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UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

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PROCUREMENT AND SYSTEMS  
ACQUISITION DIVISION

B-168450



109631

JUNE 13, 1979

The Honorable Harold Brown  
The Secretary of Defense

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

Dear Mr. Secretary:

We reviewed the pricing of Navy contracts N00019-72-C-0592 and N00019-73-C-0333, awarded to Pratt & Whitney Aircraft of West Virginia, Inc., Bridgeport, West Virginia, for aircraft engines. These negotiated fixed-price contracts, awarded during 1972 and 1973 by the Naval Air Systems Command, were valued at \$9,015,747 and \$48,292,115, respectively.

CNGO 1687

AGC 00455

Our effort was part of a nationwide review of the pricing of the Department of Defense's noncompetitive prime contracts. Individual contract reviews represent a part of our efforts to monitor the Department of Defense's adherence to prescribed laws, regulations, and procedures in negotiating noncompetitive contract prices.

DLG 01804

According to our review, [work performed at the West Virginia plant accounted for only about 20 percent of the incurred costs. The balance of the work was performed by Pratt & Whitney Aircraft of Canada, Ltd., Longueuil, Quebec, under subcontracts. Because the subcontract cost was significant, we wanted to know whether the subcontract work prices included in the prime contract were reasonable in relation to cost or pricing data available to the subcontractor at the times of price agreements between the prime contractor and the Navy.]

The Defense Acquisition Regulation (DAR) requires, in accordance with Public Law 87-653, that with certain exceptions, contractors submit cost or pricing data in support of proposed prices for noncompetitive contracts over \$100,000. If the proposed price includes major subcontract items, the contractor must obtain the subcontractor's cost or pricing data and submit it to the contracting officer. The prime

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contractor must certify that both the contractor's and the subcontractor's cost or pricing data are accurate, complete, and current as of the date of agreement on contract price. A defective pricing clause gives the contracting officer the right to adjust the contract price to exclude any significant sum by which it increases because the contractor furnished cost or pricing data which was inaccurate, incomplete, or noncurrent. In determining the adjustment amount, the contracting officer shall consider as an offset any contract price understatement because of the contractor's inadvertent reliance on inaccurate, incomplete, or noncurrent data.

The subcontractor's cost or pricing data was examined by auditors from the Office of the Auditor General and our staff, in accordance with an October 28, 1977, Memorandum of Understanding between the Auditor General of Canada and the Comptroller General of the United States. This cooperative work was at the Canadian subcontractor's plant. Our staff continued its investigating work at the prime contractor's plant in West Virginia and at the Department of the Navy, Washington, D.C. The Auditor General's staff continued its investigating work at the Canadian Commercial Corporation office and the Department of Supply and Services Canada.

[On the basis of the review, the prime contract price, ~~in our opinion~~, may have been overstated by about \$525,000 because the contractor did not provide the Navy with accurate, current, and complete data. These costs include the effect of subcontractor cost overstatement (about \$430,000) and prime contractor additions to these overstatements for cost and profit (about \$95,000).

Further, the Navy paid about \$770,000 more because the price of the Canadian work was based on a fixed-currency exchange rate, rather than providing for adjustment based on the rates in effect at the time of payments by the prime contractor.]

Details of the examination are in the enclosed Auditor General/General Accounting Office report. A brief summary of this work and additional work we performed follows.

PRATT & WHITNEY AIRCRAFT  
OF CANADA, LTD.

[The proposals, prepared by the subcontractor several months before the prime contract award, were not updated at

the time of award to reflect more recent cost information.] Using this outdated information resulted in a net understatement of the contract prices by \$1.4 million. This computation, however, does not reflect the effect of certain costs relating to contingencies and warranties which, in our opinion, should be reviewed by the contracting officer. These costs totaled \$1.8 million. If the contracting officer determines these costs to be unallowable, then the subcontract costs were overstated by an estimated \$430,000 net.

In our opinion, the additional facts outlined below show that the Navy's contracting officer was unaware that the price proposed by the prime contractor included these costs. Had this information been disclosed, the contracting officer would have had a sound basis for negotiating a lower price with the prime contractor.

#### Contingency

In the price for contract -0333, [the subcontractor included a contingency allowance. The allowance was defined later as an estimated allowance for technical changes. The contingency increased the cost by \$1.6 million.

According to DAR, section 15, <sup>that</sup> such a contingency allowance may be acceptable in certain circumstances, subject to negotiation. As far as we determined, the existence of the contingency allowance [was not made known to the prime contractor or to the contracting officer] neither was Supply and Services Canada aware of this allowance. Supply and Services Canada officers informed the Auditor General that they had compared their independent computation of the factory standard costs per engine with the equivalent quoted cost to the contractor. Because the difference was within .1 percent of the quote, they accepted the quote as fair and reasonable.

#### Warranty

The prime contractor notified the Naval Air Systems Command that no costs for warranty were included in its proposed price for contract -0333. The subcontractor's records, however, showed that \$139 per unit was included for warranty costs in the price furnished to the prime contractor. At the unit price current at the time of certification, the total cost involved was about \$200,000. After receiving our draft report, the subcontractor said that commercial warranty costs

were excluded and the amount included was for its normal military warranty. In a meeting with the Auditor General, the subcontractor differentiated between the two by calling the military warranty a correction of defects provision and said that this was the meaning of the provision in its contract with the prime contractor.

DAR, section 1-324.1, provides that a warranty is used "to delineate the rights and obligations of the contractor and the Government for defective items and services and to foster quality performance." Section 15-205.38 states that a warranty includes correcting defects in the product. This section 1-324-1 wording is similar to wording under the defects section of the contracts we reviewed. A warranty clause states that "the contractor warrants that at the time of acceptance all supplies furnished under this contract will be free from defects in material and workmanship \* \* \*."

Canada regards cost associated with military warranty as a manufacturing cost for which Canadian Government officials negotiate an overhead rate and use for all Government contracts. The Canadian Commercial Corporation, therefore, would have this knowledge when reviewing the subcontractor's cost estimate. Information in the Canadian Commercial Corporation files shows that the contracting officer was telephoned a summarized breakdown of this estimate which included warranty costs. According to our examination, no record of either this information or receipt of the telephone call is in the contracting officer's files.

#### Fixed-currency exchange rate

The Navy negotiated the price of both contracts and, accordingly, the contractor awarded the subcontracts in U.S. dollars. The subcontract estimates were prepared in Canadian dollars, converted to U.S. dollars at rates which reflected the most recent 12-month trend, but were not the rates current at the time of certification. The use of the average rate was apparently at the request of the contracting officer. [No provision was made in either the contracts or subcontracts for price adjustments based on the rate in effect at the time of payment.] During the period in which payments were made to the contractor and by the contractor to the subcontractor, the exchange varied from \$1 United States to \$.96 Canadian to \$1 United States to \$1.11 Canadian.

As a result of the contracting officer's decisions, the U.S. Government paid more than necessary for these contracts. If the exchange rate had been set at the current rate when the contracts were signed, rather than the average rate for the prior 12 months, the United States would have paid about \$154,350 more under contract -0592 and about \$529,166 less under contract -0333. In addition, if the contracts had provided for payments to be based on the value of the Canadian currency at the time of payment, the United States' payments would have been further reduced by about \$112,316 on contract -0562 and \$282,652 on contract -0333, or a total reduction of about \$769,784 on the two contracts.

AGENCY COMMENTS

Naval Air Systems Command personnel generally agreed to consider the data included in this letter and the attached report and act as necessary. However, they did not agree with our position on the exchange rate. They said the prime contract was with a U.S. firm and, therefore, was priced in U.S. dollars. The prime contractor should price and pay the subcontractor in the currency it deems proper.

DAR, section 6-1200, provides that contracts with foreign contractors shall be priced and paid in a manner that is fair to both parties and will not provide a windfall to either party. Although this regulation refers to prime contracts, the intent seems to apply to contracts with U.S. firms when a major subcontractor is a foreign firm.

In our opinion, each contract should have provided for a price adjustment following payment for the foreign produced items if the exchange rate varied from the rate in effect at the time of negotiation of the prime contracts.

CONTRACTOR'S AND SUBCONTRACTOR'S COMMENTS

Contractor personnel made no substantial comments. Subcontractor personnel disagreed with the findings of the Auditor General/General Accounting Office audit team and maintained that the prices were based on accurate and current data. However, the audit team was not persuaded by the comments or additional information provided. A detailed evaluation of the subcontractor's comments is presented on pages 15 and 16 of the enclosure.

RECOMMENDATION

We recommend that the contracting officer determine the allowability of contingency and warranty costs.

We also recommend that, once determined, the price of the contracts awarded Pratt & Whitney Aircraft of West Virginia, Inc., be adjusted for any overstatement resulting from the contractor's failure to obtain and furnish to the Government accurate, complete, and current subcontractor cost or pricing data.

Fluctuating exchange rates make it impossible to award an equitable contract unless potential changes are considered in currency value during contract performance. We, therefore, recommend that, in all future contracts involving a major subcontractor from another country, the Navy insert a provision providing for contract price adjustments reflecting the exchange rate current at the time of payment to the foreign firm.

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We are sending copies of this letter to Pratt & Whitney Aircraft of West Virginia, Inc.; Pratt and Whitney Aircraft of Canada, Ltd.; the Director, Office of Management and Budget; the Secretary of the Navy; the Commander, Naval Air Systems Command; and the Director, Defense Contract Audit Agency. We are also sending copies to the Chairmen of the Senate and House Committees on Appropriations and Armed Services, the House Committee on Government Operations, and the Senate Committee on Governmental Affairs.

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

B-168450

We would appreciate receiving your comments on these matters and would be pleased to discuss any questions that you may have.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "J. H. Stolarow". The signature is written in black ink and is positioned above the typed name.

J. H. Stolarow  
Director

Enclosure

OFFICE OF THE AUDITOR GENERAL



CANADA

BUREAU DU VÉRIFICATEUR GÉNÉRAL

Ottawa, Ontario  
K1A 0G6

April 6, 1979

Mr. James J. Macdonell, F.C.A.,  
Auditor General of Canada,  
240 Sparks Street,  
Ottawa, Ontario,  
K1A 0G6

Dear Mr. Macdonell:

In accordance with the Memorandum of Understanding between you and the Comptroller General of the United States, an audit team consisting of staff members from the Office of the Auditor General of Canada (OAG), assisted by staff of the General Accounting Office (GAO) has reviewed cost and pricing data used by Pratt and Whitney Aircraft of Canada, Ltd., Longueuil, Quebec, (the Subcontractor), in its preparation of proposals sent to Pratt and Whitney Aircraft of West Virginia, Inc., Bridgeport, West Virginia, (the Contractor). The Contractor used these proposals in his negotiations of two contracts with the Naval Air Systems Command, Washington, D.C.

In doing this work we considered the prime contract terms and the provisions of US Public Law 87-653, commonly referred to as the "Truth in Negotiations Act", the US Defense Acquisition Regulation, the provisions of Supply and Services Canada Costing Memorandum 1031, and generally accepted accounting principles used in Canada. The OAG/GAO team performed the work at the Subcontractor's plant in Canada. OAG staff members performed all work at Canadian Government agencies.

The Defense Acquisition Regulation, in implementing Public Law 87-653, requires, with certain exceptions, that contractors submit cost and pricing data in support of proposed prices for noncompetitive contracts over \$100,000. If the proposed price includes major subcontract items, the contractor is required to obtain, and submit to contracting officers, the subcontractor's cost and pricing data in support of such items. As of the time of agreement on contract price the prime contractor is required to certify that both his and the subcontractor's cost and pricing data are accurate, complete and current. A clause in the contract gives the US Government the right to recover any amount by which the contract price is overstated because of its reliance on inaccurate, noncurrent or incomplete data. In determining the amount of any adjustment, the contracting officer shall consider as offsets any amounts by which the contract price is understated because of the contractor's inadvertent reliance on inaccurate, non-current, or incomplete data.



As shown in the attached report, we believe that the price proposal for the subcontract under contract N00019-72-C-0592 was overstated by \$34,147 and that the price proposal for the subcontract under contract N00019-73-C-0333 was understated by \$1,426,860 because accurate, complete and current data had not been made available to the US Contracting Officer. However, we believe that two items in the price for contract -0333, namely contingency and warranty, should be reviewed by the US Contracting Officer to determine their allowability.

When the price estimate for contract -0333 was submitted, the T402 engine was not entirely developed, and the Subcontractor expected certain technical changes in order to meet contract specifications. He provided for these changes in his estimate. In so doing, he also included a contingency or estimating allowance to cover the cost of additional design and development work that he felt would be required to meet contract specifications since he had agreed to accept all risk of development. The inclusion of a contingency allowance is permissible under the US Defense Acquisition Regulation, but must be disclosed to the US Contracting Officer for negotiation. Since this did not occur we feel that the US Contracting Officer was not fully informed in making his decision on the allowability of this cost or in negotiating the profit margin, which included a risk factor, and believe that he should make a final determination as to its allowability.

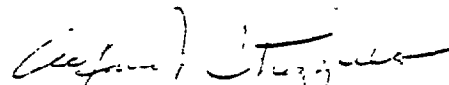
In the case of the warranty, the Contractor had notified the Naval Air Systems Command that no provision for warranty was included in his price proposal. However, we found that \$139 per unit was included in the Subcontractor's price proposal and was incorporated into the total contract price. As for contingency, we believe that the US Contracting Officer should determine the allowability of the warranty cost since it is not clear on what basis he negotiated the contract with respect to warranty.

The total cost included in the Subcontractor's price for these two items is \$1.8 million. If the US Contracting Officer determines that these costs are not allowable, the subcontract price under contract -0333 would have been overstated by \$.4 million.

Yours very truly,



H.E. Hayes,  
Principal, Audit Operations,  
Office of the Auditor General,  
Ottawa, Ontario.



Alfonso J. Strazzullo,  
Regional Manager,  
Norfolk Regional Office,  
General Accounting Office,  
Virginia Beach, Va.

ENCLOSURE I

ENCLOSURE I

PRICES NEGOTIATED FOR T400-CP-400  
AND T400-WV-402 ENGINES  
PURCHASED FROM PRATT AND WHITNEY  
BY THE UNITED STATES  
NAVAL AIR SYSTEMS COMMAND

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## ENCLOSURES

1. Letter from Pratt and Whitney Aircraft of Canada Ltd. dated August 23, 1978.

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I. INTRODUCTIONGeneral

1.1 On September 29, 1972, the Naval Air Systems Command, Washington, D.C., awarded contract N00019-72-C-0592 for 63.2 equivalent engines 1/ to Pratt and Whitney Aircraft of West Virginia, Inc., Bridgeport, West Virginia (formerly United Aircraft of West Virginia) at a price of \$9,015,747. On July 18, 1973, contract N00019-73-C-0333 for 295.8 equivalent engines was awarded to the same Contractor at a price of \$48,292,115. These contracts included subcontract costs of \$6,113,176 and \$35,714,201 respectively, for the engine parts manufactured by Pratt and Whitney Aircraft of Canada, Ltd., Longueuil, Quebec. Under the change provisions of contract -0333 the Contractor was entitled to be reimbursed for engineering changes that were not provided for in the original contract.

1.2 The price proposal submitted by the Contractor for each contract included a line item for the cost of parts to be manufactured under the subcontract, for which he was not apparently provided with any detailed supporting data by the Subcontractor. The Contractor indicated in his price proposal that certification of these costs could be obtained from the Government of Canada. When agreement on price was reached, he certified that the cost and pricing data in both contracts were accurate, complete and current at a time near the date of the award of the contracts.

1.3 An agreement exists between the United States and Canada which provides that a contract for work to be performed by a Canadian firm for a US Government agency is to be made with and administered through the Canadian Commercial Corporation, a Canadian Government agency corporation.

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1/ The contract provides for the delivery of parts for a number of engines, gear boxes and power sections. In stating the contract quantity in a number of equivalent engines, two power sections and one gear box equal one engine.

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Since the subcontract was made directly between the US Contractor and the Canadian Subcontractor, it was not therefore covered by this agreement. Nevertheless, during the negotiations of the two contracts, the Naval Air Systems Command informally requested the Corporation to review the Subcontractor's estimates. The Corporation advised that the quoted prices were fair and reasonable.

1.4 As part of a nationwide review of the pricing of noncompetitive prime contracts awarded by the Department of Defense of the United States, the General Accounting Office (GAO) decided to perform a review of the two contracts. During the review of the prime contracts, because of the significance of the subcontract cost, the GAO found it necessary to audit the price estimates of Pratt and Whitney Aircraft of Canada, Ltd., the Subcontractor. A Memorandum of Understanding was then negotiated between the Comptroller General of the United States and the Auditor General of Canada, under which the cost and pricing data used by the Subcontractor in preparing his estimates for the Contractor would be reviewed by the Office of the Auditor General of Canada (OAG) assisted by staff of the GAO.

1.5 The Defense Acquisition Regulation requires, in accordance with Public Law 87-653, that with certain exceptions, contractors submit cost and pricing data in support of proposed prices for noncompetitive contracts over \$100,000. If the proposed price includes major subcontract items, the contractor is required to obtain and submit to contracting officers the subcontractor's cost and pricing data in support of such items. The prime contractor is required to certify that both his and the subcontractor's cost and pricing data are accurate, complete and current as of the date of agreement on contract price. A defective pricing clause provides for an adjustment to exclude any significant sums by which it may be determined that the price was increased because the contractor furnished cost and pricing data which as of the date of agreement on contract price was inaccurate, incomplete or noncurrent. In determining the amount of an adjustment, the contracting officer shall consider as offsets any amounts by which the contract price is understated because of the contractor's inadvertent reliance on inaccurate, incomplete, or non-current data.

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Subcontractor's Procedures

1.6 According to the Subcontractor, he uses the same estimating method for commercial or governmental contracts.

1.7 The Subcontractor uses a standard cost accounting system for each activity. Material, labour, and overhead are charged to production at standard costs and variances are recorded and charged to the cost of goods manufactured. Generally, every six months, a revised engine standard cost by part is developed, using data maintained for vendor charges and labour hour information.

1.8 Material, labour and overhead make up the standard factory cost. Rates for indirect cost factors such as unabsorbed overhead and inventory adjustments are applied to these categories of cost to arrive at total cost. The rates are based on budgeted expenses and forecasts for the level of activities to which they relate. They are revised and negotiated annually with Supply and Services Canada and used for the pricing of all governmental contracts.

1.9 The Subcontractor's estimates and workpapers in support of the subcontracts under review were available. Overall budget figures used in the computation of indirect cost rates were available, but supporting data had been destroyed. However, actual cost data were available.

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II. SCOPE

2.1 The objective of our review was to determine whether the cost and pricing data submitted by the Subcontractor were accurate, complete and current.

2.2 We reviewed the method and procedures followed by the Subcontractor in preparing his estimates as well as his method of establishing and revising standard costs. We traced the standard figures used back to support documentation such as purchase orders, machine runs of labour hours, union agreements and ledger cards. This necessitated a detailed review of costs because the Subcontractor's cost accounting system did not include a job costing system which would have permitted comparison of the cost information with the costing data included in his price proposals.

2.3 Certain rates for indirect costs used by the Subcontractor in his estimates for governmental contracts, are negotiated annually with Supply and Services Canada. The OAG reviewed such workpapers, reports, and other documentation necessary to support these rate negotiations.

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III. AUDIT RESULTS OF SUBCONTRACT UNDER CONTRACTNO0019-72-C-0592Summary

3.1 Agreement on price between Pratt and Whitney Aircraft of West Virginia, Inc., and the Naval Air Systems Command was reached on July 7, 1972, and the Certificate of Current Cost and Pricing Data for this contract was effective as of July 7, 1972. We considered data current if it was available at that date under the Subcontractor's normal procedures of recording, collecting and reporting data.

3.2 The original estimate for the contract was for 20 engines. Subsequent changes increased the quantity to 65.2 equivalent engines and later reduced it by 2 engines, with 41 to be delivered in 1973 and 22.2 in 1974.

3.3 The first estimate, prepared on March 3, 1972, considered that the engines would be delivered in 1973. To arrive at the unit price, the Subcontractor used an engine standard cost dated February 7, 1972, applied standard labour and overhead rates computed in October 1971, and preliminary indirect cost rates for 1972. A profit rate was added to the unit cost together with an amount for engineering change proposals known at that time. In preparing the estimate for the additional 45.2 equivalent engines, the Subcontractor included an escalation allowance for engines to be delivered in 1974.

3.4 The proposed cost for the 41 engines and 22.2 engines was overstated by \$528 and \$563 per unit respectively based upon cost and pricing data available at the time of the price agreements in July 1972. The following is a summary of differences in costs by cost element:



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<u>Differences</u>	<u>Over (Under) Statement</u>	
	<u>41 engines</u>	<u>22.2 engines</u>
Standard factory cost		
Material	\$ 632	\$ 657
Labour and overhead	<u>1,007</u>	<u>1,068</u>
	1,639	1,725
Other costs including variances	<u>(1,111)</u>	<u>(1,162)</u>
Unit cost - Canadian dollars	528	563
Conversion to US dollars (\$1 US to \$1 Can)	-	-
Unit cost - US dollars	<u>\$ 528</u>	<u>\$ 563</u>

This resulted in the Subcontractor's price proposal being overstated by US \$34,147. Comments follow on each cost element.

#### Material

3.5 Material purchases are recorded on vendor charge cards within a week after the purchase order is issued. To assure data availability, as of certification date, July 7, 1972, we only used purchase orders dated prior to June 19, 1972. We found that the Subcontractor had not used the most current data available and had applied a provision for escalation for a longer period than was necessary.

3.6 Using the most current data, with an adjusted provision for escalation for the shorter period involved, there was an overstatement of \$632 per unit for the 41 engines and \$657 per unit for the 22.2 engines.

#### Labour and Overhead

3.7 Labour hour standards were adjusted periodically based on a comparison of actual hours incurred and the standard hours allowed for various operations. We considered hour standards data to be available if they were recorded by June 19, 1972. Labour hour rates had been changed effective May 1, 1972, based on recent actual labour costs and hours. These computations, however, were not available. Therefore, we used the actual data for the six month period ending March 31, 1972, for our calculation of standard labour costs. Since

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overhead rates had also been changed effective May 1, 1972 we used these rates with minor adjustments to compute the standard overhead cost. We found that the Subcontractor had not used the most current labour and overhead costs.

3.8 Using the most current data there was an overstatement of \$1,007 per unit for the 41 engines and \$1,068 per unit for the 22.2 engines.

Other Costs including Variances

3.9 Since negotiated rates for these costs were not available at the time the price estimates were submitted, the Subcontractor used preliminary 1972 rates although, by the time of certification, negotiated 1972 rates were available. Using the most current negotiated rates as the best data available, the Subcontractor's cost was understated by \$1,111 per unit for the 41 engines and \$1,162 for the 22.2 engines.

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IV. AUDIT RESULTS ON SUBCONTRACT UNDER CONTRACTN00019-73-C-0333Summary

4.1 Agreement on price was reached sometime in March 1973, and the Certificate of Current Cost and Pricing Data for this contract was effective as of April 19, 1973. We considered data current if it was available at that date under the Subcontractor's normal procedures of recording, collecting and reporting data.

4.2 The estimate for the subcontract was prepared in December 1972 as though the items were to be delivered in 1973. To compute the unit price, the Subcontractor used an engine standard cost dated November 14, 1972, and applied standard labour and overhead rates computed in October 1972, indirect cost rates for 1972/73, and a profit rate. Provision was made for escalation of the prices since all of the units were actually to be delivered subsequent to 1973.

4.3 The proposed cost for the engines was about \$3,656 per unit lower than supported by the cost and pricing data available. The following is a summary of differences in costs by cost element.

<u>Differences</u>	<u>Over (Under) Statement</u>
Standard factory cost	
Material	\$ (1,367)
Labour and overhead	72
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	(1,295)
Other costs, including variances	(2,288)
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Unit cost - Canadian dollars	(3,583)
Conversion to US dollars (\$1 US to \$.98 Can.)	(73)
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Unit Cost - US dollars	\$ (3,656)
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This resulted in the Subcontractor's price proposal being understated by US \$1,081,445. On the basis of the actual delivery dates and escalation for the year of delivery the actual understatement amounted to US \$1,426,860.

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4.4 Our review of material and other cost elements was accomplished in the same manner as for contract -0592. Comments follow on each cost element.

Material

4.5 To assure data availability, as of certificate date April 9, 1973, we only reviewed purchase orders dated prior to March 26, 1973. We found that the estimate for material was not based on the current data. Using the most current data, there was an understatement of \$1,367 per engine.

Labour and Overhead

4.6 Between the time the estimate was prepared and the date on which agreement on price was reached with the US Government, standard hours had changed for some parts. The Subcontractor used standard labour and overhead rates that were effective in October 1972. Since he had recomputed standard labour and overhead rates that were effective as of April 1, 1973, we used these rates with minor adjustments to compute the standard overhead cost. This resulted in a net overstatement of \$72 per unit.

Other Costs including Variances

4.7 Since negotiated rates for these costs were not available at the time the price estimates were submitted, the rates used by the Subcontractor were 1972 rates. By the time of certification negotiated 1973 rates were available. Using these rates, there was an understatement of \$2,288 per unit.

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V. SUBCONTRACT COSTS UNDER CONTRACT N00019-73-C-0333  
TO BE REVIEWED FOR ALLOWABILITY

Contingency

5.1 The Subcontractor included in his price a contingency allowance of 4 percent of material, labour and overhead costs. This was defined later as an estimating allowance for technical changes.

5.2 At the time the price estimate was submitted, the T-402 engine was not entirely developed, and the Subcontractor expected certain technical changes in order to meet contract specifications. He provided for these changes in his estimate. In so doing, he also included a contingency allowance to cover the cost of additional design and development work that he felt would be required to meet contract specifications since he had agreed to accept all risk of development.

5.3 According to section XV of the US Defense Acquisition Regulation, such a contingency allowance may be acceptable in certain circumstances, subject to negotiation. As far as we could determine the existence of the contingency allowance was not made known to the prime contractor or to the contracting officer; neither was Supply and Services Canada aware of this allowance. Therefore, we believe that the contracting officer should make a determination as to its allowability as a contract cost. The total cost applicable to this allowance is \$1,601,510.

Warranty

5.4 According to our information the Contractor had notified the Naval Air Systems Command that no provision for warranty was included in the price. The Subcontractor's records showed \$139 per unit for warranty. The Subcontractor, upon receipt of our draft report, stated that the reference to warranty applied only to commercial warranty and the costs included were for his normal military warranty. The cost applicable to this allowance is \$221,371. As for contingency, we believe that the contracting officer should determine the allowability of the warranty cost.

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VI. REVIEW OF SUBCONTRACTOR'S COMMENTS

6.1 The Subcontractor in his letter of January 29, 1979, copy attached, disagreed with the three main points in our report that the cost data used were not current for both contracts and the review of the allowability of costs with respect to warranty and contingency under contract -0333.

6.2 The Subcontractor contends that his prices were based upon accurate and current data applied in a consistent manner under the procedures used when the Canadian Government acquires goods and services for the United States Government under the Defense Sharing Agreement between the two countries. As stated in our report, these subcontracts were not covered by that Agreement. We have therefore relied upon the Contractor's certificate, as required by US Public Law 87-653, to the effect that the cost and pricing data were accurate, complete and current as of the date of agreement on contract price. The data were not current under the provisions of that Law.

6.3 With reference to the provision for warranty costs, the Subcontractor states that there was a warranty clause in his contract and that he honoured warranty claims under this clause. This clause covers defects in materials and workmanship and is commonly referred to in Canada as military warranty. The associated costs are also regarded in Canada as a cost of manufacture, for which an overhead rate is negotiated by Canadian Government officials and used for all government contracts. The Canadian Commercial Corporation therefore would have this knowledge when reviewing the Subcontractor's cost estimate. The question is did the US Contracting Officer have the same understanding of the warranty (defects) clause included in the contract.

6.4 In submitting his price proposal, the Contractor stated that the prices did not contain any provision for warranty. The price supporting documentation stated that certification of the Subcontractor's costs included in his price proposal could be obtained from the Canadian Government. From the standpoint of the audit in Canada, the US Contracting Officer would appear to have been furnished by telephone with a summarized breakdown of this estimate

which showed that warranty costs were included. From the standpoint of the audit in the US, we have been advised that there is no record of this information in the US Contracting Officer's files, nor is there a record of the receipt of the telephone call. It is therefore not clear on what basis he negotiated the contract with respect to warranty and it is up to him to determine whether this subsequently presented data should be considered.

6.5 With reference to contingency, the Subcontractor says that it was recognized that the T402 engine was not fully defined to meet contract specifications and that additional design and development work would be required. He further states that, because it is impossible to accurately predict the cost of doing design and development work to achieve a precise objective this type of work is normally done under a cost reimbursement contract. However, because of funding constraints, he eventually agreed to a firm fixed price contract and to accept all risk of development even though the specification might be difficult to achieve.

6.6 In instances where an engine is not fully defined to meet specifications, the Subcontractor states that he followed his normal costing procedure of including an estimating allowance in developing his future standard costs. This allowance (4 percent) was classified as a contingency in his cost documentation. The purpose of this allowance seems to conform to the US Defense Acquisition Regulation definition of contingency as "... a possible future event or condition arising from presently known or unknown causes, the outcome of which is indeterminable at a present time." In connection with estimates of future costs, the Regulation further states that costs "which may arise from presently known or unknown conditions the effect of which cannot be measured so precisely as to provide equitable results to the contractor and to the Government .... are to be excluded from cost estimates .... but should be disclosed separately, including the basis upon which the contingency is computed in order to facilitate the negotiation of appropriate contractual coverage." We therefore feel that the US Contracting Officer was not fully informed in making his decision on the allowability of this cost or in negotiating the profit margin, which included a risk factor, and believe that he should make a final determination of the allowability of the contingency or estimating allowance.

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29 January 1979

Mr. E. E. Hayes,  
Principal, Audit Operations,  
Office of the Auditor General,  
240 Sparks Street,  
Ottawa, Ontario

Dear Mr. Hayes:

As you requested, we set forth below our comments on the final draft audit report enclosed with your letter of December 1, 1978.

We continue to believe that the prices agreed to under the contracts referred to in your letter, including the Iranian Export contract, were based upon accurate and current data applied in a consistent manner. Our standard cost accounting system and our method of pricing are reviewed on a continuing basis by the Canadian Government and have been found satisfactory. In fact, the U.S. Navy requested and received from the Canadian Government an opinion to the effect that the prices quoted were fair and reasonable. The assurance was obtained under a procedure used in circumstances where the Canadian Government, through the Canadian Commercial Corporation, acquires goods and services for the United States Government under the Defense Sharing Agreement between the two countries.

We believe the "warranty" and "contingency" items dealt with in your draft report warrant further comment.

With respect to the provision for warranty costs, our contract did in fact contain a warranty clause and we have honoured warranty claims under the clause. There may have been some confusion in the minds of your auditors, in part generated inadvertently by the prime contractor, which led you to the conclusion that we had no warranty obligation. In this regard, we restate our earlier explanation that the military price negotiated excluded the extended commercial warranty and the associated cost, and that the Prime Contractor's letter was intended to convey this fact to the customer.



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The draft report characterizes our cost provision for technical changes required to meet contract specifications as a contingency allowance and states the contract provided that we were entitled to be reimbursed for engineering changes that were not known at the time the contract was executed. These conclusions are not correct. We were totally responsible for meeting contract specifications and the engineering change clause of the contract applied only to subsequent changes in specifications directed by the contracting officer. Costs associated with directed engineering changes were not included in the price of the engine.

Historically, we have estimated costs using such an estimating allowance on engines, both military and commercial, in all instances where the engine is not fully defined to meet specifications. This method of developing future standard costs is based on prior experience and is in no way an unsupported contingency. We believe our practice is sound and proper under the circumstances. In this particular instance it would be useful to review the background of this contract to further illustrate the propriety of our methods in relation to contract N00019-73-C-0333 to the U.S. Government which covered engines purchased for resale to the Government of Iran.

Unusual Iranian climate and topography required that the Iranian version of the AH1J and UH1N helicopters operate at different specification than the other versions. Accordingly, it was agreed that using Iranian funds, the United States Navy (USN) would contract with Pratt and Whitney Aircraft of Canada Limited (P&WC), through the Canadian Commercial Corporation, to develop a military engine meeting such requirements to be designated the T400-WV-402.

As it is impossible to accurately predict the cost of doing design and development work to achieve a precise objective, such work is normally done under cost reimbursement contracts. This was recognized by the USN and P&WC, but constraints on the method of supply of the Iranian funding made it necessary that a firm fixed price contract should be used in this instance. Under the circumstances, P&WC agreed, after a thorough discussion, including participation by the Canadian Government, to use the fixed price format and to accept all risk of development even though the specification might be difficult to achieve.

Development of the T400-WV-402 engine proved more difficult than anticipated. The engine could not be qualified to the required specification at the time anticipated. To meet the Iranian schedule an interim T400-WV-402 engine was agreed to be delivered. This engine incorporated all improvements available at that time and was cleared for an interim level of operation. Delivery of these production engines commenced on schedule.

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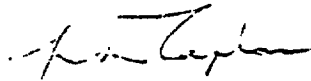
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The T400-WV-402 engine meeting the final specifications was subsequently qualified in March 1975 at a total unanticipated cost to P&WC of \$3,214,000. The interim engines delivered consisted of 85 complete engines and 27 spare power sections. Subsequently, retrofit kits which met the original design objective were supplied by P&WC at no charge.

These circumstances clearly demonstrate the necessity for P&WC's normal practice to provide an estimating allowance in developing the estimated future standard cost of an engine.

In summary, we believe the prices agreed to were fair, reasonable, based on sound practice, accurate and current.

Yours Sincerely,



L. D. Caplan,  
Vice President  
Finance and Administration

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