51 class program.

Because of the number of fixed-price incentive shipbuilding contracts experiencing overruns, we were concerned that the DDG-51 modification could establish an inappropriate precedent. For example, according to November 1989 Naval Sea Systems Command data, the DDG-52 was 1 percent complete and was already estimated at 11 percent over ceiling price by the contractor and 22 percent over by the Navy. While the Department of Defense believes that the DDG-51 contract modification presents a unique set of circumstances, we are still concerned about the modification given the number of shipbuilding overruns and the potential impact on the shipbuilding budget.

Allegations of Mischarging by Bath Iron Works  
on Cruiser and Destroyer Contracts

After we completed our audit work on the DDG-51 and were finalizing our report, we and the Navy received fraud hot line allegations of mischarging by Bath Iron Works on the cruiser and destroyer programs. Immediately after we began to investigate the allegations, the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, wrote to GAO and requested that we do the investigation at his request. We are coordinating with the Navy in its investigation of the allegations and are building upon its work. At a later date, we will be reporting our findings to the Chairman and will provide this Committee with a copy of our report.

- - - -

In summary, although the Department of Defense believes that the probability of a major problem with the DDG-51 affecting follow ships is minimal, we note that it is often during the work that is still to be done on the DDG-51 that problems develop that could affect follow ships. Also, budget constraints and world events could have an effect on future defense force structures and equipment. As a result, we believe the Secretary of Defense should

either provide assurances on the development and affordability of the DDG-51 program or delay the award of additional follow ships.

This concludes my prepared remarks and I would be pleased to respond to any questions.