

GAO

Fact Sheet for the Honorable
Duncan Hunter
House of Representatives

October 1986

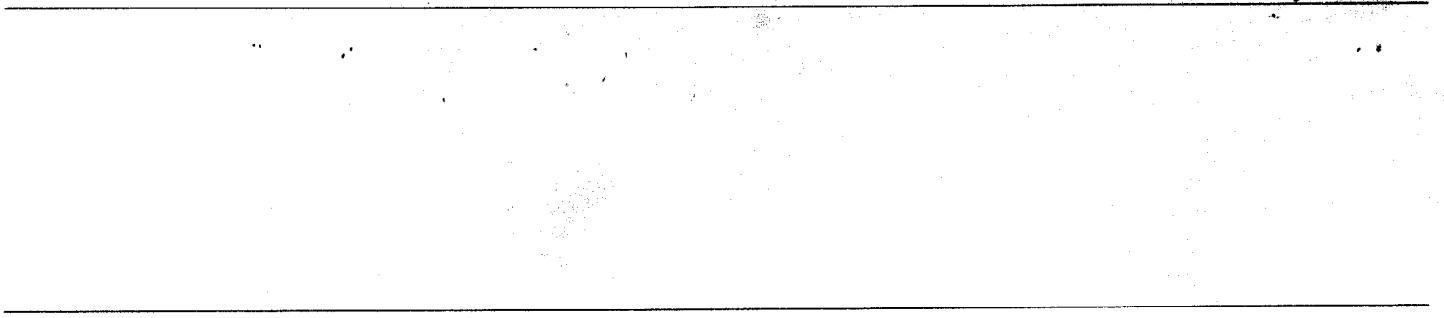
NAVY MAINTENANCE

Selected Private and Public Shipyard Manday Rates' Cost Elements



131593

037373





United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-224611

OCT 3 1986

The Honorable Duncan Hunter
House of Representatives

Dear Mr. Hunter:

As requested in your letter of November 22, 1985, and subsequent discussions, we examined the manday rates of Navy ship maintenance work performed in selected private and public shipyards. Your main concern was the Navy's reasons for overhauling West Coast-based aircraft carriers at the Philadelphia Naval Shipyard. The objective of the extensive overhauls, called the aircraft carrier service life extension program (SLEP), is to extend the expected service life of selected aircraft carriers from 30 years to 45 years.

While the Navy may have considered factors other than cost in determining where the SLEP should be performed, you noted that the manday rates of public and private shipyards are a major element. Conflicting manday rates for various shipyards were provided to you from a variety of sources, including public and private shipyard officials. This information raised questions about whether (1) the Navy's public yard manday rates included all overhead costs and (2) a comparison of manday rates, which include these overhead costs, might show the overhaul of carriers on the West Coast to be cost effective.

We found that the fiscal year 1985 manday rates at both the public and private shipyards we visited were very close except for one shipyard where the decline in business affected the rate. Also, most overhead cost elements were included. Differences exist in some cost categories making up these rates, but their impact on the rates was insignificant. We also identified certain cost elements, such as Navy management and oversight, which were not reflected in either the public or private yards' rates, but we did not determine the appropriateness or impact of including these costs.

Cost was only one of several elements the Navy considered in deciding to perform the SLEP on the West Coast carriers at Philadelphia. Other factors included Naval Sea Systems Command (NAVSEA) SLEP objectives and strategic/mobilization requirements. The West Coast SLEP proposal attempted to achieve the basic objective of 15 years of additional carrier service life in a phased manner. Under the proposal, Puget Sound Naval Shipyard would have performed a reduced scope SLEP. This would have been followed by intensive maintenance periods and post-overhaul work at private shipyards in San Diego. However, the Navy did not approve this approach.

MANDAY RATES AND THEIR COST
ELEMENTS AT PUBLIC AND PRIVATE
SHIPYARDS

The Navy uses several manday rates to plan its budget and bill its customers. Different rates are established for repairs, alterations, and shipbuilding and conversion. One rate is established for each maintenance category for the entire year. This helps shipyards estimate the funds needed to perform maintenance on the ships. These rates, called "stabilized manday rates," are computed each year using prior years' actual costs and are adjusted to account for such factors as pay raises and shipyards' gains or losses. They include labor (direct and indirect), overhead, and direct material. However, direct material is billed at actual cost during the maintenance period, while the labor and overhead are billed at the stabilized rate established for these elements.

For our analysis, we constructed one manday rate for each shipyard using actual fiscal year 1985 shipyard costs divided by actual labor hours. We excluded direct material costs since they are billed directly to each ship as they are incurred.

When we compared the actual public and private shipyard costs for fiscal year 1985, we found that the manday rates were essentially the same except for one private shipyard--the Triple "A" South. The comparatively high Triple "A" South rate resulted from a decrease in the volume of its business between 1984 and 1985. The manday rates are considered proprietary data and are provided under a separate cover.

The principal cost elements in the manday rates of both public and private shipyards were direct labor and overhead. An additional element, in the private yards only, was profit. We found differences in how some costs were classified within the labor and overhead elements. For

example, public shipyards include first-line supervision in overhead, while private shipyards include these costs in direct labor. To construct comparable manday rates for each yard, we classified all labor charges, whether direct or indirect, under the category of labor and classified the remaining costs as overhead.

In public yards, labor comprised from 80 to 88 percent of total costs, while in private yards it ranged from 70 to 75 percent of total costs. Overhead costs, excluding labor, ranged from 12 to 20 percent of total costs in public yards and from 16 to 21 percent in private yards.

Appendix I shows the employment for each shipyard and accounting differences between public and private shipyards. The manday rates and the proportion of cost by element are provided in the proprietary supplement.

MANDAY RATES INCLUDE ONLY CERTAIN COSTS

Shipyard manday rates do not include certain administrative and other costs. In the public sector, such costs include overall management and oversight performed by NAVSEA. Other costs, such as federal impact area payments, and cost of capital also are not included. The private sector manday rates do not include the costs of oversight efforts of NAVSEA; the Navy's Supervisor, Shipbuilding, Conversion, and Repair Office; and the Defense Contract Audit Agency. Further, federal income taxes are not included. We did not review these cost elements in detail. We note, however, that the most significant cost element is the labor portion of the manday rate.

Further, some costs such as state and local taxes, business licenses, insurance, rental of building space, and depreciation of buildings were not generally incurred by public shipyards but were incurred by private shipyards. However, these costs did not significantly affect the manday rates--labor cost is the significant portion.

FACTORS OTHER THAN COST CONSIDERED BY NAVY IN DECIDING WHERE TO PERFORM SLEP

Costs were only one of several factors considered by the Navy in determining to perform the SLEP on the West Coast carriers at the Philadelphia Naval Shipyard. According to the Navy, the results of its analysis did not show a clear advantage to Philadelphia on the basis of cost alone.

Other factors considered by the Navy included meeting NAVSEA SLEP objectives and strategic/mobilization requirements. For example, a Pacific Fleet proposal to conduct a reduced scope SLEP at the Puget Sound Naval Shipyard was found to be unsatisfactory because it did not meet NAVSEA's SLEP objectives, such as extensive modernization of hull structure and main engines. Also, the Navy concluded it was important to maintain the work load at the Philadelphia Naval Shipyard since the yard is the only current facility that has manning and work load levels capable of supporting future SLEP requirements. These factors are discussed in detail in appendix II.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our general objective was to obtain information concerning the Navy's basis for performing the SLEP on Pacific Fleet carriers at the Philadelphia Naval Shipyard. To accomplish this objective, we identified

- manday rates and their component cost elements at two public shipyards, Philadelphia and Puget Sound Naval Shipyards, and at the three largest private shipyards in the San Diego area and
- other factors considered in the Navy's decision to perform the SLEP on West Coast carriers in the Philadelphia Naval Shipyard.

We visited the Offices of the Under Secretary of the Navy and the Assistant Secretary of the Navy, Shipbuilding and Logistics and various offices in NAVSEA. At these organizations, we obtained information on how public and private shipyards determined manday rates and the factors the Navy considered when determining where to perform the SLEP. We also visited the Puget Sound and Philadelphia Naval Shipyards, where we obtained accounting data to determine their manday rates, and the Navy's Supervisor of Shipbuilding, Conversion and Repair Office in San Diego, California, where we obtained information on the private shipyards under contract to the Navy. We also visited the three largest private shipyards in the San Diego area-- National Steel and Shipbuilding Company (NASSCO), Triple "A" South, a Division of Triple "A" Machine Shop, Inc.; and ARCWEL Corporation--to obtain data from their accounting records to determine manday rates. We did not test the data in the public and private shipyards' accounting records to the original source documents.

B-224611

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 10 days from the date of issuance. At this time, we will send copies of the report to the Secretaries of Defense and the Navy and to other interested parties.

We discussed the facts in this fact sheet with Navy officials who agreed with them. Should you need additional information on the contents of this document, please call me at (202) 275-6504 or David Martin at (213) 894-3809.

Sincerely yours,

A handwritten signature in cursive script that reads "John Landicho".

John Landicho
Senior Associate Director

SELECTED INFORMATION ON PUBLIC
AND PRIVATE SHIPYARDS

Table I.1: Employment Data on Public and Private Shipyards
For Fiscal Year 1985^a

	<u>Public shipyards^b</u>		<u>Private shipyards^b</u>		
	<u>Philadelphia</u>	<u>Puget Sound</u>	<u>NASSCO</u>	<u>ARCWEL</u>	<u>Triple "A" South</u>
Number of employees at end of FY 1985:					
Civilian	10,140	11,809	5,200	450	220
Military	<u>108</u>	<u>258</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	10,248	12,067	5,200	450	220
	=====	=====	=====	===	===

^aDetermined by GAO from shipyards' records.

^bFiscal years for the public shipyards end September 30. NASSCO's and ARCWEL's fiscal years end December 31. Triple "A" South's fiscal year ends October 31.

Table I.2: Accounting Differences Between Public and Private Shipyards

<u>PUBLIC</u>	<u>PRIVATE</u>
<u>Direct labor</u>	<u>Direct labor</u>
Excludes first-line supervision	Includes first-line supervision
Includes some fringe benefits	Excludes fringe benefits
<u>Overhead</u>	<u>Overhead</u>
Excludes military pay	Military pay not applicable
Includes first-line supervision	Excludes first-line supervision
Includes some fringe benefits	Includes all fringe benefits
Excludes costs incurred by private shipyards:	Includes costs not incurred by public shipyards:
--state and local taxes	--state and local taxes
--business licenses	--business licenses
--insurance	--insurance
--rental of building space	--rental of building space
--depreciation of buildings	--depreciation of buildings
<u>Profit</u>	<u>Profit</u>
None	10 percent (estimated by NAVSEA)

FACTORS CONSIDERED BY NAVY ON
WHERE TO PERFORM CARRIER SLEP

Besides cost, the Navy considered other factors in deciding where to perform the SLEP on the West Coast carriers. The Navy stated that its study of SLEP work to be done did not provide a clear cost advantage to the Philadelphia Naval Shipyard. The Navy developed comparative fiscal year 1983 cost data for service life extension of the U.S.S. Kitty Hawk, which ranged from \$922.1 million at the Philadelphia Naval Shipyard to \$985.8 million at the Puget Sound Naval Shipyard. (The cost estimate for Newport News Shipbuilding was \$928.6 million.)¹ Several other factors were considered, according to the Navy.

Other factors the Navy considered were whether the Pacific Fleet's proposal would meet NAVSEA SLEP objectives and strategic/mobilization requirements.

- NAVSEA SLEP objectives were not met by Pacific Fleet's "reduced scope SLEP." The proposal was for this work to be done at the Puget Sound Naval Shipyard, with post-overhaul work to be done in San Diego by private shipyards and other work deferred to subsequent maintenance periods. This reduced scope SLEP concept provided for limited repairs, much as in a normal overhaul, and not the more extensive modernization of hull structure and main engines involved in SLEP.
- Strategic/mobilization considerations such as:
 - (a) Impact on the Philadelphia Naval Shipyard. If the U.S.S. Kitty Hawk (the first West Coast carrier) SLEP was moved from the Philadelphia Naval Shipyard and not replaced by other major overhaul work, Philadelphia would be forced into a reduction-in-force situation. This reduction would adversely affect the only current facility that has manning and work load levels capable of supporting future SLEP requirements.
 - (b) Work load balance among public shipyards. Puget Sound Naval Shipyard has a balanced work load, but, with the addition of the U.S.S. Kitty Hawk, the number of shipyard employees would increase from about 13,000 to

¹ The Navy did not consider the cost estimates to be of "budget quality" due to a lack of specificity in the data on which the estimates were based.

about 20,000. While there would be a reallocation of some personnel from Philadelphia to Puget Sound, some ship reassignments from Puget Sound would be required to balance the work load.

- (c) Experience of the Philadelphia Naval Shipyard. Philadelphia currently has sufficient manning levels and skills' mix to perform the SLEP on the U.S.S Kitty Hawk on schedule. The shipyard's successful performance on the U.S.S Saratoga, U.S.S Forrestal, and U.S.S Independence, to date, substantiates management's capability to plan and execute a large industrial project.

Requests for copies of GAO reports should be sent to:

U.S. General Accounting Office
Post Office Box 6015
Gaithersburg, Maryland 20877

Telephone 202-275-6241

The first five copies of each report are free. Additional copies are \$2.00 each.

There is a 25% discount on orders for 100 or more copies mailed to a single address.

Orders must be prepaid by cash or by check or money order made out to the Superintendent of Documents.

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use \$300

Address Correction Requested

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100