



C96654

2.49.03

REPORT TO THE CONGRESS

72-0373

19  
7



LM096654

Causes Of Shipbuilders' Claims  
For Price Increases B-133170

Department of the Navy

BEST DOCUMENT AVAILABLE

BY THE COMPTROLLER GENERAL  
OF THE UNITED STATES

~~700376~~

096654

FEB. 28, 1972



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-133170

To the President of the Senate and the  
Speaker of the House of Representatives

This is our report on causes of shipbuilders' claims for price increases. The matters referred to in this report are administered by the Department of the Navy.

Our review was made pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53); the Accounting and Auditing Act of 1950 (31 U.S.C. 67); and the authority of the Comptroller General to examine contractors' records as set forth in contract clauses prescribed by the United States Code (10 U.S.C. 2313(b)).

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretary of Defense; and the Secretary of the Navy.

A handwritten signature in cursive script that reads "James B. Stacks".

Comptroller General  
of the United States

BEST DOCUMENT AVAILABLE

## C o n t e n t s

	<u>Page</u>
DIGEST	
CHAPTER	
1 INTRODUCTION	5
2 CLAIMS FOR PRICE INCREASES TOTAL ABOUT \$1 BILLION	7
Todd Shipyards Corporation	9
Lockheed Shipbuilding and Construction Company	10
3 CAUSES OF SHIPBUILDERS' CLAIMS	11
Late and inaccurate lead-yard working plans	12
Recommendation	15
Inadequate specifications	16
Government-furnished equipment and technical information is delivered late and/or is defective	21
Unanticipated increases in quality assurance requirements	27
Indiscriminate use of oral construc- tive change orders	29
4 NAVY EFFORTS TO IMPROVE ACQUISITION MANAGEMENT	32
Conclusion	35
5 DEPARTMENT OF THE NAVY AND CONTRACTORS' COMMENTS	36
6 SCOPE OF REVIEW	37
APPENDIX	
I Schedule of shipbuilding claims	39
II Letter dated November 3, 1971, from the Department of the Navy	42

BEST DOCUMENT AVAILABLE

		<u>Page</u>
APPENDIX		
III	Letter dated July 9, 1971, from Todd Shipyards Corporation	48
IV	Letter dated July 6, 1971, from Lockheed Shipbuilding and Construction Company	50
V	Telegram dated July 26, 1971, from General Dynamics Corporation	51
VI	Letter dated June 28, 1971, from Avondale Shipyards, Inc.	52
VII	Letter dated June 21, 1971, from Newport News Shipbuilding and Dry Dock Company	53
VIII	Letter dated June 30, 1971, from Ingalls Nuclear Shipbuilding Division, Litton Systems, Inc.	54
IX	Letter dated July 13, 1971, from Defoe Shipbuilding Company	56
X	Letter dated July 7, 1971, from Bethlehem Steel Corporation	57
XI	Principal officials of the Department of Defense and the Department of the Navy responsible for administration of activities discussed in this report	58

BEST DOCUMENT AVAILABLE

D I C E S T

WHY THE REVIEW WAS MADE

Although contractors' claims for price increases have been a recurrent element in Navy shipbuilding programs, this problem has become more significant in the last few years because such claims have increased both in size and as a percentage of shipbuilding contracts. Shipbuilders' claims for price increases received by the Navy in the past few years totaled about \$1 billion.

These claims are based on the proposition that the Government owes the shipbuilders more than the contract price because the Navy has failed to fulfill its part of the contract terms.

In their claims shipbuilders contend that the Navy:

- Has not provided adequate specifications.
- Has been late in furnishing equipment and information it agreed to provide or has not provided equipment and information in a condition suitable for use.
- Has increased quality assurance requirements beyond what could reasonably be anticipated.
- Has made verbal requests for changes in a ship for which the contractor has not been paid.

Certain shipbuilders also claimed that plans purchased from the lead yard--the shipbuilder that built the first ship of the class--were defective and/or not available when needed and that, since the Navy intended that such plans be purchased and used, the Navy shared responsibility for problems created by these plans.

To improve its ship procurement processes, the Navy has undertaken an extensive program, called the Shipbuilding and Conversion Improvement Program, which includes a number of tasks intended to eliminate or minimize claims for price increases under future shipbuilding contracts. The General Accounting Office (GAO) reviewed these tasks because of congressional interest in this subject and because of the significant sums involved. GAO's review evaluated the potential of these planned tasks for eliminating or minimizing the causes of claims.

BEST DOCUMENT AVAILABLE

FEB. 28, 1972

## INGS AND CONCLUSIONS

Of the 167 tasks in the Shipbuilding and Conversion Improvement Program, 26 relate to prevention of the causes of claims. Of the 26 tasks, 10 have been completed and the other 16 are in the process of being completed. (See p. 5.)

At least one task concerns each of the major causes of claims mentioned above. A summary of some of the more significant tasks follows.

- To eliminate the lead-yard-plan problem, the Navy desires that ships of the same class be procured from a single contractor, whenever appropriate. GAO believes that, whenever it is not appropriate to have all ships of the same class procured from a single contractor, the Navy needs a specific plan to ensure that the follow yard is given sufficient time to review the plans provided by the lead yard and to ensure that the lead yard and follow yard make every effort possible to promptly correct any deficiencies. (See p. 14.)
- To improve ship specifications, the Navy has established a training program for specification writers and a review board to control changes. It is considering a plan to permit contractors to review and revise specifications prior to award of the construction contract. (See pp. 17 and 19.)
- To minimize delays in delivery and defects in Government-furnished equipment and information, the Navy plans to install a better system of monitoring both equipment under development and supplementary information needed for installation and operation of such equipment. The Navy is also providing "fallback options" (equipment which, although not as desirable as the specified equipment, would be more readily available). (See pp. 22 and 23.)
- To promote a common understanding of quality assurance requirements, the Navy has instituted a quality assurance improvement program to develop procedures which will prevent costly misunderstandings between the Navy and the shipbuilders about the level of quality assurance to be required in ship construction. (See p. 29.)
- To avoid constructive change orders' being issued verbally by Navy inspectors, the Navy has instituted a training program for Navy personnel. This program was attended by 1,500 Navy employees during its first year of existence. In addition, the Navy has devised a contract clause which states that, if the contractor complies with instructions without formal written approval of the contracting officer, the contractor does so at its own risk. (See pp. 30 and 31.)

The Navy has initiated actions, in addition to improvement actions included in the Shipbuilding and Conversion Improvement Program, which are intended to improve the Navy's overall acquisition management. These improvements are categorized as organization, procurement, and personnel related, and most of them already have been implemented in the Navy's acquisition management. (See ch. 4.)

BEST DOCUMENT AVAILABLE

GAO believes that the actions being taken by the Navy hold considerable promise for minimizing the claims problem. (See pp. 15, 19, 26, 29, 31, and 35.)

RECOMMENDATIONS OR SUGGESTIONS

GAO is recommending that the Secretary of the Navy direct that a specific plan be devised, whenever the lead-yard/follow-yard procurement method is used, to ensure that the follow yard is given sufficient time to review the plans provided by the lead yard and to ensure that the lead yard and follow yard make every effort possible to promptly correct any deficiencies. (See p. 15.)

AGENCY ACTIONS AND UNRESOLVED ISSUES

The Navy agreed with GAO's recommendation.

MATTERS FOR CONSIDERATION BY THE CONGRESS

In considering requests for shipbuilding authorizations and funds, the Congress may wish to inquire about the specific claims prevention measures that the Navy plans to apply in carrying out the ship construction programs. (See pp. 15, 20, and 26.)

BEST DOCUMENT AVAILABLE

## CHAPTER 1

### INTRODUCTION

Contractors' claims for price increases have been a recurrent element in Navy shipbuilding programs. These claims are submitted on the premise that additional compensation beyond that agreed upon is due the contractors because the Government failed to comply fully with its part of the bargain and thereby caused the shipbuilders' production costs to increase.

Although such claims are not new, the size of the claims has grown significantly in recent years both in terms of total dollars and as a percentage of shipbuilding contracts.

In a review made several years ago, we found that claims settlements amounted to about 7 percent of the original contract prices.<sup>1</sup> Our current review showed that claims settlements were averaging 37 percent of the original contract prices. Some recent claims for price increases amounted to more than half of the original contract prices.

The Navy has shown considerable interest in this increase and has devoted considerable effort to correcting some of the problems causing these claims. It has initiated a program known as the Shipbuilding and Conversion Improvement Program. At the time of our review, this program consisted of 167 specific tasks to improve the entire ship acquisition process. Of these 167 tasks, 26 relate, at least in part, to prevention of the causes of claims for price increases in connection with future ship construction programs. Of these 26 tasks, 10 were completed and 16 were in the process of being completed as of June 1, 1971.

In addition to initiating the Shipbuilding and Conversion Improvement Program, the Navy has made other efforts

---

<sup>1</sup>"Review of the Settlement of Shipbuilders' Requests for Price Increases for Damages Arising from Government Delays in Furnishing Plans and Materials, Bureau of Ships, Department of the Navy" (B-133088, Dec. 4, 1958).



which may help prevent future claims. It has improved its weapons system acquisition management through actions called Navy Acquisition Management Improvement Actions. Several of those actions are identical to the tasks included in the Shipbuilding and Conversion Improvement Program. Most, however, do not relate directly to the specific causes of claims mentioned in this report but do relate to improving the Navy's overall acquisition process and--in time--would help to alleviate some of the causes of claims. A brief description of those actions and the status of their completion is shown in chapter 4 of this report.

The purpose of this report is to describe the major causes of shipbuilding claims, the measures the Navy has initiated to prevent similar claims in the future, the status of these measures, and their potential success.

In our review we did not attempt to determine the validity of amounts claimed by the contractors or the reasonableness of the settlements made by the Navy. This subject was covered in a report we issued on April 28, 1971, entitled "Evaluation of Information From Contractors in Support of Claims and Other Pricing Changes on Ship Construction Contracts" (B-171096).

Procurement of ships by the Navy is financed from the appropriation for shipbuilding and conversion. This appropriation is made annually, but the amounts appropriated are available for use for a number of years. This appropriation also finances the conversion of existing ships, including all hulls, mechanical and electrical equipment, electronics, guns, torpedo- and missile-launching systems, and communications systems. It also finances procurement of long-lead-time items for ships for which authorization will be given in subsequent years. For fiscal year 1971, the Navy appropriation for shipbuilding and conversion was \$2.5 billion.

BEST DOCUMENT AVAILABLE

## CHAPTER 2

### CLAIMS FOR PRICE INCREASES TOTAL ABOUT \$1 BILLION

The Navy's goal in contracting for ship purchases is to obtain good quality up-to-date ships at reasonable prices. Attaining this goal is a major problem because the Navy has a far more complicated role than merely inspecting the ship and paying the bill. The Navy has to provide design specifications and approve the shipbuilders' plans--a sizable job for so comprehensive a construction project as a ship. It also has to see that the equipment and weaponry it is contractually obligated to provide to the shipbuilder are delivered when needed. Over the considerable period of time that it takes to construct a ship, the Navy often issues change orders which revise the contract to permit the incorporation of technological improvements that were not available when the contract was awarded.

It is difficult to write an equitable contract when so many things may occur which will affect the product to be produced. In attempting to obtain good ships at reasonable cost, the Navy has tried a variety of types of contracts for ship procurement. In earlier years the Navy used fixed-price contracts only for the procurement of ships with relatively firm specifications and ordinarily awarded cost- or incentive-type contracts for ship procurement involving significant unknowns. The cost- or incentive-type contracts were sufficiently elastic, insofar as costs were concerned, so that, when unanticipated developmental problems arose, the price of the contract could be expanded to provide the cost increases without resort to the use of claims.

In the 1960's the Navy made increasing use of formally advertised fixed-price contracts for ship procurement. At the same time shipboard hardware became more complex, which made it more difficult for the Navy to meet its commitments for delivery of equipment to shipbuilders and more costly for the shipbuilders to install it. Moreover, the Navy became more concerned with noise reduction and resistance to shock damage during these years and its efforts to achieve improvements in these areas appear to have caused unanticipated problems for the shipbuilders.

BEST DOCUMENT AVAILABLE

The combination of more complex equipment and more stringent requirements resulted in sizable increases in costs for the shipbuilders, but the fixed-price contracts did not provide much flexibility in the contract prices. Consequently the shipbuilders submitted requests for adjustment of contract prices, claiming that these amounts were due because of actions by the Navy which increased the shipbuilders' costs beyond those anticipated at the time contracts were awarded.

Claims for price increases include those received by the Navy during the past few years or anticipated by the Navy from information supplied by the shipbuilder. These claims totaled almost \$1 billion as shown in the following schedule.

<u>Claimant</u>	<u>Amount of claim</u>	<u>Amount of settlement</u>
	——(millions)——	
Settled claims:		
Todd Shipyards Corporation	\$114.3	\$ 96.5
Lockheed Shipbuilding and Construction Company	46.3	17.9
General Dynamics Corporation, Electric Boat Division	8.1	6.7
Tacoma Boatbuilding Company, Inc.	6.1	3.4
Unsettled claims:		
Avondale Shipyards, Inc.	147.5	-
Lockheed Shipbuilding and Construction Company	159.2	-
Newport News Shipbuilding and Dry Dock Company	98.1	-
General Dynamics Corporation, Quincy Division	223.2	-
Ingalls Nuclear Shipbuilding Division, Litton Systems, Inc.	130.4	-
Defoe Shipbuilding Company	17.5	-
Bethlehem Steel Corporation	48.3	-
Total	<u>\$999.0</u>	<u>\$124.5</u>

BEST DOCUMENT AVAILABLE

A more detailed listing of these claims is presented in appendix I.

Because of the significant amounts of the claims, the Navy has established a special review committee to pass on the reasonableness of claims settlements. This committee is called the Contract Claims Control and Surveillance Group. The Todd Shipyards Corporation's claim was settled before the committee was established. The circumstances surrounding the two largest claims that have been settled are presented below for illustrative purposes.

#### TODD SHIPYARDS CORPORATION

A settlement of \$96.5 million made with Todd Shipyards Corporation was based on a \$114.3 million claim submitted by Todd for additional costs that the contractor claimed were incurred, or would be incurred, as the result of actions of the Navy during the construction of 14 ships of the destroyer escort (DE) 1052 class.

The Todd claim involved the Navy specifications for dynamic analysis, shock, and noise. The contractor stated that these specifications were defective and impossible to achieve within the time constraints of the contract and that, because of these specifications and because of inefficiencies on the part of the Government, construction progress on the DE 1052 class was delayed in excess of 1 year.

The contractor and the Navy ultimately agreed that the Navy had awarded these contracts before adequate specifications were available. About half the amount of the claim submitted by the contractor was attributable to specifications which were defective, ambiguous, and/or erroneous.

Also Todd attributed a large part of its claim to the Government's failure to provide design information and equipment, when needed. Todd contended that this interfered with its ability to construct the ships as planned. The contracts involved in Todd's claim had a total price of \$161.7 million, and the claim settlement amounted to \$96.5 million, or about 60 percent of the total contract price.

BEST DOCUMENT AVAILABLE

LOCKHEED SHIPBUILDING AND CONSTRUCTION COMPANY

The five claims listed below, submitted by Lockheed Shipbuilding and Construction Company, were settled on a lump-sum basis for \$17.9 million.

<u>Type of ship</u>	<u>Claim amount (millions)</u>
Destroyer escort with guided missile--DEG 1, 2, and 3	\$11.5
Oiler--AO 106 and 109	7.9
Destroyer escort--DE 1048 and 1050	12.9
Hydrofoil research ship--AGEH-1	6.5
Ammunition ship--AE 22 and 24	<u>7.5</u>
<b>Total</b>	<b><u>\$46.3</u></b>

Late and defective Government-furnished materials and information, as well as unanticipated quality assurance requirements, were major factors on which these claims were based. For instance, in the cases of the DE 1048 and DE 1050, the shipbuilder pointed out that main boilers were delivered 14 months late for one of the ships and 7-1/2 months late for the other. The contractor asserted that this caused costs to increase by more than \$3.7 million.

With regard to quality assurance requirements, the contractor's position was that the Navy had increased its requirements beyond those which could reasonably have been anticipated at the time the contractor had bid on the contracts. This resulted in a significant increase in the cost of constructing the ships. Lockheed claims that, for the three escort ships equipped with guided missiles, Navy quality inspections resulted in over 400 constructive change orders--changes required by Navy inspectors without written change orders' being issued to change the contract terms--which, in effect, directed the shipbuilder's work operations in minute detail. Lockheed considered these change orders to have increased ship construction costs by nearly \$2.6 million.

BEST DOCUMENT AVAILABLE

## CHAPTER 3

### CAUSES OF SHIPBUILDERS' CLAIMS

One answer commonly given to the question of what caused the increased size and the high incidence of claims under recent shipbuilding contracts is that use of formally advertised fixed-price contracts for ship construction increased during the 1960's. We believe that this is a simplistic view of the problem.

The answer appears to lie in identifying the factors which lead to unnecessary costs and, through improved management, reducing or eliminating these factors.

During our review we identified five factors which appeared to be the basic causes of shipbuilding claims. Although all information regarding claims was not available to us during our review, we were able to relate about \$366 million of the \$999 million of claims to specific factors discussed in this report. On the basis of our review efforts and discussions with Navy and shipbuilding personnel, we are of the opinion that the more significant factors are as follows:

1. Late and inaccurate lead-yard working plans.
2. Inadequate specifications.
3. Defective, and late delivery of, Government-furnished equipment and technical information.
4. Unanticipated increases in quality assurance requirements.
5. Indiscriminate use of verbal constructive change orders.

Each of these factors, along with corrective measures the Navy is taking under the Shipbuilding and Conversion Improvement Program to prevent their recurrence on future shipbuilding programs and our evaluation of the proposed corrective measures, is discussed below.

## LATE AND INACCURATE LEAD-YARD WORKING PLANS

Under many Navy shipbuilding programs, ships of the same class (a group of ships substantially alike) are built by different shipbuilders. In these instances one shipbuilder, called the lead yard, is selected to build the first ship of the class and then that shipbuilder provides the working plans it has developed to the other shipbuilders in the program, which are known as follow yards. The follow yards obtain copies of the working plans from the lead yard to avoid the expense of preparing working plans.

For example, to prepare the working plans for the DE 1052 class of ship cost the lead yard more than \$18 million. Obviously, then, it is almost mandatory for the follow yards to obtain these plans from the lead yard and use them in their own ship construction, otherwise the follow yards would have to duplicate these design costs and include them in bid prices eventually to be borne by the Navy.

The follow yards are required to pay the lead yard only those costs associated with reproducing the working plans. Since that amount is negligible in comparison with the cost of preparing new plans, it is apparent that the construction costs of the ships being built by the follow yards and the resulting prices that the Government pays for these ships are reduced proportionately. In the past such savings have sometimes been reduced by claims against the Government for additional costs that the follow yards maintain they have incurred because of defects in the lead yard's plans.

About \$23 million of the claims for which supporting data were available at the time of our review were based upon claimed defects in lead-yard working plans. The shipbuilders claimed that these costs were incurred because it was necessary to revise defective plans and drawings before they could be used. In addition, we were told that plans were not always available when they were needed and that this, in turn, caused inefficiencies at the shipyards.

Some of the individual claims resulting from late or defective lead-yard plans were substantial. One shipbuilder stated that it had incurred additional costs totaling

\$15.5 million in constructing one type of ship because late or defective plans obstructed construction efforts. This shipbuilder indicated that the Navy had promised that lead-yard data would be available and suitable for use when needed. It maintained, however, that in one case three of every four working plans were unavailable when needed, that in another case design data were defective and hence completely useless, and that in general plans and drawings contained many defects.

Although the preparation of most lead-yard plans is the responsibility of private shipbuilders, there were certain instances when the Navy prepared the lead-yard plans because one of its shipyards acted as lead yard for a certain class of ships. Several claims, which have been submitted by shipbuilders, have been based on inadequate lead-yard plans supplied by Navy yards.

Despite the fact that the follow yards had little practical choice but to work from the plans and drawings prepared by the lead yard, the Navy required that they do so at their own risk. To implement this policy, the Navy inserted a clause in its contracts which disclaimed any responsibility for the accuracy or timeliness of lead-yard working plans. The contractors, however, indicated in their claims that they did not believe that the Navy's contract clause placed the entire responsibility for defects in working plans on them.

#### Corrective measures taken by Navy

The Navy has instituted several improvement tasks which are aimed at correcting some of the problems associated with lead-yard plans.

Below are two of the more important tasks and a brief description of their status as of June 1, 1971.

BEST DOCUMENT AVAILABLE



Status of task as of  
June 1, 1971

Improvement task

Procure all ships of the same type from a single contractor and thus eliminate follow yards.

Task has been completed. We have been informed that, although the Navy desires that ships be procured from a single contractor, it recognizes that this cannot always be done because of shipyards' physical limitations and the Navy's desire to meet ship delivery schedules or to maintain shipyard capability.

Eliminate delay and disruption claims and engineering efforts claims arising when a naval shipyard acting as a lead yard experiences delays of such magnitude that the ship construction progress of the private shipyard acting as a follow yard overtakes the progress made by the naval lead yard.

Task has been completed. The Navy's current policy is to assign to a naval shipyard the construction of only those classes of ships which can be handled completely by that shipyard and which do not require private follow-yard work.

Needless to say, the problems with lead-yard plans will be eliminated if the Navy buys all ships of a class from the same shipbuilder since a situation where one shipbuilder would provide plans to another would no longer arise. The Navy has used this improvement task in its recent procurement of destroyers (DD-963 class) from the Litton Ship Systems Division of Litton Industries, Inc.

The Navy also has implemented, in addition to the two improvement tasks outlined above, improvement tasks for working plans which should have a favorable impact on the lead-yard/follow-yard method of procurement. These are covered in the section of this report beginning on page 17.

BEST DOCUMENT AVAILABLE 4

## Conclusion

If the Navy buys all the ships of a class from one shipbuilder, defective lead-yard working plans will not be a cause of claims under future contracts. Although we could not determine the extent to which this method of procurement can be used for future ship procurements, the Navy says that this method cannot always be used. The recent procurement of the 688 class of nuclear-powered submarines (SSN 688) confirms this. Contracts for these submarines have been awarded to both the Newport News Shipbuilding and Dry Dock Company and the Electric Boat Division of General Dynamics Corporation. We have been informed that the Newport News Shipbuilding and Dry Dock Company will prepare the lead-yard plans for this class of submarine.

## Recommendation

Although the Navy may place greater emphasis on firmer specifications which, in turn, may result in better working plans for use by follow yards, we believe that more specific action should be taken by the Navy. Therefore we recommend that the Secretary of the Navy direct that a specific plan be devised, whenever the lead-yard/follow-yard procurement method is used, to ensure that the follow yard is given sufficient time to review the plans provided by the lead yard and to ensure that the lead yard and follow yard make every effort possible to promptly correct any deficiencies.

## Matter for consideration by the Congress

In considering future requests for ship procurement funds, the Congress may wish to inquire into whether the Navy proposes to use the lead-yard/follow-yard method of ship procurement and, if this method is to be used, what measures the Navy has taken to eliminate or reduce the problems follow yards may have with lead-yard plans.

BEST DOCUMENT AVAILABLE

## INADEQUATE SPECIFICATIONS

The Navy uses specifications to communicate to the shipbuilder the characteristics of the ship that it is expected to build. These specifications delineate the technical requirements for constructing ships and also describe details concerning equipment to be installed.

Writing specifications for so complex a project as a modern naval warship is a difficult task. In the past few years, new construction and testing procedures have made this task even more complex. Furthermore, equipment to be installed has become increasingly complex and often is not fully developed when ship specifications are written.

It is recognized by both the contractors and the Navy that significant technological advances in features built into ships and in equipment installed on those ships during the past decade have added significantly to the Navy's problems in preparing specifications which adequately describe complex features of the ship. The greater complexity of these specifications also increases the likelihood that shipbuilders will misunderstand or misinterpret them.

In the past shipbuilders submitting claims due to defective specifications have stated that the specifications prepared by the Navy did not adequately describe the product the Navy sought. According to the shipbuilders, their construction costs increased by about \$175 million because the Navy supplied them with defective or misleading specifications. They stated that added costs were incurred because:

- The shipbuilders had to prepare new plans and drawings to replace those which they recognized as defective or incomplete.
- The shipbuilders had to rip out and redo completed work found to be unacceptable as a result of defects in the specifications that were not initially apparent.
- The shipbuilders were not able to complete the work within the originally estimated time and cost parameters because specifications did not describe what the Navy really expected.

The shipbuilders' claims for these costs are based on the premise that, under the terms of the contracts, it is the Navy's duty to provide accurate and clear specifications.

The shipbuilders contend that, when the Navy awards a contract, the Navy, in effect, warrants that the specifications provided under the contract are accurate. They also claim that, when defective specifications are issued by the Navy, a constructive modification of the original terms of the contract, in effect, takes place and that this, in turn, gives the shipbuilders the right to recover any additional costs incurred because of the so-called modification.

#### Corrective measures taken by Navy

The Navy has recognized that improved specifications can help to keep costs down and avoid claims from shipbuilders. At the time of our review, there were various improvement tasks being performed by the Navy to alleviate associated problems.

Eight of the more important tasks and a brief description of the status of these tasks as of June 1, 1971, are listed below.

<u>Improvement task</u>	<u>Status of task as of June 1, 1971</u>
Conduct a professionally taught specification-writing course for Navy personnel involved in specifications.	This course was first offered in June 1970 and was attended by 20 people. It was offered for the second time in December 1970 and was attended by 30 people. In the future the Navy plans to offer this course two to four times a year.
Establish a board to review specification changes referred to it by the Ship Acquisition Project Managers to provide uniform acceptance or rejection of major changes.	The review board was established in August 1969 and meets regularly.

BEST DOCUMENT AVAILABLE

Improvement task

Status of task as of  
June 1, 1971

Provide for a formal design evaluation of ship specifications before contract award for major projects.

The Navy issued NAVMAT Instruction 4000.31 on September 17, 1970, which prescribes the policy for the review of technical documentation prior to procurement action. In addition the Navy issued a draft directive which calls for a formal evaluation by the Navy, before the contract is awarded, of all ship specifications to be provided under the contract to ensure that specifications are adequate, complete, and of high quality. Comments of responsible officials are anticipated on the draft directive.

Review general shipbuilding specifications to identify those which require updating. (General shipbuilding specifications are those which form the basis for detailed ship specifications.)

The Navy started the review of these documents and expects to complete this effort by the end of calendar year 1972.

Develop a computer system to aid in writing ship specifications.

To accomplish this task the Navy awarded a contract for a computer program to aid in preparing ship specifications. The Navy expects this task to be completed by the end of calendar year 1972.

Prepare a manual which specifically defines the requirements and procedures for preparing specifications for ships, systems, components or hardware, and engineering software.

The Navy is in the process of drafting a manual dealing with the preparation of specifications. This task is scheduled to be completed by the end of calendar year 1972.

Improvement task

Status of task as of  
June 1, 1971

Clarify and update responsibilities for ensuring the technical adequacy of specifications. The Navy plans to prepare an in-house directive to clearly define where the responsibility lies for determining the adequacy of specifications. Task has been completed.

Study the feasibility of allowing prospective contractors to review and revise specifications prior to the award of the construction contract. If the study were to show that such a procedure is feasible, the Navy would provide bidders with the opportunity to evaluate specifications before contract award and to make changes, where appropriate, to avoid rework or delays during construction. The Navy planned to begin this study by September 1969 and complete it by December 1971. We found, however, that as of December 1970 the study had not yet been started because a suitable test case for the study could not be found. We were informed in March 1971 that a suitable test case had been found and that the study would be undertaken.

Conclusions

The Navy's plans for improving its specification-writing practices are comprehensive. The Navy not only is attempting to train its people to write specifications which will be easier to understand but also is planning preconstruction reviews of the specifications to provide greater assurance that they will be understood.

We believe that the Navy should make every effort to complete the last task mentioned above. This seems to hold considerable promise for reducing the effects of misunderstandings about specifications.

BEST DOCUMENT AVAILABLE

Matter for consideration by the Congress

Since several of these tasks have not been completed, it should not be assumed that these new procedures have been, or will be, applied to a given ship procurement. Therefore, before authorizing new ship purchases, the Congress may wish to inquire about specific procedures to be applied to that procurement to ensure accuracy and clarity of specifications.

BEST DOCUMENT AVAILABLE

GOVERNMENT-FURNISHED EQUIPMENT AND  
TECHNICAL INFORMATION IS DELIVERED LATE  
AND/OR IS DEFECTIVE

Our review showed that about \$101 million of the claims which we examined were attributable to late delivery of material or to defective equipment and technical information provided by the Government.

In its shipbuilding contracts, the Navy agrees to supply shipbuilders with certain equipment and information when it is determined to be in the best interest of the Government, by reason of economy, standardization, the expediting of production, or other appropriate circumstances. Obviously, if shipbuilders' construction schedules and eventual ship delivery dates are to be met, the Government-furnished equipment and information must be delivered on time, equipment must be in suitable working condition, and information must be complete and accurate.

One of the major reasons for the Navy's being unable to deliver equipment on time is that the equipment to be supplied is developed concurrently with ship construction. Some of the features of this equipment exceed the state of the art to such an extent that the equipment manufacturers cannot complete production within the time parameters of the contract. In other instances, because of defects in the equipment, rework is required which, in turn, interrupts the shipbuilders' schedules for fabricating and installing supporting structures and service systems for the equipment.

Although it is imperative that Government-furnished equipment be delivered on time, it is also essential that technical information related to the Government-furnished equipment be complete, accurate, and delivered on time. Shipbuilders need this information to prepare working plans, order materials, and fabricate and install supporting structures and service systems.

The Navy has long recognized the importance of its role in ensuring that production is carried out economically and efficiently at shipyards. Procedures have been established to make certain that this responsibility is fulfilled. Delivery schedules are reviewed by both the shipbuilders and the Navy to determine whether the delivery dates are



compatible with production schedules and to provide information for reconciliation of any discrepancies. In addition, the Navy's administration of shipbuiding programs is designed to overcome potential delays. The record indicates, however, that materials have been delivered months late, information has been delivered only to be found defective, and production schedules have, in some cases, become meaningless.

It became evident during our review that existing Navy procedures to promote orderly construction at shipyards were not accompanied by proper controls. Such controls would ensure that initial delivery schedules for Government-furnished property are reasonable, that the Navy is kept informed of whether the equipment manufacturer can deliver as scheduled, and that, if delays are expected, the shipbuilder is informed in sufficient time to make appropriate adjustments to production schedules.

#### Corrective measures taken by Navy

The Navy has initiated several improvement tasks to correct some of the problems associated with late delivery of, and with defective, Government-furnished equipment and information.

Listed below are some of the more important tasks, a brief description of the status of these tasks as of June 1, 1971, and a more detailed discussion of the most significant tasks.

<u>Improvement task</u>	<u>Status of task as of June 1, 1971</u>
Resolve technical problems on experimental ships before proceeding with construction.	Task has been completed.
Develop policy of research, development, test, and evaluation for new ship designs to ensure that the latest	Task was scheduled to be completed by December 1971.

BEST DOCUMENT AVAILABLE

Improvement task

Status of task as of  
June 1, 1971

developments can be incorporated into the new designs without causing unacceptable construction delays.

Recognize a probable need for, and adequately plan for, fallback options (use of alternative equipment which is more readily available) when shipboard developmental systems or equipment do not meet schedule, cost, or operational or technical requirements.

Improve procedures for prompt reporting of delays expected in Government-furnished material and information.

Provide formal means to control the availability of Government-furnished information.

Provide network diagrams of relationship of major Government-furnished material and information and contractor-furnished material to ship progress.

Develop a system which will give timely information on status and progress of Government-furnished equipment.

Task has been completed. The Navy has established a procedure for any case in which there is a probability that alternative equipment will have to be procured.

Task was scheduled to be completed by December 1971.

Task is scheduled to be completed by October 1972.

Task was scheduled to be completed by December 1971.

Task was scheduled to be completed by December 1971.

BEST DOCUMENT AVAILABLE

Improvement task

Status of task as of  
June 1, 1971

Ensure that a complete cost-benefit analysis is performed for each proposed change affecting a project in terms of cost, performance, schedules, training, and material availability prior to its approval and issue.

Task has been completed. Procedures have been developed and included in the Specification Control Board procedural manual.

Develop criteria for determining what material should be furnished by the Government and the reasonableness of delivery schedules for such material.

Task was scheduled to be completed by December 1971.

Improve advance planning and contract completion interval estimates through the use of validated lead-time planning factors.

Task was scheduled to be completed December 1971.

Provide timely approval of contractor plans and drawings.

Task was scheduled to be completed December 1971.

Ensure that project configuration is controlled by the configuration management system to eliminate incompatibilities between Government-furnished equipment and ship systems being built by the contractor.

Task was scheduled to be completed by December 1971.

Implement only those changes during ship construction which are

Task has been completed.

BEST DOCUMENT AVAILABLE

Improvement task

Status of task as of  
June 1, 1971

mandatory or which do not increase the cost and time requirements for ship acquisition.

Develop management information system for Ship Acquisition Project Managers. Task was scheduled to be completed by December 1971.

Whenever the Navy attempts to obtain the latest developments in its new ships, there is a certain degree of risk that there will be a lag in the development of a new weapon system, which, in turn, could cause delay and disruption at shipyards and could result in increased costs to the shipbuilders and to the Navy. The question to be resolved is whether to procure ships with greater capability and risk or those with lesser capability but firmer delivery schedules.

The Navy currently is striving to develop a program which will improve the efficacy of such determinations. This program is designed to ensure a high degree of coordination between the availability of Government-furnished equipment and information and the shipbuilders' production schedules and to establish a valid criterion for determining the amount of risk which should be assumed to procure ships of more advanced design.

Among the most noteworthy of the controls proposed is an information system which is intended to show the relationship of major Government-furnished equipment and information and contractor-furnished material items to the construction progress of ships. Such information would enable the Navy to determine the amount of cost increases which were incurred solely because of late deliveries of Government property and to determine which costs would have been incurred even if Government property had been delivered on time.

In addition to implementing the two tasks cited above, which were designed to aid Ship Acquisition Project Managers,

BEST DOCUMENT AVAILABLE

the Navy has made organizational changes concerning its project managers. Under the new organizational structure, the Ship Acquisition Project Managers report directly to the commander of the Naval Ship Systems Command. They also have complete control over both funds allocated to their projects and changes made to ships for which they are responsible.

### Conclusion

We believe that actions planned and already implemented by the Navy hold excellent promise for alleviating the problem of governmental failure to furnish equipment and information on time and in a suitable condition. Greater authority given to project managers should enable them to substitute other items when the development of planned equipment falters or similar delays occur. This alone should be of substantial value in eliminating claims.

Although the Navy's plans for coping with this problem seem comprehensive and well thought out, implementation of many of the tasks has not been completed; hence, results are difficult to assess.

### Matter for consideration by the Congress

In considering subsequent requests for authorization and funds for specific ship construction projects, the Congress may wish to ask the Navy to outline its procedures for avoiding problems with equipment the Navy proposes to furnish to the shipbuilders.

BEST DOCUMENT AVAILABLE

UNANTICIPATED INCREASES IN QUALITY  
ASSURANCE REQUIREMENTS

Shipbuilders contend that quality assurance requirements imposed by the Navy during the 1960's were greater than those which the Navy had traditionally required in ship construction. On the basis of that contention, shipbuilders have submitted \$67 million in claims because they feel that they should not have to bear the costs associated with more stringent quality requirements than could reasonably have been anticipated.

According to shipbuilders and Navy representatives, problems with quality assurance requirements began after the tragic sinking of the submarine U.S.S. "Thresher" in April 1963. They contend that, after the U.S.S. "Thresher" was lost at sea, the Navy required more stringent quality control practices for all types of ships. There was a definite change in the Navy's entire attitude concerning quality in ship construction. Because these requirements were imposed on fixed-price contracts (which were not modified to provide for costs associated with increased requirements), additional costs could be recovered from the Navy only through claims.

Although the Navy and the shipbuilders both agree that more stringent quality assurance requirements were imposed, they do not agree on whether the shipbuilders should have recognized these increases in requirements and therefore should have provided for them in their bid prices. Navy officials have indicated that in some cases shipbuilders undoubtedly are entitled to price adjustments. They indicated that in other cases, however, the Navy's new policy concerning quality assurance was firmly established prior to contract awards and that the shipbuilders were aware of this change and therefore had no valid excuse for failing to have recognized the need and to have provided for more stringent requirements in their bid prices.

On the other hand, our review indicated that there was no clear and immediate indication of the extent of the Navy's intention in regard to quality assurance increases but, rather, that it took years before the full extent of quality assurance audits and their impact on costs was known. Moreover, shipbuilders indicated that additional work imposed by

BEST DOCUMENT AVAILABLE

Navy inspectors to satisfy quality requirements was not always necessary. Our review showed that \$67 million had been claimed on 14 contracts involving 56 ships because of costs associated with unanticipated quality assurance increases.

The problem of handling claims based on unanticipated quality assurance requirements is particularly difficult because, apparently, there is no specific point in time at which the shipbuilders should have become aware of the Navy's new policy on this aspect of constructing ships and should have provided for it in their bid prices.

Although the quality assurance problem centers around implementation of more stringent controls imposed by the Navy and although the shipbuilders by this time have forcefully been made aware of the Navy's insistence on a higher level of quality assurance, our review indicates that the interpretation of quality requirements may continue to be a point of disagreement between the Navy and the shipbuilders and, thus, may be a basis for future claims. The reason is that shipbuilders believe that the Navy representatives at shipyards have been exceedingly demanding in regard to quality and inspection when they should have been pursuing a policy of applying added control only where it is really necessary.

As a case in point, one shipbuilder submitted a claim based on the fact that Navy inspectors imposed additional requirements which were eventually countermanded by the Supervisor of Shipbuilding. In this case the shipbuilder's claim included costs incurred in performing additional work up to the time the added requirement was removed.

Our review shows that problems concerning quality assurance requirements are compounded by Navy inspectors' inconsistent application of these requirements. We were told that inspectors' and supervisors' interpretations vary as to what is required of shipbuilders under contract agreements and that a Navy inspector at one shipyard may demand more stringent requirements than one at another shipyard. Clearly, such cases prompt shipbuilders to consider claims actions as a means of recovering costs. Uniform criteria for quality assurance are needed as hardware and software become more sophisticated.

## Corrective measures taken by Navy

The Navy has initiated an improvement task under its Shipbuilding and Conversion Improvement Program to improve procedures and monitor actions for effective implementation of quality assurance requirements. This task, scheduled to be completed by December 1972, consists of a number of actions. Most of these actions concern improving quality inspection procedures at the shipyards to ensure that completed ships comply with contract requirements; the actions are not designed to solve the claims problem associated with quality assurance requirements. Some of these actions, however, are designed to ensure that the Navy and the shipbuilders agree on what is expected of the shipbuilders before contracts are awarded. The Navy plans to ensure such agreement by requiring shipbuilders to provide quality assurance management plans as a part of their contract bids. Such plans, when approved by the Navy, will also be included as part of the contracts.

## Conclusions

Because the Navy's improvement procedures call for more precise standards and measurements of performance, we believe that they will aid in reducing shipbuilders' excess costs which result in claims against the Navy.

## INDISCRIMINATE USE OF ORAL CONSTRUCTIVE CHANGE ORDERS

Change orders authorize the contractor to make some changes in construction plans, techniques, or materials required under the basic specifications. Some such changes are almost inevitable in ship construction to correct specification errors, to provide for changes in the materials to be used, and to solve unanticipated problems. When changes are made in written form, the contracting officer negotiates the price of the proposed change and sees that funds are available.

Constructive change orders, however, include changes which are not formally issued in writing. Naval personnel stationed at shipyards to oversee the contractors' work frequently consider shipbuilding requirements to encompass more



than do the shipbuilders. Therefore, in discharging their duties, inspectors have directed shipbuilders to perform work which the shipbuilders consider to be beyond the requirements of their contracts.

The shipbuilders who have claimed an increase in price because of verbal constructive change orders contend that these changes are costly and have far-reaching effects. In view of the fact that in constructing a complex and modern Navy ship there are a great number of interrelated tasks, each of which must be performed on time and in a satisfactory manner in order that the others may be accomplished, changes made by Navy personnel to one part of the ship can have a great impact on the economies and efficiencies involved in the construction of the entire ship. On the basis of our review, it is apparent that control over such change orders is needed before the claims problem can be brought under control.

#### Corrective measures taken by Navy

The Navy, recognizing the need for added controls to prevent the indiscriminate use of constructive change orders, implemented in March 1970 a new clause to deal with this problem. The clause in question is for use in cases where the contracting officer anticipates constructive change orders. Such changes would be likely in shipbuilding programs involving major development or initial production.

In brief, the clause specifically seeks to control costs arising from constructive change orders by requiring the contractor to notify the contracting officer of any situation which the contractor regards as a constructive change to contract requirements. In this way, the contracting officer will have sufficient opportunity to confirm or to countermand the constructive change order or to deny that circumstances reported by the contractor constitute a constructive change order.

To ensure that contractors immediately notify the Navy of these circumstances, some type of control is necessary. The Navy has incorporated this control in the new contract clause which states that, if the contractor complies with orders, directions, interpretations, or determinations from someone other than the contracting officer without approval

of the contracting officer, the contractor does so at its own risk, which means that the Government will not be held liable for any increased cost, delay in performance, or contract non-conformance on the part of the contractor.

The Navy is training its personnel in the importance and techniques of avoiding constructive change orders. A formal training course was given a total of 16 times and was attended by more than 1,500 naval employees from September 1969 to August 1970. The Navy expected to offer this course about 30 times during the next year with about 150 people attending each session.

### Conclusion

We believe that the Navy's efforts to control the issuance of constructive change orders, both through implementing the new contract clause and through offering the training course, hold promise for eliminating this problem.

BEST DOCUMENT AVAILABLE

## CHAPTER 4

### NAVY EFFORTS TO IMPROVE ACQUISITION MANAGEMENT

In addition to initiating its Shipbuilding and Conversion Improvement Program, the Navy has initiated actions that are intended to improve the Navy's overall management of the procurement of its weapons systems.

These actions are classified by the Navy as organization related, procurement related, and personnel related. A brief description of some of the more important actions and their status follows.

<u>Organization-related actions</u>	<u>Status of actions</u>
Require fewer reports and management presentations from project managers to allow more time for program management.	Completed
Rotate the assignments of project managers at key milestones rather than at arbitrary periods and thus ensure management continuity of the programs.	Completed
Establish within the Naval Ship Systems Command a position, Deputy Commander for Production, to coordinate activities of supervisors of shipbuilding at field locations with activities of project managers at headquarters locations.	Completed
Provide for organizational changes to achieve greater control over electromagnetic tactical warfare systems placed aboard surface ships and submarines.	Completed
Assign the people most talented in business management to the most crucial weapons systems programs.	Completed

BEST DOCUMENT AVAILABLE

## CHAPTER 4

### NAVY EFFORTS TO IMPROVE ACQUISITION MANAGEMENT

In addition to initiating its Shipbuilding and Conversion Improvement Program, the Navy has initiated actions that are intended to improve the Navy's overall management of the procurement of its weapons systems.

These actions are classified by the Navy as organization related, procurement related, and personnel related. A brief description of some of the more important actions and their status follows.

<u>Organization-related actions</u>	<u>Status of actions</u>
Require fewer reports and management presentations from project managers to allow more time for program management.	Completed
Rotate the assignments of project managers at key milestones rather than at arbitrary periods and thus ensure management continuity of the programs.	Completed
Establish within the Naval Ship Systems Command a position, Deputy Commander for Production, to coordinate activities of supervisors of shipbuilding at field locations with activities of project managers at headquarters locations.	Completed
Provide for organizational changes to achieve greater control over electromagnetic tactical warfare systems placed aboard surface ships and submarines.	Completed
Assign the people most talented in business management to the most crucial weapons systems programs.	Completed

*Handwritten notes:*  
Don't take  
duplicate

BEST DOCUMENT AVAILABLE

Provide for a strong independent review at the Chief of Naval Material Command level of all business aspects of high-dollar-value contracts and thus provide a check and balance in the Navy's procurement system.

Completed

Procurement-related actions

Status of actions

Provide for a contracting technique designed to allow for pauses in the development and production of an end-item at certain preselected points where meaningful testing can be performed and observed, which would allow the Navy the opportunity to consider test results and to make an informed decision regarding how to proceed.

Completed

Provide a management tool to aid in assessing the technical problems involved in a procurement, determining the amount of effort needed to solve the problems, and considering the possible consequence of failing to solve the problems.

Completed

Adopt measures to ensure adequate cost control of major shipbuilding programs. This will be accomplished through the use of cost control studies, two-phased should-cost studies, and diligent procurement management and managerial review.

Completed

Improve Navy policy and procedures instructions so that project managers will purchase only required data.

Completed

Provide for wider use of parallel development. Under parallel development, two or more contractors attempt to develop the same type of ship or equipment. Then, at a specified time, the

Completed

BEST DOCUMENT AVAILABLE

## BEST DOCUMENT AVAILABLE

Navy chooses one of the contractors to proceed with the production phase. This contracting method enhances the prospect of completing the desired product on time with a minimal number of problems. It also provides for a demonstration of performance prior to a production commitment and permits competition in procurement for production.

Develop standards for full analyses of the impact of ship construction changes and eliminate those proposed changes which are of marginal value.

Completed

Develop contractual provisions to place more responsibility on contractors for defects in ship specifications and other problems encountered during ship construction.

Completed

Develop a contract provision allowing the Government flexibility in delivering Government-furnished equipment to shipbuilders.

Completed

Provide uniform ship construction contract clauses.

Completed

### Personnel-related actions

### Status of actions

Establish career development program for weapons systems managers.

Completed

Provide for the selection of project managers by selection boards and for recognition of the position of major project manager as being of command equivalency.

Completed

Establish contract management courses for Navy personnel, including a three-semester course in project management at the Naval Post Graduate School and a

Completed

military/civilian procurement degree program at the University of Michigan and the George Washington University.

Have the Logistics Management Institute study Navy contract administration organization.

Estimated completion time is March 1972

Assign flag officers to major Systems Command contract offices.

Completed

Establish 38 Navy procurement billets for junior supply corps officers to ensure an adequate flow of young regular officers with appropriate procurement backgrounds.

Completed

Establish nonsupervisory negotiator positions at the GS-14 through GS-16 levels.

Action is scheduled for completion by January 1972

Assign flag officer to major Supervisor of Shipbuilding offices.

Completed

#### CONCLUSION

We believe that actions taken by the Navy to improve the overall management of its shipbuilding program are commendable. Although it is too soon to evaluate the effectiveness of the actions taken by the Navy, we believe that the actions clearly demonstrate the Navy's concern over the management of its shipbuilding program.

BEST DOCUMENT AVAILABLE

## CHAPTER 5

### DEPARTMENT OF THE NAVY AND CONTRACTORS' COMMENTS

In a letter dated November 3, 1971, the Assistant Secretary of the Navy (Financial Management), on behalf of the Secretary of Defense, furnished us with comments on the draft of our report. (See app. II.) The Assistant Secretary agreed with our recommendation to the Secretary of the Navy that a specific plan be devised, whenever the lead-yard/follow-yard procurement method is used, to ensure that the follow yard is given sufficient time to review the plans provided by the lead yard and to ensure that the lead yard and follow yard make every effort possible to promptly correct any deficiencies.

We also solicited comments from the contractors mentioned in this report. Their comments were considered and adopted where appropriate. (See apps. III through X.)

BEST DOCUMENT AVAILABLE





## SCHEDULE OF SHIPBUILDING CLAIMS

<u>Status of claim</u>	<u>Contractor</u>	<u>Program</u>	<u>Amount of claim (millions)</u>
Settled	Todd Shipyards Corporation	Destroyer escort (DE 1052) 14 ships	<u>\$114.3</u>
Settled	Lockheed Shipbuilding and Construction Company	Destroyer escort with guided missile (DEG 1, 2, 3)	11.5
		Oiler (AO 106 and 109)	7.9
		Destroyer escort (DE 1048 and 1050)	12.9
		Hydrofoil research ship (AGEH-1)	6.5
		Ammunition ship (AE 22 and 24)	<u>7.5</u>
		Subtotal	<u>46.3</u>
Settled	General Dynamics Corporation, Electric Boat Division	Nuclear submarine (SSN 671)	<u>8.1</u>
Settled	Tacoma Boatbuilding Company, Inc.	Patrol gunboat (PG 84-90)	<u>6.1</u>
Unsettled	Avondale Shipyards, Inc.	Destroyer escort (DE 1052) seven ships	49.3
		Destroyer escort (DE 1078) 20 ships	<u>98.2</u>
		Subtotal	<u>147.5</u>

BEST DOCUMENT AVAILABLE

APPENDIX I

<u>Status of claim</u>	<u>Contractor</u>	<u>Program</u>	<u>Amount of claim (millions)</u>
Unsettled	Lockheed Shipbuilding and Construction Company	Destroyer escort (DE 1052) five ships	\$ 57.2
		Amphibious transport dock (LPD 9, 10, 11, 12, 13, 14, 15)	<u>102.0</u>
		Subtotal	<u>159.2</u>
Unsettled	Newport News Shipbuilding and Dry Dock Company	Aircraft carrier (CVA 67)	46.6
		Nuclear submarine (SSBN 641, 644, 654, 656, SSN 651, 653, 661, 663, 664, 668, 670)	40.5
		Amphibious command ship (LCC-20)	<u>11.0</u>
		Subtotal	<u>98.1</u>
Unsettled	General Dynamics Corporation, Quincy Division	Nuclear submarine (SSN 638/649)	25.5
		Ammunition ship (AE 26-27)	22.7
		Dock landing ship (LSD 37-40)	
		Submarine tender (AS 36-37)	
		Replenishment oiler (AOR 1-6)	<u>175.0 (est.)</u>
	Subtotal	<u>223.2</u>	

BEST DOCUMENT AVAILABLE

## APPENDIX I

<u>Status of claim</u>	<u>Contractor</u>	<u>Program</u>	<u>Amount of claim (millions)</u>
Unsettled	Ingalls Nuclear Shipbuilding Division, Litton Systems, Inc.	Ammunition ship (AE-32-35)	\$ 35.9
		Nuclear submarine (SSN 621, 639, 648, 652)	<u>94.5</u>
		Subtotal	<u>130.4</u>
Unsettled	Defoe Shipbuilding Company	Surveying ship (T-AGS 31, 33-34) Oceanographic research ship (AGOR 14 and 15)	8.5
		Destroyer escort (DE 1047, 1049, and 1051)	4.5
		Guided missile destroyers (DDG 25 through 27)	<u>4.5</u>
		Subtotal	<u>17.5</u>
Unsettled	Bethlehem Steel Corporation	Ammunition ship (AE 28 and 29)	<u>48.3</u>
		Total	<u>\$999.0</u>

BEST DOCUMENT AVAILABLE

APPENDIX II



DEPARTMENT OF THE NAVY  
OFFICE OF THE SECRETARY  
WASHINGTON, D. C. 20350

3 NOV 1971

Mr. James H. Hammond  
Associate Director  
Defense Division  
U. S. General Accounting Office  
Washington, D. C. 20548

Dear Mr. Hammond:

The Secretary of Defense has asked me to reply to your letter of 23 September 1971 which forwarded a GAO draft report on shipbuilders' claims for price increases.

I am enclosing the Navy reply to the report.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Frank Sanders".

FRANK SANDERS  
ASSISTANT SECRETARY OF THE NAVY  
(FINANCIAL MANAGEMENT)

Encl:

- (1) Navy Reply to GAO Draft Report of 23 Sep 1971 on Shipbuilders' Claims for Price Increases--Causes, Corrective Measures Taken and What Remains to be Done (OSD Case #3293)

BEST DOCUMENT AVAILABLE

Navy Reply

to

GAO Draft Report of 23 September 1971

on

Shipbuilders' Claims for Price Increases--Causes,  
Corrective Measures Taken and What Remains to be Done  
(OSD Case #3293)

---

I. GAO Findings and Recommendation

GAO reviewed the efforts made by the Department of the Navy to reduce the size of claims for price increases submitted by private shipbuilders that were building ships for the Navy. GAO states that these claims are based on the proposition that the Government owes the shipbuilders more than the contract price because the Navy failed to keep its part of the contract terms. GAO found that the shipbuilders claim that the Navy: (1) did not provide adequate specifications; (2) was late in furnishing the equipment and information it had agreed to provide or did not provide the equipment and information in a condition suitable for use; (3) increased quality assurance requirements beyond what could be reasonably anticipated; and (4) made verbal requests for changes in the ship for which the contractor was not paid.

In addition, GAO found that certain shipbuilders also claimed that plans purchased from the lead yard (the shipbuilder that built the first ship of the class) were defective and/or not available when needed, and that, since the Navy intended that such plans be purchased and used, the Navy shared the responsibility for the problems created by these plans.

GAO states that to improve its ship procurement processes, the Navy has undertaken an extensive program called the Shipbuilding and Conversion Improvement Program, which includes a number of the tasks directed toward eliminating or minimizing claims for price increases under future shipbuilding contracts. About 26 of the 167 tasks in the Shipbuilding and Conversion Improvement Program relate to prevention of the causes of claims. At least one task relates to each of the major causes of claims mentioned above. A summary of some of the more significant tasks follows:

1. To eliminate the lead yard plan problem, the Navy proposes to let one shipbuilder construct all ships of the same class, thereby eliminating the need for one contractor to use plans prepared by another shipyard. However, this may not be feasible for all ship procurements.

Enclosure (1)

BEST DOCUMENT AVAILABLE

## APPENDIX II

2. To improve ship specifications, the Navy has established a training program for specification writers and a review board to control changes and is considering a plan to permit contractors to review and revise specifications prior to the award of the construction contract.
3. To minimize delays and defects in Government-furnished equipment and information, the Navy plans to install a better system of monitoring both equipment under development and supplementary information needed for installation and operation of such equipment. The Navy is also providing for fallback options (equipment which, although not as desirable as the specified equipment, is available without delay).
4. To promote a common understanding of quality assurance requirements, the Navy has instituted a quality assurance improvement program to develop procedures which will prevent costly misunderstandings between the Navy and the shipbuilders about the level of quality assurance to be required in ship construction.
5. To avoid constructive change orders issued verbally by Navy inspectors, the Navy has instituted a training program for Navy personnel attended by 1,500 Navy employees during the first year of its existence. In addition, the Navy has devised a contract clause for use at the option of contracting officers which states that if the contractor complies with change orders without formal written approval of the contracting officer, the contractor does so at his own risk.
6. In addition to improvement actions included in the Shipbuilding and Conversion Improvement Program, the Navy has initiated actions which are intended to improve the Navy's overall acquisition management. These improvements are categorized as organizational, procurement and personnel related and most of them have been implemented in the Navy's acquisition management.

GAO believes that the actions being taken by the Navy hold considerable promise for minimizing the claims problem. GAO recommends that the Secretary of the Navy direct that a specific plan be devised whenever the lead yard/follow yard procurement method is used to insure that the follow yard is given sufficient time to review the plans provided by the lead yard and that the lead yard and follow yard make every effort possible to promptly correct any deficiencies.

### II. Navy Position

The Navy concurs in the GAO recommendation. GAO states that they have been informed that it is the policy of the Navy to procure all ships of the same type from a single contractor, thus eliminating follow yards. GAO further states that this policy cannot always be followed because of shipyards' physical limitations. The statement of Navy policy is not correct. While it is true that Navy desires that ships be procured from a single contractor wherever appropriate, as a matter of policy and practice this cannot and should not always be done. In addition to shipyards'

BEST DOCUMENT AVAILABLE

physical limitations, the Navy may desire for other reasons, such as to meet ship delivery schedules and maintain shipyard capability, to permit other contractors to construct ships of the same class. For example, present plans for the construction of 2 Submarine Tenders in the Fiscal Year 1972 program call for a lead private yard and a follow Government yard.

In those instances where the Navy follows a lead and follow yard procedure, efforts are made to minimize lead yard plan problems. Where time constraints permit, the lead ship is scheduled to allow sufficient time between it and the first follow ship to permit purification of plans by construction problem feedback. This technique also allows distribution of detailed design data to prospective follow yards for their education and in order to allow them the opportunity for commenting on or questioning the validity of its features. In those instances where it is beneficial, such as critical submarine systems, certain plans are made nondeviation. This minimizes claims generation by imposing strict configuration control procedures on both the Government and the shipbuilder and by clearly recognizing the responsibility for design changes. In other instances, it has been found beneficial to enter into lead yard/follow yard data exchange agreements after award of the follow ship contracts.

Since the report deals mainly with improvement efforts underway to reduce claims, specific comments in Tab A are intended to update the status of these improvements. Also, comments are provided when differences are observed in factual data in the report and that available in the Navy.

BEST DOCUMENT AVAILABLE



## APPENDIX II

### SPECIFIC COMMENTS ON GAO REPORT (OSD CASE #3293)

The following comments are identified to the page number of the GAO report.

#### Page 4

All tasks remaining to be completed have planned completion dates assigned. These tasks, with completion dates, were included in NAVSHIPS Course and Speed for Fiscal Year 1971-72. In this regard, NAVSHIPS Course and Speed contains the commands objectives and goals for improving performance in the acquisition, maintenance and logistic support of ships. It translates the broad, long-term goals of the Shipbuilding and Conversion Improvement Program (SCIP), together with other NAVSHIPS improvement efforts, into annual corporate objectives.

#### Page 5

The data displayed by the chart, although accurate, may be misleading and conclusions drawn may be erroneous due to the relatively small amount of data.

#### Page 11

Although the Todd Shipyards Corporation's claim was settled before the Contract Claims Control and Surveillance Group was established, the claim was approved by the Director of Contract Clearance, Office of the Chief of Naval Material, who is the present chairman of the Contract Claims Control and Surveillance Group.

#### Page 16, last paragraph

The Navy is unable to verify the accuracy of the \$15.5 million.

#### Page 19, top of page

The LHA class ship should be added as a procurement where the Navy is buying all ships of the same class from the same shipbuilder.

#### Page 21, first line

The Navy is unable to verify the accuracy of the \$175 million.

#### Page 22, Column headed "Status of Task", item 3

Insert above the first sentence "NAVMAT Instruction 4000.31 of 17 September 1970 prescribes the policy for the review of technical documentation prior to procurement action." Then continue with "A draft directive . . . etc."

Tab A

BEST DOCUMENT AVAILABLE

Page 27, Column headed "Status of Task", item 2

Revise to read "Task is scheduled to be completed about December 1971".

Page 29, Column headed "Status of Task", items 1, 2, and 3

Revise to read "Task is scheduled to be completed about December 1971".

Page 36, paragraph 1

Under the heading "Corrective Measures Taken by the Navy", reword as follows:

The Navy, recognizing the need for additional controls to prevent the incurrence of constructive change orders, implemented in March 1970 a new change clause to deal with this problem. (The "Changes" clause was one of six new clauses issued in the Navy Procurement Circular #18. Except for the "Change Order Accounting" clause, the NPC #18 clauses are used in all shipbuilding contracts as appropriate.) The new "Changes" clause specifically seeks to control costs arising from constructive change orders by requiring the contractor to notify the contracting officer of any situation which the contractor regards as a constructive change to contract requirements. In this way, the contracting officer will have sufficient opportunity to confirm or countermand the constructive change order or to deny that circumstances reported by the contractor constitute a constructive change order.

BEST DOCUMENT AVAILABLE

APPENDIX III

TODD SHIPYARDS CORPORATION  
ONE STATE STREET PLAZA  
NEW YORK, N. Y. 10004

J. T. GILBRIDE  
PRESIDENT

July 9, 1971

Mr. James H. Hammond  
Associate Director  
United States General Accounting Office  
Defense Division  
Washington, D. C. 20548

Dear Mr. Hammond:

We have reviewed the section of your draft report on Shipbuilders Claims for Price Increases - Causes, Corrective Measures Taken and What Remains To Be Done, Department of the Navy - that pertains to this Corporation, forwarded with your letter of June 16, 1971, and suggest that the following changes be incorporated therein for the reasons stated below:

1. Paragraph 1, Page 1.

On line 3, delete the words "to have incurred" and substitute the words "were incurred or would be incurred".

Todd Comment:

The claim for additional costs incurred as a result of actions of the Government was first filed in mid-1967 when the labor content of the contracts were only 13% completed, then later amended, and finally settled in the first quarter of 1969 before delivery of the first ship - the DE-1052 and when the labor content of the contracts were 54%.

Thus it was necessary for Todd to use known costs incurred together with its best management, technical and production judgment to project on an estimated basis total costs to completion of the contract. Negotiations with the Navy were conducted on that basis.

BEST DOCUMENT AVAILABLE

July 9, 1971

Mr. James H. Hammond  
 Associate Director  
 United States General Accounting Office  
 Page Two

2. Paragraph 3, Page 1, 2nd sentence.

Delete the words "not firm". Add in place thereof the words "defective, ambiguous and/or erroneous".

Todd Comment:

To the best of our knowledge the words "not firm" do not appear in any of the many volumes submitted as part of Todd's claim. The words "defective, ambiguous and/or erroneous" were used in a significant number of cases to describe the failure of the Government to issue adequate and accurate plans and specifications.

3. Footnote (a) to Appendix.

First sentence - delete words "verbal" and "at shipyards".

Second sentence - delete words "which need never have been issued".

Todd Comment:

Many constructive change orders resulted from written directions emanating from Navy Headquarters. In addition, it has been established that a deficient, ambiguous and/or erroneous specification per se, is a constructive change effective from the date of such specification. In other instances constructive changes arose because the Navy failed to respond in a timely manner to the contractor's requests for necessary specification changes.

We wish to express our appreciation for the opportunity to offer our comments on your draft report.

Very truly yours,

*J. F. Felt*

BEST DOCUMENT AVAILABLE

APPENDIX IV

LOCKHEED SHIPBUILDING AND CONSTRUCTION COMPANY

A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION

2929 SIXTEENTH AVENUE S W SEATTLE WASHINGTON 98134



July 6, 1971

United States General Accounting Office  
Room 6053  
Washington, D.C. 20548

Attention: Mr. James H. Hammond  
Associate Director

Gentlemen:

We appreciate the opportunity to review the segments of your draft report concerning "Shipbuilder's Claims for Price Increases -- Causes, Corrective Measures Taken and What Remains to be Done -- Department of the Navy," which was enclosed in your letter of June 16, 1971. Although not specifically stated in your letter, we assume that the one page of text and the two pages marked "Appendix" which you supplied to us represent the only segments of your draft report which pertain to our company.

We offer the following comment concerning these pages:

We believe that the heading for the final column on both pages of the Appendix could be misleading to recipients of the report. This heading indicates that the causes for the claims were not specifically identified. Actually, for each of our claims, the cause was identified. We believe this heading would better describe the claims contained therein if it were revised to read: "Claims For Which Causes Were Not Specifically Categorized at the Time of Our Review."

Sincerely,

R. N. Waters  
Executive Vice President

RNW/c

LOOK TO LOCKHEED FOR LEADERSHIP

BEST DOCUMENT AVAILABLE

MAIWSHB WSH

MG 207MG313017 07/26/71 11:43A EDT  
FROM: GENDYNC CLAY  
6 WASHINGTON D C  
ZIP 20548

UNITED STATES GENERAL ACCOUNTING OFFICE  
DEFENSE DIVISION  
WASHINGTON, D.C. 20548  
ATTENTION MR JAMES HAMMOND, ASSOCIATE DIRECTOR

PLEASE REFER TO YOUR LETTER TO MR ROGER LEWIS, PRESIDENT, GENERAL DYNAMICS CORPORATION OF JUNE 16, 1971, SUBJECT: SHIPBUILDERS CLAIMS FOR PRICE INCREASES, ETC. THIS IS TO ADVISE THAT THE INFORMATION CONTAINED IN THE DRAFT REPORT AS IT APPLIES TO OUR ELECTRIC BOAT AND QUINCY DIVISIONS IS ACCURATE AS OF THE DATE OF THAT DRAFT REPORT.

PLEASE BE ADVISED THAT GENERAL DYNAMICS ADDRESS IS NOW:  
PIERRE LACLEDE CENTER  
ST LOUIS MISSOURI 63105  
PHON: 314-862-2440  
T S WIED, CORPORATE CONTRACTS, GENERAL DYNAMICS ST LOUIS

MAIWSHB WSH

BEST DOCUMENT AVAILABLE



**AVONDALE SHIPYARDS, INC.**

P. O. BOX 50280, NEW ORLEANS, LA. 70150 • PHONE: 776-2121 • AREA CODE 504

WESTERN UNION TELEX:

ENGINEERING AVONENG 058-245

PURCHASING AVONPUR 058-246

28 June 1971

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

Attention: Mr. James H. Hammond  
Subject: Avondale Shipyards, Inc. Claims  
on Destroyer Escorts; DE-1052 &  
DE-1078 Class  
Reference: (a) GAO letter of 16 June 1971

Gentlemen:

We have examined the segment of your draft report on Shipbuilders' Claims enclosed with the referenced letter. We have the following comments.

1. We do not know how the breakdown of claims attributable to various causes were decided since they are not our figures.
2. At no time did we submit claims for which causes were not specifically identified as stated by the last column of the Appendix.

Yours very truly,

R. F. Brunner  
Vice President  
Contract Administration

ab

BEST DOCUMENT AVAILABLE

**NEWPORT NEWS SHIPBUILDING  
AND DRY DOCK COMPANY**

*A Major Component of Tenneco Inc.*

NEWPORT NEWS, VIRGINIA 23607

PHONE 703-247-1211



June 21, 1971

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

Attention: Mr. James H. Hammond  
Associate Director

Gentlemen:

We acknowledge receipt of a segment of your draft report on Shipbuilders' Claims for Price Increases - Causes, Corrective Measures Taken and What Remains To Be Done, Department of the Navy - that lists claims of Newport News Shipbuilding and Dry Dock Company.

We are unable to offer comment on this segment of your report since we do not know in what context it is to be used in the complete report, and we are unaware of the basis used for the breakdown into various causes attributable to claims.

We appreciate, however, your consideration in giving us the opportunity to comment.

Yours very truly,

A handwritten signature in cursive script, appearing to read "L. C. Ackerman".

L. C. Ackerman  
President

BEST DOCUMENT AVAILABLE



APPENDIX VIII



INGALLS NUCLEAR SHIPBUILDING • P. O. BOX 149 • PASCAGOULA, MISSISSIPPI 39367  
PHONE (601) 788-6110 • TWX (510) 966-2122/2223

Ser: 71-2784-070

June 30, 1971

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

Attention: Mr. James H. Hammond  
Associate Director

Reference: United States General Accounting Office's letter  
(James H. Hammond) to Litton Industries, Inc. (Roy Ash)  
dated June 16, 1971

Enclosure: Segment of Draft GAO Report

We have been requested by Mr. Roy Ash to review the draft report forwarded with your letter of June 16, 1971 and furnish you with any comments and information which may be of assistance. We appreciate this opportunity to offer our observations since it is possible for us to furnish firmer definition of the amounts and causes of the claims filed with the Government.

In the interests of complete accuracy, we would suggest that the name of the "Contractor" be revised to our official name of "Ingalls Nuclear Shipbuilding Division, Litton Systems, Inc.". Further, under the program identification heading, the submarine ship designation "SSN 621" should be added to the three already identified on the form.

Since we have now submitted our formal proposals, the amounts can be more specific. The proposed price adjustment for the thirty-six individual adjustment requests submitted to the Government for the Ammunition Ship Program is \$35,883,735. These requests for adjustment were submitted individually over the time frame of September 1970 through March 1971. The proposal for the Nuclear Submarine Programs was submitted on May 13, 1971, in the amount of \$94,536,717.

The general categories of causes to which the claims can be attributed for the Ammunition Ship can be generally categorized into the classifications of "Inadequate Specifications".

A DIVISION OF LITTON SYSTEMS, INC.

BEST DOCUMENT AVAILABLE

Ser: 71-2784-070

June 30, 1971

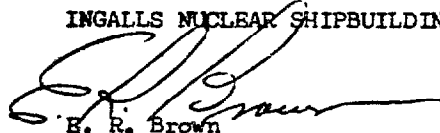
Page 2

The claim related to the submarine programs reflects the financial impact on other ship construction activities resulting from the massive changes to the submarines; the Government's subsequent demands for acceleration and the directed establishment of special building priorities which constructively suspended work on all other ships under construction.

We would like to add that we are pleased to know that the Government is preparing an in-depth study on the causes and required corrective measures on the timely subject of shipbuilders claims. It is our sincere hope that it will prove fruitful and assist in eliminating the underlying causes which give rise to claims. Speaking for our company we would like to assure you that we would prefer to concentrate all our management energies and direction to establishing fair contractual relationships and constructing quality ships at a fair profit.

We believe the above data will enable you to more specifically identify the amounts and issues but feel free to call on us if we can be of further assistance.

INGALLS NUCLEAR SHIPBUILDING

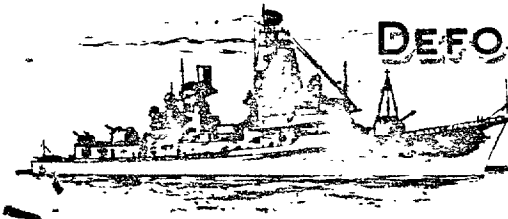


E. R. Brown  
Director  
Contract Administration

ERB/cmk

Enclosure

BEST DOCUMENT AVAILABLE



# DEFOE SHIPBUILDING COMPANY

BAY CITY, MICHIGAN 48706

★

July 13, 1971

Mr. James H. Hammond  
Associate Director  
Defense Division  
United States General Accounting Office  
Washington, D. C. 20548

Dear Mr. Hammond:

In reply to your letter of June 16, 1971 and in accordance with our telephone conversation of this date, I enclose herewith a Schedule of Shipbuilding Claims which we have filed with the Department of the Navy. You will note that these Claims are presently in the unsettled status.

If there is any further information you desire, please advise.

Very truly yours,

DEFOE SHIPBUILDING COMPANY

Thos. J. Defoe  
President

TJD:ew

BEST DOCUMENT AVAILABLE

# Bethlehem Steel Corporation

SHIPBUILDING SALES OFFICE: 25 BROADWAY

NEW YORK, N. Y. 10004

W F WILLIAMS  
VICE PRESIDENT SHIPBUILDING  
HOLLINSHEAD DE LUCE  
MANAGER, SHIP DEVELOPMENT AND SALES  
J. W. DUNN  
MANAGER SPECIAL PRODUCTS SALES  
C R WISE  
MANAGER, SHIP REPAIR SALES



PHONE: 344-3300  
AREA CODE 212

7 July 1971

Mr. James H. Hammond,  
Associate Director  
United States General Accounting Office  
Washington, D. C. 20548

Dear Mr. Hammond:

Your letter of 16 June to Mr. L. W. Foy, President of Bethlehem Steel Corporation, was referred to me for disposition.

Our people have reviewed the draft of the report to The Congress of the United States and find that the proposed appendix is correct in reporting that our claim for Ammunition Ships, AE-28 and AE-29, for \$48.3 million has been submitted.

We have no further comments to forward at this time.

Very truly yours,

A handwritten signature in cursive script, appearing to read "W. F. Williams".

W. F. Williams

BEST DOCUMENT AVAILABLE

APPENDIX XI

PRINCIPAL OFFICIALS OF THE DEPARTMENT OF DEFENSE  
 AND THE DEPARTMENT OF THE NAVY  
 RESPONSIBLE FOR ADMINISTRATION OF ACTIVITIES  
 DISCUSSED IN THIS REPORT

<u>Tenure of office</u>	
<u>From</u>	<u>To</u>

DEPARTMENT OF DEFENSE

SECRETARY OF DEFENSE:

Melvin R. Laird	Jan. 1969	Present
Clark M. Clifford	Mar. 1968	Jan. 1969
Robert S. McNamara	Jan. 1961	Mar. 1968

ASSISTANT SECRETARY OF DEFENSE  
 (INSTALLATIONS AND LOGISTICS):

Barry J. Shillito	Feb. 1969	Present
Thomas D. Morris	Sept. 1967	Jan. 1969
Paul R. Ignatius	Dec. 1964	Aug. 1967

DEPARTMENT OF THE NAVY

SECRETARY OF THE NAVY:

John H. Chafee	Jan. 1969	Present
Paul R. Ignatius	Aug. 1967	Jan. 1969
Charles F. Baird (acting)	Aug. 1967	Aug. 1967
Robert H. B. Baldwin (acting)	July. 1967	Aug. 1967

ASSISTANT SECRETARY OF THE NAVY  
 (INSTALLATIONS AND LOGISTICS):

Charles L. Ill	July 1971	Present
Frank Sanders	Feb. 1969	July 1971
Barry J. Shillito	Apr. 1968	Jan. 1969
Vacant	Feb. 1968	Apr. 1968
Graeme C. Bannerman	Feb. 1965	Feb. 1968

BEST DOCUMENT AVAILABLE