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RELEASED

B-206386

SEPTEMBER 30, 1982

The Honorable Jack Brooks  
Chairman, Committee on  
Government Operations  
House of Representatives

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Dear Mr. Chairman:

Subject: Air Force Teleprocessing Services Procurement  
for the COPPER IMPACT System Should be Reopened  
(GAO/AFMD-82-112)

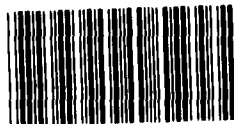
In your January 7, 1982, letter (encl. I), you asked us to review the award of teleprocessing services contracts for the Army REQUEST-RETAIN and Navy PRIDE systems. Our report on these contracts (AFMD-82-51) was sent to you on March 24, 1982. Your letter also asked for a longer term review to determine if a similar pattern of abuse exists in other agencies. As part of this longer term project, we reviewed the Air Force COPPER IMPACT contract F49642-82-D0012 awarded to Boeing Computer Services Company (Boeing) on March 1, 1982.

Teleprocessing services provided by this contract could cost the Government far more than has been estimated. The increased cost could result from the fact that the contract contains an unbalanced pricing structure. (Unbalanced pricing allows the cost to increase disproportionately or the discount to decrease as the level of use increases.) The problem created by unbalanced pricing was compounded by the fact that the Air Force did not use a representative system workload for the benchmarking test, and actual use may well exceed that expected. We are making this interim report because we believe immediate action should be taken to terminate this contract for the convenience of the Government and to reopen the procurement.

OBJECTIVES, SCOPE, AND METHODOLOGY

This review was performed in accordance with GAO's current "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions." The objectives of this review were to determine whether the contract

- contains unbalanced pricing and
- could result in excessive costs to the Government.



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We interviewed Air Force officials to obtain information regarding the contract, the workload, and the benchmark: the COPPER IMPACT project officer, the assistant project officer, and the contract officer. We held discussions with representatives of the General Electric Information Services Company regarding the system workload, and with representatives of the Mathematica Products Group, Inc., regarding its RAMIS II data base management system (DBMS) 1/ which the COPPER IMPACT system is to use. We also held discussions with officials of the General Services Administration regarding its procurement regulations. We analyzed the new COPPER IMPACT contract and prior General Electric billings. We reviewed correspondence and other documents supplied by the Air Force, General Electric, Martin Marietta Data Systems, and GSA.

### BACKGROUND

COPPER IMPACT 2/ is a system used by the Air Force, the Army, the Navy, the National Aeronautics and Space Administration, the Department of Energy, and the Defense Logistics Agency procurement communities. Each agency controls its own use of the system and is billed directly by the contractor. However, the Air Force obtained a delegation for procurement authority from GSA to acquire services under the Teleprocessing Services Program Basic Agreement 3/ to support all users of COPPER IMPACT.

On September 16, 1981, GSA amended the Basic Agreement to prevent unbalanced pricing. The amendment (Amendment 4, paragraph E.18, "Pricing Clauses for Proposals") delineates pricing provisions for contracts under the Basic Agreement. (See encl. II, p. 11.) In brief, the amendment provides that unit prices cannot increase as the level or quantity of service increases, and prices of one element cannot be tied to use of another. Also, the percentage of discount cannot decrease as the level of use increases. The Air Force request for proposals included this amendment.

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1/A data base management system is a computer software package which can facilitate the management, manipulation, and control of data.

2/COPPER is an Air Force procurement designation, and IMPACT is an acronym for Improved Modern Pricing and Costing Techniques.

3/The Teleprocessing Services Program is centrally managed by GSA and provides agencies with an efficient means of acquiring commercial ADP services under prearranged terms and conditions. The Basic Agreement is an agreement between GSA and a number of teleprocessing services vendors. It contains standard provisions, other than technical or cost, that apply to all procurements negotiated under its provisions. See Federal Procurement Regulation 1-4.1209.

In March 1982, the Air Force awarded a 5-year contract to Boeing at an evaluated annual cost of about \$426,000 for tele-processing services. Although the pricing clauses of Amendment 4 applied, the contract contains two price plans which are based on levels of service, thereby violating those clauses.

One price plan, essentially low cost, is limited to processing that can execute within a fixed virtual machine core 1/ memory size of 420,000 characters and that does not use a surcharged software package. 2/ This plan has a 58-percent discount on interactive processing charges. The second price plan, essentially high cost, applies to all service outside these limitations and has a 30.5-percent discount on processing and connect charges.

Because it determined that its processing would use no more than 420,000 characters, the Air Force evaluated only the low cost plan as the basis for contract award.

GSA RECOMMENDATION FOR CORRECTIVE  
ACTION REJECTED BY AIR FORCE

Although GSA formally notified the Air Force that the pricing clauses of its contract with Boeing did not comply with the price and discount provisions of the Basic Agreement, the Air Force dismissed GSA's concerns as unwarranted. The Air Force contends that the contract does not contain an unbalanced pricing structure and, therefore, has not followed GSA's recommendations to terminate the contract. Based upon our review of Amendment 4, the COPPER IMPACT contract, and GSA-Air Force correspondence, we have concluded that GSA's interpretation of this contract is correct and its recommendations are appropriate.

GSA reviewed the Boeing contract after other vendors expressed concern that the contract contained unbalanced pricing. In a June 4, 1982, letter to the Air Force, GSA stated that the contract with Boeing contained prices and discounts which did not comply with paragraph E.18 of the Basic Agreement and enclosed a detailed technical review. The review cited

--an increase in unit prices as the quantity or level of service increased and

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1/Virtual machine is an operating software simulation of a computer and its memory storage devices where the space on storage devices may be regarded as main storage by the functional user. Core is a common term for main storage.

2/In this context, a software package is a set of computer programs, procedures, and associated documentation which is designed to facilitate the accomplishment of a specific task.

--prices and discounts of one element of service tied to another element of service.

The review also illustrated that the net effect of the two COPPER IMPACT pricing plans was the creation of a "pricing window" where the low cost plan coincided with the benchmark test 1/ and the cost evaluation model.

GSA concluded it was highly probable that actual costs would be significantly higher than estimated costs, and recommended that the Air Force

- immediately stop conversion of software to the Boeing system,
- terminate the Boeing contract, and
- reopen the procurement to allow the original, technically qualified offerers to submit new proposals conforming to the Basic Agreement.

The Air Force responded on June 16, 1982, that GSA's interpretation of Amendment 4 "greatly expands its intended scope." The letter also stated that the contract did not contain an unbalanced pricing structure and the Air Force saw no valid reason to terminate it. The Air Force further said it would await our decision on a bid protest charging that the Air Force, in evaluating proposals for the COPPER IMPACT contract, failed to properly apply the rules of Amendment 4.

GSA wrote a second letter to the Air Force on July 30, 1982, to reaffirm its earlier conclusions and to ask that the Air Force Auditor General conduct a review of the COPPER IMPACT contract.

In reply to GSA's second letter, the Air Force wrote on August 17, 1982, that its review of the source selection process by staff specialists led to the conclusion that Amendment 4 had not been violated. The Air Force further stated that

- withdrawal of the bid protest (on July 23, 1982) lent credence to its conclusion,
- program conversions were being accomplished well within contract core limitations,

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1/A benchmark, as used here, is a set of computer programs and associated data tailored to represent a particular workload and used to evaluate system performance and cost. In many teleprocessing services acquisitions, the benchmark is the primary evaluation tool and is used to project the system life cost of each vendor.

--the contract would be monitored by experienced procurement personnel, and

--the "surveillance the AF is giving this contract obviates the need for further review by the AF Auditor General."

The Air Force has remained firm in its support of the COPPER IMPACT contract, and GSA is deliberating as to its next course of action.

WE BELIEVE THE AIR FORCE IS WRONG

The Air Force's COPPER IMPACT contract contains unbalanced pricing, its speculation on the reason for withdrawal of the bid protest is unfounded, and it has been unresponsive to GSA's concerns.

Our review of the COPPER IMPACT contract has identified provisions which violate almost all of the Amendment 4 pricing clauses. Specific pricing clauses and the reasons we believe they are violated are cited in enclosure III.

Regarding the bid protest to us, the letter of withdrawal made no statement which could be interpreted as supporting the Air Force position. On the contrary, the letter reiterated the vendor's concern with the problem of unbalanced pricing and said "the government should take upon itself the responsibility for 'policing' and enforcing its policies and regulations." We believe this is what GSA has tried to do.

We also believe that the Air Force has been unresponsive to GSA's concerns. After the Air Force dismissed GSA's initial recommendations, GSA asked that the Air Force Auditor General conduct a review of the COPPER IMPACT contract. Instead, Air Force systems command staff reviewed the selection process, and the Air Force stated that a review by its Auditor General would be unnecessary because its own staff would monitor the contract.

UNBALANCED PRICING PLUS UNEVALUATED  
WORKLOAD COULD PRODUCE DISPROPORTIONATE COSTS

The Air Force did not use a representative system workload for the benchmark test. When actual work begins, the unbalanced pricing of the contract, combined with unrepresentative workload factors, could result in disproportionately higher costs to COPPER IMPACT users.

The contract specifies that the contractor will supply a "generalized data management system, including the ability to relate data elements, create and update random data sets, retrieve data, and produce printed reports." The Air Force

benchmark, however, tested only the data storage and access functions of the DBMS. Although the tested functions used less than 420,000 characters of core and were thus evaluated under the low cost plan, the untested DBMS functions could exceed this core limitation.

Mathematica Products Group, Inc., the developers of the RAMIS II DBMS used at Boeing, told us the smallest version of its system uses 512,000 characters of virtual machine core in Boeing's operating environment. Any COPPER IMPACT processing which used the full range of DBMS functions would, therefore, exceed the 420,000 character limitation and would be charged according to the high price plan.

Another factor that could cause higher costs is the volume of DBMS use. The benchmark estimate of volume, which was used in cost proposal evaluation, is open to question. The Air Force said DBMS use is only 25 percent of its processing. However, representatives of General Electric, the COPPER IMPACT contractor from 1972 to 1982, said that DBMS use is currently 60 percent of the total workload and predicted it will increase to 80 percent within a few years.

Accurate workload estimates are of particular importance to the COPPER IMPACT contract because it is a multiagency system. While the Air Force can monitor and control its own processing, it cannot control all system use. The five other participating agencies operate independently and control their own processing, and each receives a separate monthly invoice. Despite these facts, the Air Force evaluated only Boeing's low cost plan for contract award and claimed that system use would remain within its limitations. The Air Force later estimated that any processing under the high cost plan would cost approximately six times that of the low cost plan.

### CONCLUSIONS

We believe the Air Force can obtain more accurate system life costs and can save the Government money by adjusting its workload estimates and reopening this procurement. We agree with GSA that the Boeing contract for COPPER IMPACT violates Amendment 4, and we believe that any COPPER IMPACT use of the DBMS on Boeing's computer system will cause contract costs to escalate far beyond Air Force estimates. We also believe that the Air Force has not provided a proper response to GSA's concerns.

### RECOMMENDATIONS

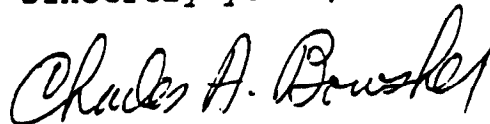
We recommend that the Secretary of the Air Force terminate the COPPER IMPACT contract for the convenience of the Government. We also recommend that the Secretary require benchmark and workload estimate revisions, to incorporate potential DBMS use, and

reopen the procurement to receive a new, best and final proposal from each of the original, technically qualified vendors.

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As you requested, no official comments were obtained from the Air Force on our findings, conclusions, and recommendations. As arranged earlier with your office, unless you publicly announce the contents earlier, we plan no further distribution of this report until 30 days from its date. At that time we will send copies to interested parties and will make copies available to others on request.

Sincerely yours,



Comptroller General  
of the United States

Enclosures - 3

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NINETY-SEVENTH CONGRESS

**Congress of the United States**  
**House of Representatives**

COMMITTEE ON GOVERNMENT OPERATIONS

2157 Rayburn House Office Building

Washington, D.C. 20515

January 7, 1982

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MAJORITY—225-9051  
 MINORITY—225-9074

The Honorable Charles A. Bowsher  
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 General Accounting Office  
 441 G Street, N.W.  
 Washington, D.C. 20548

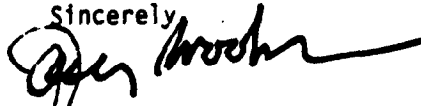
Dear General:

I have recently been made aware of two ADP telecommunications procurements that have resulted in the government being billed anywhere from 30 to over 100 times as much as the winning vendor's evaluated system life costs. In one case, the Navy for its Project PRIDE awarded a contract where the evaluated costs were about \$12,000 per month whereas the first month's bill was \$350,000. In the other case, the bill expected by the Army for its Project Request and Retain was \$10,000 per month but the actual first month's bill was \$1.3 million. These contracts not only represent a waste of the taxpayers' money, but also show DOD's continued inability to efficiently manage its ADP resources.

I request that GAO undertake an immediate investigation to determine (1) what conditions led to the award of these two specific contracts, including the officials responsible for these procurements, and (2) whether these contracts should be immediately recompeted. While this review should be completed within 30 days, I request that GAO initiate a longer term review to determine if a similar pattern of abuse exists in the award of teleprocessing contracts in other agencies and what actions can be taken to remedy this situation on a government-wide basis. Since Dr. Carl Palmer of the Accounting and Financial Management Division is already familiar with these contracts, I request that Dr. Carl Palmer be assigned this review.

With best wishes, I am

Sincerely,



JACK BROOKS  
 Chairman



(AM) ABC FORM 30 JULY 1966 FEDERAL SERVICES ADMINISTRATION D PROC (SG (AI) CMI) 1-16 101		<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		PAGE	OF
AMENDMENT/		1 Issue date	3 REQUISITION/PURCHASE REQUEST NO	4 PROJECT NO (If applicable)	
ISSUED BY		CODE	5 ADMINISTERED BY (If other than block 3)		
CONTRACTOR NAME AND ADDRESS		CODE	FACILITY CODE		
4 General Services Administration DTS Procurement Division DPCS, Room G-11 8th & F. Streets, N.W. Washington, D.C. 20405		6 AMENDMENT OF SOLICITATION NO <u>BASIC AGREEMENT</u> <u>GSC-CDPSS-A-00003-</u> <u>N-9-20-79</u> DATED <u>9-4-79</u> (See block 9)			
7 MODIFICATION OF CONTRACT/ORDER NO _____ DATED _____ (See block 11)					
THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS <input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment, (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
ACCOUNTING AND APPROPRIATION DATA (If required)					
THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12 (c) <input type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of _____ It modifies the above numbered contract as set forth in block 12.					
DESCRIPTION OF AMENDMENT/MODIFICATION					
THE ABOVE NUMBERED SOLICITATION FOR THE TELEPROCESSING SERVICES PROGRAM BASIC AGREEMENT, INDUSTRIAL GROUP 737, INDUSTRIAL CLASS 7374, IS HEREBY AMENDED AS INDICATED BELOW:  PART II, SECTION E - SPECIAL PROVISIONS (TECHNICAL), TABLE OF CONTENTS is revised to include Provision E.18, <u>PRICING CLAUSES FOR PROPOSALS</u> (see attached change page)  Part II, Page E-10, Provision E.12a, <u>BENCHMARKS/DEMONSTRATIONS</u> is revised (see attached change pages E-10, and E-11)  Part II, Provision E.18 <u>PRICING CLAUSES FOR PROPOSALS</u> is added (see attached page E-16).					
as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect					
<input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT		<input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN <u>2</u> COPIES TO ISSUING OFFICE			
NAME OF CONTRACTOR/OFFEROR		17 UNITED STATES OF AMERICA			
(Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)			
NAME AND TITLE OF SIGNER (Type or print)		18 DATE SIGNED	18 NAME OF CONTRACTING OFFICER (Type or print)		19 DATE SIGNED
			MAXINE ANDREWELT		

Amendment No.4 of Solicitation No.  
GSC-CDPSS-A-00003-N-9-20-79

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Amendment No.4 of Solicitation No.  
GSC-CDPSS-A-00002-N-9-20-79

E.18 PRICING CLAUSES FOR PROPOSALS

1. The unit price of any specific element for which there is a specific charge cannot increase as the level or quantity of service delivered increases.
2. The percentage (%) of discount or credit cannot decrease as level of usage increases.
3. Price, discount and/or credit of one element cannot be tied to usage of another element(s).
4. Any discounts, credits or discount levels earned or achieved by the Government cannot be lost (except for any billing errors which must be reviewed and processed on a case-by-case basis).
- 5a. A discount is not mandatory.
- 5b. A discount may be specified as a percentage across the entire workload range.
- 5c. If a discount structure is proposed, the discount(s) offered must increase at a progressive rate (see examples shown below):

The following are illustrative only and are not intended to specify a mandatory discount structure:

Structure (Example):

<u>Dollar Volume</u>	<u>Discount</u>
\$1 - \$20,000	a%
\$20,001 - \$40,000	a(\$20,000)+b(\$ in excess of \$20,000)
\$40,001 - \$60,000	a(\$20,000)+b(\$20,000)+c(\$ in excess of \$40,000)
etc	etc

Note: a, b and c are percentages

(Example)

<u>Dollar Volume</u>	<u>Discount (applied within dollar range)</u>
\$1 - \$20,000	10%
\$20,001 - \$40,000	\$2,000 + 15% (dollar volume in excess of \$20,000)
\$40,001 - \$60,000	\$5,000 + 20% (dollar volume in excess of \$40,000)
\$60,001 - and up	\$9,000 + 25% (dollar volume in excess of \$60,000)

COPPER IMPACT VIOLATIONS OF AMENDMENT 4Amendment 4 provision:

- "1. The unit price of any specific element for which there is a specific charge cannot increase as the level or quantity of service delivered increases."

COPPER IMPACT violations

- Unit prices for COPPER IMPACT interactive processing do increase when the quantity of core usage increases beyond 420,000 characters.
- Actual connect time is charged by thousandths of an hour when core use is limited to 420,000 characters. When this core limitation is exceeded, there is a minimum charge for 15 minutes, even though the actual connect time may be shorter.
- A \$15.00 per hour connect charge must be paid by any and all users added to the system after contract award.

Amendment 4 provision:

- "2. The percentage (%) of discount or credit cannot decrease as level of usage increases."

COPPER IMPACT violation

The percentage of discount decreases when more than 420,000 characters of virtual core are used. The COPPER IMPACT contract has two price plans. The low cost plan cannot use surcharged software packages and is limited to a fixed virtual machine core size of 420,000 characters. The high cost plan applies to all processing outside of these limitations. The high cost plan has a 30.5-percent discount on processing charges, while the low cost plan has a 58-percent discount.

Amendment 4 provision:

- "3. Price, discount and/or credit of one element cannot be tied to usage of another element(s)."

COPPER IMPACT violations

- Prices and discounts for interactive processing are tied to the amount of virtual core used.
- Prices and discounts for interactive processing are tied to use of surcharged software packages.

Amendment 4 provision:

"5c. If a discount structure is proposed, the discount(s) offered must increase at a progressive rate."

COPPER IMPACT violation

The low cost plan has a discount of 58 percent on processing charges. The high cost plan has a discount of 30.5 percent on processing charges.