



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

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The Honorable Warren G. Magnuson  
Chairman, Committee on Commerce  
United States Senate

Dear Mr. Chairman:

In your October 10, 1973, letter you pointed out that, while considering the fiscal year 1973 appropriations bill for the Maritime Administration (MARAD), the experience of shipbuilders who contracted with MARAD to build oceanographic vessels for the National Oceanic and Atmospheric Administration (NOAA) was called to the Committee's attention. You requested that we review MARAD's contracting procedures for the construction of four oceanographic vessels--"Surveyor," "Oceanographer," "Discoverer," and "Researcher."

In December 1973 we met with your office and pointed out the difficulties of evaluating MARAD's contracting procedures and identifying the responsibility for the causes for the losses contractors incurred.

Our difficulties were caused in part by the absence of complete records at MARAD and NOAA headquarters primarily due to the time that had elapsed since the ships were constructed. For example, the contract for the first vessel, "Surveyor" was awarded in October 1957 and completed in April 1960, while the contract for the most recent vessel, "Researcher" was awarded in June 1966 and completed in June 1970. Our efforts were also hampered because (1) several key MARAD and NOAA employees who knew of the circumstances pertaining to the contracting and construction of the vessels no longer were employed by these agencies and (2) the remaining key employees could not accurately remember specific details due to the age of the contracts.

Consequently, we agreed with your office to (1) limit our examination to those records available at MARAD and NOAA headquarters and to contacts with available employees and (2) orally summarize available data.

We presented our summary in March 1974. However, we did not have enough data to draw a conclusion about the propriety of MARAD's contracting procedures or to pinpoint the responsibility for the losses incurred. Below is a summary, on the basis of available information, of the principal reasons for the losses contractors sustained for the oceanographic vessels.

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"Surveyor:"

- Inexperience in constructing oceanographic vessels.
- Underbidding of the contract due to underestimating the complexity of the vessel.
- Substantial overrun in labor man-hours due to the excessive rate of turnover of yard and engineering labor. (See enc. I for details.)

"Oceanographer" and "Discoverer:"

- The initial contractor experienced steel delivery delays and inadequate subcontractor performance.
- A second contractor, which had no previous ship construction experience, acquired the initial contractor's yard and also experienced various problems. (See enc. II for details.)

"Researcher:"

- Delays in plan preparation.
- Removal of top managers.
- Diversion of experienced production workers to other work.
- Inefficient material purchasing experienced by the contractor during the vessel construction. (See enc. III for details.)

The American Ship Building Company, which built "Researcher," has brought suit in the United States Court of Claims for \$5,402,450 damages in connection with the contract. (American Ship Building Co. v. United States, Ct. Cl. No. 225-74, filed June 21, 1974.) In accordance with established GAO policy not to comment on pending litigation, we therefore draw no conclusions about the facts set forth in the enclosures.

As requested by your office, we did not obtain comments from the Department of Commerce or the shipbuilders.

As your office agreed, we are sending a copy of this report to the Department of Justice. A report is also being sent to the Chairman, House Committee on Merchant Marine and Fisheries, pursuant to her request for a similar review.

B-133170

We do not plan to distribute this report further unless you agree or publicly announce its contents.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "A. H. Keller". The signature is fluid and cursive, with a large initial "A" and "H" that are connected.

**Deputy** Comptroller General  
of the United States

Enclosures - 3

OCEANOGRAPHIC VESSEL "SURVEYOR"CONTRACT, COST, AND PRODUCTION DATA

On October 8, 1957, the contract for "Surveyor" was awarded for a fixed price of \$5,813,243 including adjustments to the National Steel and Shipbuilding Company (NASSCO), with a scheduled delivery date of May 11, 1959. However, the contract was not completed until April 29, 1960, with a final cost of \$8,285,024. Thus, "Surveyor" was delivered 354 days late and the contractor incurred a \$2,471,781 loss.

PRINCIPAL REASONS FOR THE LOSS

MARAD's records show that a major part of the incurred losses were due primarily to the contractor's inexperience in constructing oceanographic vessels and underbidding of the contract due to underestimating the complexity of the "Surveyor." The contractor also incurred a substantial overrun in labor man-hours due to the excessive rate of turnover of yard and engineering labor, plus inefficiencies flowing from a high proportion of alien labor unfamiliar with American shipbuilding techniques.

FINAL DISPOSITION OF NASSCO CLAIM

The contractor claimed reimbursement for its losses principally on the grounds that certain delays were beyond its control and that there was an inordinate amount of inspection by the Government. In a decision under the contract's disputes clause, the contracting officer found that 86 of the 354 days overrun were due to causes beyond the contractor's control, and the remaining 268 days were chargeable to the contractor.

In 1963, MARAD settled the claim by reimbursing NASSCO \$254,782 for certain actual work changes and related work disruptions for which MARAD was responsible and by extending the completion date of the contract to cover the 268-day delay for which the contractor was responsible. (The contract had already been extended to cover the 86-day delay which was beyond the contractor's control.) This action, in effect, waived liquidated damages of \$268,000 (\$1,000 per day for 268 days).

OCEANOGRAPHIC VESSELS"OCEANOGRAPHER" AND "DISCOVERER"CONTRACT, COST, AND PRODUCTION DATA

On July 16, 1962, the contract for "Oceanographer" was awarded for a fixed price of \$7,497,440 including adjustments to Gibbs Shipyards, Inc., with a scheduled delivery date of May 31, 1964, and an option to construct a second similar vessel, "Discoverer." On November 14, 1962, the option was exercised for a fixed price, including adjustments, of \$6,893,488 and a scheduled delivery date of August 19, 1964. However, "Oceanographer" and "Discoverer" were not delivered until April 20, 1966, and December 15, 1966, resulting in late delivery by 689 and 848 days, respectively. Before completion of the contract, Aerojet-General Corporation purchased Gibbs Shipyards, Inc. Final costs for "Oceanographer" and "Discoverer" were \$11,224,850 and \$10,838,250, respectively, resulting in total incurred losses to Aerojet of \$7,672,172.

PRINCIPAL REASONS FOR THE LOSS

MARAD's records showed that, before contract awards, MARAD representatives surveyed the facilities of Gibbs Shipyards, Inc., and reported that (1) the contractor's engineering staff was not large enough nor technically competent to build the vessels, (2) engineering labor had been underestimated by at least 50,000 man-hours, (3) ship-construction labor had been underestimated by 100,000 man-hours, and (4) the contractor might experience a \$300,000 loss per vessel. In response, Gibbs assured MARAD that it had hired several competent engineers and anticipated hiring more when required. The American Corporation, the parent company of Gibbs, also advised MARAD that it would make available, to Gibbs, from time to time, up to \$600,000--a sum equal to twice the anticipated loss on the first vessel. Consequently, the contract was awarded to Gibbs. MARAD's records show that Gibbs expected to break even on these contracts and wanted to retain its skilled labor force.

On May 28, 1964, Aerojet-General Corporation purchased Gibbs Shipyards, Inc., through its wholly owned subsidiary, the Aerojet-General Shipyards, Inc., which was created expressly for that purpose. Aerojet had no previous experience in ship construction but was interested in obtaining a means of using its defense and aerospace technology and to break into the ship construction and repair industry. As part of its prepurchase efforts Aerojet employed two prominent firms of naval architects and marine engineers to report on the condition and capabilities of available facilities at Gibbs and to estimate the percentage of completion of "Oceanographer" and "Discoverer." One of the firms reported that the contract was about 50 percent completed. MARAD also advised Aerojet that about one-half of the total construction was completed, about one-half of the construction

funds had been spent and that on this basis it appeared that Gibbs would probably break even on the construction of the two vessels. MARAD, however, cautioned Aerojet that Gibbs was considerably behind delivery schedule. In establishing the level of completion, both the private firm and MARAD relied heavily on a particular progress report prepared by Gibbs and previously submitted to MARAD for payments.

According to a published court decision, <sup>1/</sup> Aerojet, before acquiring Gibbs, was aware that Gibbs had been in financial difficulty and had previously undergone bankruptcy proceedings and that Gibbs' records reflected an overall net operating loss on all of its work-in-process (including "Oceanographer" and "Discoverer") of over \$300,000 during the 18 weeks ending May 3, 1964. Some of the problems Gibbs encountered were a railroad strike, which delayed steel deliveries, and delays by a subcontractor in providing certain automation equipment. Apparently developing misgivings as to the soundness of its bargain, Aerojet surveyed in September 1964, the personnel and physical facilities of the shipyard and its financial situation. Several serious problems were reported, including a policy of presenting claims for work accomplished which were either exorbitant or of limited validity, too few engineering personnel required to do a job, and a fundamental need for more emphasis on quality control of all work in the yard. In response, key corporate officials were sent from Aerojet's California headquarters to assume responsibility for the contract. These officials, however, had no prior ship construction experience.

On August 2, 1965, Aerojet transferred its shipyard assets to Jacksonville Shipyards (which was incorporated as Rawls Brothers Contractors, Inc.) and subcontracted with them for completion of the vessels. MARAD's records show that Aerojet paid Jacksonville about 45 percent of the contract price for performing about 15 percent of the total contract work.

#### FINAL DISPOSITION OF AEROJET CLAIM

In a suit brought against the Government, Aerojet claimed that it suffered a gross loss of \$7,908,619 on the part of the contract completed after taking over Gibbs Shipyards, Inc. According to the published court decision, Aerojet claimed it was entitled to recover because it relied heavily on MARAD's statements as to the status of contract completion

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<sup>1/</sup> Aerojet-General Corporation and Aerojet-General Shipyards, Inc., v. the United States in the United States Court of Claims, October 13, 1972.

and performance at the time of purchase from Gibbs as well as MARAD's failure to disclose significant information bearing on how Gibbs would make out on the contract.

In its decision of October 13, 1972, the court concluded that, as a matter of law, Aerojet was not entitled to recover, and the petition was dismissed.

OCEANOGRAPHIC VESSEL "RESEARCHER"CONTRACT, COST, AND PRODUCTION DATA

On June 8, 1966, the contract for "Researcher" was awarded for a fixed price of \$8,593,456 including adjustments to the American Ship Building Company with a scheduled delivery date of November 24, 1968. However, the contract was not completed until June 18, 1970, with a final cost of \$12,534,538. Thus, "Researcher" was delivered 510 days late and the contractor incurred a \$3,941,082 loss.

PRINCIPAL REASONS FOR THE LOSS

According to a report of the Department of Commerce Appeals Board, the principal reasons for the Company's loss were:

1. A year after the scheduled starting date, only about 10 percent of the work had been completed. Although the contractor experienced a labor strike early in the contract period and some kinds of work were delayed, plan development could have progressed. However, it was 5 months after the contract date before the first plan was released to the yard. The Company became involved in a second labor dispute toward the end of the construction period at a time considerably beyond the anticipated performance period. Settlement of this dispute largely increased labor costs. However, MARAD held that, had the contract progressed according to the scheduled delivery time, these costs would have been avoided.
2. Company efficiency, the consequences of which cannot be measured, seemed to decline during the early stages of contract performance after many of the top managers were removed from office as the result of a change in corporate control.
3. There was a substantial diversion of experienced production workers from work on "Researcher" to more lucrative repair and servicing of commercial Great Lakes vessels during each winter of the 4-year period of the contract.
4. There was a considerable amount of inefficient material purchasing--untimely ordering, dealing with relatively high-cost jobbers, not taking full advantage of possibilities for less costly direct-from-producer quantity purchases, and some wasteful overbuying of steel products and electrical cable.
5. Numerous and costly items of rework were made necessary because of poor workmanship and inspection and supervision by the contractor.



6. The Company had difficulties in obtaining timely deliveries and installation of certain electronic equipment from a prominent subcontractor against whom it later brought suit.

In December 1970, after the vessel had been completed, the Company submitted a petition to the Secretary of Commerce for extraordinary relief by way of an upward adjustment in the contract price under Public Law 85-804, which permits such action as a matter of administrative discretion under certain special circumstances. The records of the MARAD investigations in response to this petition are the primary source of data for the reasons cited above. In its petition, the Company did not completely challenge the accuracy of these reasons but tended to dismiss them because the petition was primarily directed to circumstances that occurred at the time of the contract award and before actual performance. The Company claimed in its petition that:

1. The contract for "Researcher" was a defense contract within the purview of Public Law 85-804.
2. The Government withheld superior knowledge with respect to similar construction of vessels for oceanographic research as to cost and building period.
3. A mistake on the contractor's part, in his cost estimate and bid, was so obvious that it should have been apparent to MARAD.
4. MARAD and the contractor made a mutual mistake in interpreting the plans and specifications with respect to the complexity of the oceanographic functions and machinery automation.

The petition resulted in the exchange of several letters and/or rebuttals between the Company and the Department of Commerce. The Department's Appeals Board was the principal group handling the investigation of the data pertaining to the petition. The Appeals Board used the data supplied by MARAD, the 9th Naval District, the Defense Contract Audit Agency, and the Department's General Counsel.

Generally, the Department's position on the Company's charges was as follows:

1. Agency records showed that shortly before contracting for "Researcher," MARAD requested a priority rating under the Defense Material System for 10 ships which were under construction or about to be constructed for the Coast and Geodetic Survey. Of the 10, the Department of Defense singled out "Researcher" as not essential for national defense on the basis that the Navy already had an ocean survey capability. The Company further attempted to show, by quotations from brochures

for the commissioning of several related vessels, that "Researcher" had national defense capability. MARAD pointed out however, that it could not find any claim of national defense capability in the quotations.

2. Although MARAD, at the time of the contract award was aware of large cost overruns on the other oceanographic vessels leading to substantial contractors' losses, it believed that the circumstances leading to these losses were unique for each individual contractor and, accordingly, would not necessarily apply to the new contract. Moreover, MARAD's records indicated that it considered the Company more qualified to correctly assess the magnitude of "Researcher's" construction than any other bidder at the time of the contract award. MARAD pointed out that the Company was a member of the Shipbuilder's Council of America at the time the other oceanographic vessels were under construction and that a Company official served on this Council along with a representative of one of the contractors constructing one of those vessels. MARAD believed that it was quite likely that the official discussed the vessel construction with the other representatives or that he read the Council's publications of events in the shipbuilding industry. Consequently, MARAD believed that the official should have been aware of the experience encountered by the contractors in the construction of the other oceanographic vessels.

3. MARAD's records showed that the Company's contract price was only 1.2 percent lower than MARAD's estimate and about 4 percent lower than the bid of the next lowest bidder on the contract. The Contract Appeals Board pointed out that decisions of the Comptroller General have held that differences between a low and a next-to-low bid ranging from 5 to 38 percent were not enough to put a contracting agency on notice of a possible error in the bid. MARAD believes that it had no valid reason to believe that the Company bid was obviously in error.

4. MARAD's records show the Company's claim that a mutual mistake was made in interpreting plans and specifications which, with respect to the complexity of "Researcher," was based on MARAD's failure to conduct a preaward survey of the potential contractor's capability to perform. According to the record, the Company inferred that, had MARAD conducted this customary survey, MARAD would and should have perceived the Company's misconception of "Researcher's" complexity and inadequate allowance in its bid to cover its costs. MARAD stated that it conducts preaward surveys only when it has reason to suspect the contract work to be beyond the capacity of the low bidder to perform satisfactorily within the contract time period. In this instance, the records indicated that MARAD considered the Company to have been a long-established, well financed, highly regarded Great Lakes shipyard and did not consider a preaward survey necessary. MARAD did recognize that the Company had some engineering weaknesses and called them to the attention of the Company so that appropriate corrective action could be taken.

FINAL DISPOSTION OF THE COMPANY'S PETITION

The Department's Contract Appeals Board determined that there were no grounds for the award of extraordinary relief to the Company. In a March 23, 1972, letter, the Department reiterated its position as to denial of relief but pointed out that this did not prejudice the contractor's privilege to pursue any judicial or other avenue of redress.

Regarding the settlement of liquidated damage claims, an agreement was reached in May 1972 wherein the Company and MARAD agreed that, of the 511-day delayed delivery, 303 days were determined to be beyond the contractor's control and the remaining 208 days were within the contractor's control. Consequently, the contractor agreed to let the Government withhold payments of \$208,000 (\$1,000 per day x 208 days) in liquidated damages. Also, certain Maritime Administration Guarantee Survey Board items were to be considered complete upon payment of \$22,000 to the Government out of funds being held by the Government for payment to the contractor. Therefore, the Government, in effect, recovered \$230,000 (\$208,000 + \$22,000) from the contractor. Both parties also agreed that neither would reopen the matters settled in this agreement for further adjustment or negotiations in any appeal procedure.