

8732

108267



UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

PROCUREMENT AND SYSTEMS  
ACQUISITION DIVISION

B-163058

DEC 29 1978

The Honorable Harold Brown  
The Secretary of Defense

Attention: Assistant for Audit Reports  
Room 3A336  
ASD (Comptroller)



Dear Mr. Secretary:

We are currently reviewing the Navy's ship acquisition process for selected programs, including FFG-7 class frigates. Although our review is not yet completed, we are bringing to your attention a matter which we believe requires your immediate consideration. We learned that FFG-7 class frigates are undergoing an extensive stern modification to enable the ship to accommodate the Light Airborne Multi-Purpose System (LAMPS)-MK III helicopter; its Recover, Assist, Secure, Traverse (RAST) haul-down system; and the Tactical Towed Array Sonar (TACTAS) system. The Navy plans to incorporate this modified stern into the fiscal year 1979-1980 ship design packages. It does not plan, however, to incorporate the modified stern section into the first 26 FFG-7 class frigates already under contract during construction, but intends to retrofit these ships at some point after delivery. Until this retrofit, the Navy plans to equip these ships with the LAMPS-MK I helicopter--an aircraft that has marginal performance and effectiveness characteristics.

We are concerned with the antisubmarine warfare capability of the first 26 U.S. frigates until such time as they can accommodate LAMPS-MK III, RAST, and TACTAS. We therefore recommend that your office determine why the modified stern should not be incorporated into all, or some, of the FFG-7 class frigates already under contract during construction, rather than retrofitting these ships after delivery.

003067

See 115  
for Title

Rept.

PSAD-79-21

BACKGROUND

The FFG-7 class frigate is to become the backbone of the Navy's sea control fleet by the mid-1980s. Detailed design for this ship began in May 1973, and Bath Iron Works Corporation, Bath, Maine, was awarded the lead ship contract on October 30, 1973. In February 1976, the Navy awarded fixed-price incentive contracts to Bath Iron Works and to two Todd Shipyard Corporation yards--one in the Los Angeles area and the other in Seattle--for construction of the first 11 follow-on ships. Additional contracts have since been awarded to these yards, with a total of 29 FFG-7 class frigates now under contract, including 3 for the Royal Australian Navy.

The LAMPS-MK III helicopter system and the TACTAS system--which are critical components of the ship's combat system--were not yet developed when the FFG-7 class frigate was originally designed. Weight and space were reserved on board for a helicopter haul-down system, and space was reserved for TACTAS. These systems were to be installed when developed. By early 1977, as the design for TACTAS and the helicopter haul-down system began to "firm-up," it became apparent that the original compartmental configuration on board would have to be modified to enable incorporation of these systems.

The Chief of Naval Operations, in March 1978, approved a change in the LAMPS-MK III's landing pattern. For safety reasons, the helicopter will now be landing straight-in from the stern, rather than obliquely as was the case before. All equipment positioned on the ship's fantail will have to be removed to prevent interference with the helicopter's new landing approach.

The Navy, in April 1978, tasked Gibbs & Cox, the FFG-7 class design agent, to develop detailed design drawings for the overall FFG-7 class stern modification. This modification includes tilting the transom and adding a "step" to the frigate's stern. This "step" will extend 6 to 10 feet rearward and be dropped 25 inches below the main deck level. The equipment removed from the frigate's fantail will be repositioned on this "step"--safely below landing deck level. The modification also

includes rearranging the compartments, bulkheads, duct work and cables in the entire stern section below deck to integrate the RAST and TACTAS systems into the ship.

Gibbs & Cox plans to complete these drawings by June 30, 1979.

THE NAVY DID NOT PERFORM  
ANY ECONOMIC ANALYSES

The Navy was aware, at least as early as September 1976, that incorporating RAST and TACTAS into FFG-7 class frigates would require some amount of stern modification. In fact, the Naval Ship Engineering Center issued a Towed Array System Feasibility Study, dated December 20, 1973, which indicated that incorporating a towed array system into FFG-7 class frigates could require some stern rearrangement. Beginning in January 1977, Gibbs & Cox performed feasibility studies and developed blueprints showing that the frigate's stern would have to be modified to enable the ship to accommodate RAST and TACTAS.

Despite being aware that the frigate's stern would have to be modified to incorporate RAST and TACTAS, the Navy did not at any time conduct analyses which investigated the economic feasibility of incorporating the modified stern into all, or some, of the first 26 U.S. FFG-7 class frigates during their construction. Navy officials told GAO that cost-benefit analyses were not performed because incorporating the modified stern into the first 26 ships was not a viable alternative. They stated that RAST and TACTAS had only been developed enough within the last year to enable preparation of any type of design drawings. Moreover, LAMPS-MK III and TACTAS equipment would not be available for any of the first 26 U.S. ships even if their sterns were modified. This is because 25 of these ships are scheduled for delivery between January 1980 and January 1983 (the first was delivered November 1977), while the equipment is scheduled for a mid-1980s introduction into the fleet.

OTHER INFORMATION WAS  
NOT CONSIDERED

The Navy did not contact the shipyards for the FFG-7 class frigate program to determine (1) whether they could incorporate, or develop plans to incorporate the modified stern into all, or some, of the first 26 U.S. ships during

their construction and (2) what cost and schedule effect this incorporation might have had on the ships involved and on the program as a whole.

RETROFITTING THE FIRST  
26 U.S. FFGs

The Navy has tentative plans to begin retrofitting the first 26 U.S. FFG-7 class frigates in 1985, and estimated in early 1978 that this retrofit will cost approximately \$7.2 million per ship (in fiscal year 1979 dollars). This figure represents the labor and material cost to tear out and rearrange the stern section and does not include the LAMPS-MK III/RAST/TACTAS equipment costs. Navy representatives emphasized that this estimate is a "best guess" estimate based on very limited information, and may not accurately reflect the actual retrofit cost.

Navy representatives also told us that retrofitting the first 26 U.S. FFG-7 class frigates could result in each ship being drydocked 6 to 12 months or longer--thus reducing each ship's operational availability.

CONCLUSION

We believe that the Navy's decision to defer incorporating the modified stern until fiscal year 1979-1980 ships and not to modify any of the first 26 U.S. ships during construction was made without adequately considering all relevant factors.

As of October 1, 1978, fabrication on 12 of the first 26 U.S. ships had not yet begun. The Navy estimates that construction on these ships--from start of fabrication to delivery--will average 2 1/2 to 3 1/2 years each, with the final FFG-7 class frigate scheduled for delivery in January 1983. Since the Navy had been studying the possible need for a stern modification since 1973 and is scheduled to have detailed design drawings for this modification by June 30, 1979, we question why the Navy has not planned to incorporate this modification into at least some of these ships during construction.

Failure to incorporate the modified stern into at least some of the first 26 U.S. FFG-7 class frigates becomes even more significant if the Navy decides not to retrofit any of these ships at all.

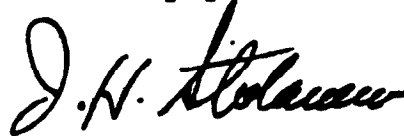
RECOMMENDATION

We therefore recommend that your office determine why the modified stern should not be incorporated into all, or some, of the FFGs already under contract during construction, rather than retrofitting these ships after delivery.

We would appreciate being informed of the actions you plan to take in response to our recommendation. We are sending copies of this letter to the Director, Office of Management and Budget; the Chairmen, Senate and House Committees on Appropriations and Armed Services; the Chairmen, Senate Committee on Governmental Affairs and House Committee on Governmental Operations; and the Secretary of the Navy.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

Sincerely yours,



J. H. Stolarow  
Director