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UNCLASSIFIED

U.S. GENERAL ACCOUNTING OFFICE

STAFF STUDY

[DE-1052]

DEPARTMENT OF THE NAVY

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FEBRUARY 1973

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DE-1052 CLASS OCEAN ESCORT PROGRAM

SYSTEM DESCRIPTION AND STATUS

The DE-1052 Class Ocean Escort Ships are designed to operate offensively against submarines and to protect support forces and convoys. Original plans were to equip these ships with long-range sonar, variable depth sonar, deck gun, anti-submarine rocket launcher, anti-submarine warfare torpedo tubes, and a drone anti-submarine helicopter. Since then, the Light Airborne Multipurpose System (LAMPS) has replaced the drone helicopter and the Basic Point Defense Surface Missile System has been added.

As of June 30, 1972, 34 of the 46 ships had been delivered to the Navy, with the remaining 12 to be delivered by early 1974.

This report considers only those changes made to the program from June 30, 1971, to June 30, 1972.

COMING EVENTS

In our March 1972 study, we reported Avondale Shipyards, Inc., and Lockheed Shipbuilding and Construction Company had claims totaling \$215.5 million pending against the Government. These claims have since been reduced to \$187.3 million (\$142.1 million for Avondale and \$45.2 million for Lockheed). A delay in settling these claims has occurred because the Navy required the contractors to submit additional supporting information. As of January 1973, no date has been established for the settlement of these claims.

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SYSTEM COST EXPERIENCE

The total estimated cost of the DE-1052 program, as reported in the Navy's June 1972 system status report, is \$1,430.5 million. This is

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ABBREVIATIONS

GAO	General Accounting Office
CNO	Chief of Naval Operations
SAR	Selected Acquisition Reporting
LAMPS	Light Airborne Multipurpose System

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\$14.7 million more than the estimate reported in the June 30, 1971, SAR and \$145.5 million more than the planning estimate (September 1963) of \$1,285 0 million. The \$14.7 million increase is comprised of the following

	<u>Amount</u> (millions)
Engineering changes	(+) \$22.3
Estimating changes	(-) 7.8
Support changes	(+) .1
Accounting adjustment	(+) .1
	<hr/>
Total changes during FY 1972	(+) \$14.7

The \$22.3 million engineering change is comprised of increases of \$23.4 million and \$.8 million and a decrease of \$1.9 million. The \$23.4 million increase is the result of a Chief of Naval Operations (CNO) decision to use Ship Construction, Navy funds to make modifications to 16 ships during post shakedown availability. These modifications include (1) provisions for the LAMPS anti-submarine warfare helicopter, (2) improving the firefighting system, and (3) converting to the distillate fuel system. Previous plans called for the modifications to be made on some earlier ships with the Other Procurement, Navy funds which are not reported in the Selected Acquisition Reports (SAR).

The \$.8 million increase resulted from a CNO decision to have a contractor deliver eight new construction ships to naval shipyards near their home ports for outfitting, rather than to Boston, Massachusetts or Charleston, South Carolina. This decision causes the contractor to deliver some of the ships a greater distance than originally planned, which requires more time and fuel. In addition, supplies already

delivered must be redistributed to the new ship delivery points. According to a Navy official, this decision should improve morale because the need for the assigned crew members to be separated from their families during the outfitting period will be minimized

The reduction of \$1.9 million was the result of a decrease in reserves for expected engineering changes to certain government-furnished equipment. Following the procurement and installation of the equipment, the Navy determined the amount held in reserve was in excess of the amount required.

The \$7.8 million estimating change can be attributed to (1) a \$4.4 million decrease due to items costing less than anticipated, (2) a \$3.9 million decrease resulting from deletion of Independent Variable Depth Sonar hardware costs originally planned for installation on 10 ships, but subsequently transferred and installed in another class of anti-submarine warfare destroyer, and (3) a \$.5 million increase due to additional support requirements.

Economic escalation

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There were no changes in the project office's estimate for inflation during fiscal year 1972, thus, it continues to report \$55.9 million, or 3.9 percent of total program cost, for economic escalation.

Omission of costs from current estimate

Our March 1972 study reported that estimated costs of \$3.2 million to install the Independent Variable Depth Sonar on four ships was not included in the total estimated costs for the DE-1052 program. As shown in the March 1972 SAR and the June 1972 status report, the Navy is reporting installation costs for only 32 of the 36 ships scheduled to

receive the variable depth sonar. The remaining 10 ships, of the 46 in the program, did not receive this sonar because of CNO direction to install the sonars on other destroyers.

A Navy official said these costs are not being reported because they are being financed by the Other Procurement, Navy appropriation; which is not reported in the SAR. Although the SAR does not include this installation cost, the acquisition cost for the four sonars is included. In our opinion, this indicates the sonars are a planned component of the ship system and both installation and acquisition costs should be included in the current estimate. We continue to believe that because the original planning estimate shown in the SAR included funds for installing variable depth sonars on all 46 ships, failure to include the \$3.2 million understates the current program cost estimate and the reported cost increase.

Program funding

As of June 30, 1972, the Congress had appropriated \$1,381.8 million for the DE-1052 class ships. Reprogramming actions of \$16 million increased this to \$1,397.8 million, of which an estimated \$1,263.6 million has been obligated. Of the amount obligated, an estimated \$1,190.1 million has been expended.

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CONTRACT DATA

There are five major contracts on the DE-1052 program, all of which are multi-year, fixed-price contracts awarded by formal advertising. The following is a list of contractors, their date of contract award, the number of ships to be constructed, and the value of each contract.

<u>Contractor</u>	<u>Date of contract award</u>	<u>No. of ships constructed</u>	<u>Initial price</u>
Todd Shipyards Corporation, Seattle, Washington	7/22/64	7	\$ 75,147,093
Todd Shipyards Corporation, San Pedro, California	7/22/64	7	76,029,931
Avondale Shipyards, Inc., New Orleans, Louisiana	7/22/64	7	81,109,546
Puget Sound Bridge & Dry Dock Company, Seattle, Washington (Currently Lockheed Ship- building and Construction Company)	7/22/64	5	60,285,000
Avondale Shipyards, Inc., New Orleans, Louisiana	8/25/66	<u>20</u>	<u>217,740,000</u>
Total		<u>46</u>	<u>\$510,311,570</u>

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The amount of definitized engineering change orders for all contracts totaled \$31 million as of June 30, 1972. The Navy's estimate for undefinitized change orders is \$7.1 million. These amounts do not reflect the costs for change orders which are included in the shipbuilders' claims still pending.

The contractors' progress reporting systems include reports on schedule and cost data submitted to the Navy supervisor of shipbuilding located at each shipbuilding facility. In addition, the supervisor receives the contractor's labor and material progress reports which contain the data on which payments to the contractor are based. The data submitted to the supervisor is evaluated, summarized, and forwarded to the project office for review and report preparation.

In addition to the numerous reports, a quarterly production progress conference is held and attended by project office personnel, the responsible

supervisor of shipbuilding and contractor representatives. These meetings are used to discuss all matters relating to construction of the ships.

SYSTEM SCHEDULE EXPERIENCE

Our review of the DE-1052 project showed no significant schedule slippages occurring during fiscal year 1972. The Navy plans to take delivery of seven ships during fiscal year 1973 and the remaining ships by April 1974.

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SYSTEM PERFORMANCE EXPERIENCE

As mentioned, the DE-1052 class ships were originally planned to be equipped with long-range sonar, variable depth sonar, deck gun, anti-submarine warfare torpedo tubes, and a drone anti-submarine helicopter. Since that time, LAMPS has replaced the drone anti-submarine helicopter, and the Basic Point Defense Surface Missile System has been added.

As we reported last year, 10 ships of the DE-1052 class will not be equipped with the Independent Variable Depth Sonar. Because of delays in production, its installation on the first 26 ships was postponed. When the sonar was delivered, the Navy decided to equip only 16 of these 26 ships. These 16 installations will occur either during the ships' post shakedown availability or at first regularly scheduled overhaul. The remaining 10 sonar systems were transferred to other Navy programs in order to effectively utilize them, as opposed to storing until the other 10 ships become available. A Navy official stated that eventually all DE-1052 class ships will be equipped with some type of towed sonar system.

We also found that 12 ships will not be equipped with the Basic Point Defense Surface Missile System which was developed for use throughout the fleet and not solely for the DE-1052 program. The CNO decided that only

34 of these systems would be installed on the DE-1052 class ships. The other 12 ships would not receive this system at this time because the remaining basic point missile systems were assigned to other ship types.

RELATIONSHIP TO OTHER SYSTEMS

The DE-1052 class has an anti-submarine warfare mission similar to those of the DD-963 and the DLGN (nuclear-powered guided missile frigate) classes. In addition, the Navy is planning for a new class of patrol escort ships, presently designated as the Patrol Frigate, which is designed to supplement the DD-963.

The DE-1052 is also related to several major subsystems--LAMPS, Basic Point Defense Missile System and the HARPOON surface-to-surface missile. Achievement of the desired performance capability for the DE-1052 class will ultimately depend upon their successful completion and installation.

SELECTED ACQUISITION REPORTING

In March 1972, the Assistant Secretary of the Navy for Financial Management requested the DE-1052 program be exempted from further Selected Acquisition Reporting since the program was nearly complete (approximately 93 percent) and the project office's staff had been reduced. This request was approved by the Secretary of Defense effective with the March 31, 1972, SAR. However, he stipulated a final SAR be submitted at the time all outstanding shipbuilders' claims are settled, or when the last ship is delivered, whichever occurs first. A system status report for the quarter ended June 30, 1972, was prepared by the project office in order to help complete our review.

SCOPE

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Information on this program was obtained by (1) reviewing SARs and

system status reports for fiscal year 1972; (2) reviewing the reports' supporting documentation; and (3) interviewing officials in the DE-1052 project office.

AGENCY COMMENTS

A draft of this staff study was reviewed by Navy officials associated with the management of this program and comments were coordinated at the Headquarters level. The Navy's comments are incorporated as appropriate. As far as we know there are no residual differences in fact.

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