BY THE U.S. GENERAL ACCOUNTING OFFICE

# Report To The Chairman, Government Operations Committee House Of Representatives

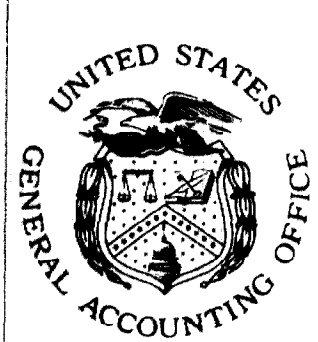
# Contracting For Computer Teleprocessing Services Can Be Improved

In fiscal 1982, Federal agencies spent between $154 and $164 million to purchase commercial teleprocessing services. Many agencies found that their costs for services were substantially higher than estimated.

In this study of 28 procurements of teleprocessing services, GAO found that cost overruns were prevalent among those contracts for which a cost analysis could be made. The principal causes of cost overruns for competitive contracts were inaccurate workload estimates and an unbalanced price structure; that is, low cost for a specific volume of work and high cost for work beyond that. The study also points out that costs for teleprocessing services could be reduced if the existing sole source contracts were replaced by competitive procurements. GAO found that management could do more to control high costs by charging the end users according to the services they receive and by acting promptly to replace contracts that have costs over estimates.

GAO recommends that all agencies maintain ongoing workload statistics to improve the accuracy of their contract estimates and obtain consultation from GSA to avoid unbalanced pricing. GAO also recommends a refinement of GSA's regulations to require early management reporting when costs exceed contract estimates.








GAO/AFMD-83-60
JUNE 20, 1983

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

ACCOUNTING AND FINANCIAL
MANAGEMENT DIVISION

B-206386

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

Dear Mr. Chairman:

In a January 7, 1982, letter you asked that we investigate cost overruns in the Government's procurement of teleprocessing services. That review was to be in two parts. First, you asked us to review two specific contracts with the Army and Navy where the Government was being billed for costs in excess of evaluated system life costs. Our report on those contracts was sent to you on March 24, 1982. (GAO/AFMD-82-51) Also, on September 30, 1982, we sent you a report bringing to your attention an Air Force teleprocessing services contract that we recommended be terminated. (GAO/AFMD-82-112)

The second part of your January 7, 1982, request was that we determine if the problem of cost overruns exists Government-wide and, if so, what actions can be taken to remedy the situation. We reviewed 28 of the larger teleprocessing services contracts representing a broad range of agencies, vendors, and contract types. This letter summarizes our findings and conclusions. A discussion of our scope and methodology as well as a more detailed discussion of the technical issues is in appendixes II through VII.

## TELEPROCESSING COST OVERRUNS

Cost overruns--that is, costs that exceed the contract award amount--are a common occurrence in teleprocessing services contracts. In our sample of 28 contracts--20 competitive and 8 sole source--we found cost overruns for 11 of the 17 competitive contracts where data were available to make the cost analysis. Although those 11 contracts were awarded for a total of $36.1 million, we project, based on current invoices, that the actual cost to the Government will be over $165.8 million. Cost overruns were not measurable in the eight sole source contracts in this sample. However, sole source contracts are generally not as cost effective as competitive contracts. According to Public Law 96-83, it is Government policy that better solutions and lower cost can generally be obtained through full and open competition.

The table in appendix VII details the contracts we reviewed.

## Costs for competitive contracts are difficult to evaluate

We found that agencies underestimate costs for teleprocessing services for two reasons: unrepresentative benchmark tests and unbalanced pricing. Most agencies use benchmark tests to evaluate competing vendors and to determine the contract award amount, but they have difficulty in constructing tests that accurately represent the volume and types of work performed. Further, vendors sometimes offer an unbalanced price structure; that is, low cost for a specific volume of work and high cost for work beyond that. Unbalanced prices can be difficult to detect because the agency usually evaluates only the low cost option that is designed to encompass the benchmark test. The combination of these--an inaccurate workload estimate and unbalanced pricing--constitutes an unbalanced proposal and has resulted in the highest cost overruns. (See app. III.)

We examined seven contracts where agencies had not accurately represented their actual volume or types of processing in their benchmarks and all seven had costs ranging from 123 to 388 percent over evaluated amounts. In three other contracts where unbalanced pricing alone was present, two agencies remained within cost projections and one contract was terminated before production began. However, when the proposal was unbalanced, as it was in five other contracts, significant cost overruns occurred. Although one contract had no current cost data, the other four had cost overruns of 615 to 13,468 percent. (See app. VII.)

In 1982 GSA incorporated pricing clauses as part of its standard contract provisions. The purpose of these clauses is to assure that costs do not increase disproportionately to volume. Although the pricing clauses should help reduce the incidence of unbalanced pricing, agencies will still need assistance from GSA in interpreting vendor cost proposals. (See app. III.)

## Competitive replacement of sole source contracts could reduce costs

In most instances, agencies renegotiate sole source contracts annually. They are usually able to predict future costs based on past experience with the same vendor, and thus seldom show cost overruns. However, we believe that sole source contracts are less cost effective than competitive contracts and should be replaced in all possible cases. Advance planning, which is necessary for all competitive contracts, is particularly important for sole source replacement. In some of the contracts we reviewed, agencies had continued in sole source contracts because they had made no plans to convert their computer programs. In other cases, agencies had continued in sole source contracts because of changes in management plans to bring the service in house. To assure competition, management should make long range plans and be committed to their fulfillment. (See app. IV.)

## Management could do more to control costs

The responsibility for controlling costs and taking appropriate action when cost overruns occur lies with agency management. In over half of the contracts we reviewed, management has not controlled cost by establishing procedures to account for and allocate all costs of data processing to the end users according to the service received. These principles were set forth both by us and the Office of Management and Budget.[1]

Management also tends to renew contracts through the system life and beyond, even when costs are significantly higher than original evaluations. In only two instances did management decide to reprocure a service it determined was too costly. Admittedly, there is no fast and easy way for management to replace a service. The procurement process could be shortened, however, if management anticipated the need for action by maintaining current requirement specifications and the workload estimates and program packages needed for a benchmark test. (See app. V.)

## GSA provides assistance to evaluate and control costs

The General Services Administration (GSA) is responsible for seeing that data processing procurement is done economically and efficiently. As part of this responsibility, GSA administers the Teleprocessing Services Program and provides agencies with methodology and assistance to evaluate costs. Recently, GSA issued a regulation to help agencies focus attention on teleprocessing services costs.

Federal Procurement Regulation 1-4.1203(f), issued in May 1982, requires agencies to justify and report to GSA all cost overruns of 25 percent or more over the system life cost. Such a requirement should necessarily make agency management aware of the increase as well. We believe, however, that management would be aware even sooner if the required reportable increase were 25 percent over option year amounts.

GSA uses the Automatic Data Processing Revolving Fund to support the assistance it provides to all teleprocessing services users. However, only part of the users currently reimburse the fund. If all users paid a small percentage of their monthly invoices into the fund, GSA could then support the staff necessary to monitor compliance with the procurement regulation as well as provide additional guidance on preparing more accurate benchmarks and dealing with unbalanced price proposals. (See app. VI.)

## CONCLUSIONS

The problem of cost overruns for teleprocessing services is widespread among the competitive contracts we reviewed, but has

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[1]GAO Accounting Pamphlet Number 4 and OMB Circular A-121.

readily achievable solutions. The frequency of cost overruns could be reduced if agencies estimated costs more accurately at the time of contract award and if management more often took prompt corrective action when cost overruns occurred. To evaluate contract costs, agencies need an accurate measurement of their workload and a representative mix of computer programs for the benchmark test. Agencies also need expert advice from GSA to help them detect proposals containing unbalanced pricing which result in unexpectedly high costs. Management should continually monitor contract costs and be prepared to consider replacing the service whenever costs are excessive. Overall costs could be better controlled if all data processing costs were allocated to the end users according to the services they receive.

We could not measure the cost effectiveness of the sole source contracts in this sample because each was negotiated with a single vendor. We believe, however, that the costs of sole source contracts could be reduced if free and open competition were obtained in all appropriate cases.

## RECOMMENDATIONS

To improve contracting for teleprocessing services, we recommend that agency heads

- --improve benchmark tests by maintaining monthly usage statistics for ongoing contracts in order to build a foundation for accurate workload estimates;
- --seek consultation with GSA during cost evaluation to avoid unbalanced pricing;
- --take appropriate and timely action when cost overruns occur and evaluate cost versus marketplace at each option point to comply with FPR 1-4.1206;
- --adopt cost accounting and chargeback according to OMB Circular A-121 to ensure that costs for services are passed on to the users; and
- --seek to replace sole source contracts through competitive procurement in all appropriate cases.

To assist management in monitoring cost overruns in teleprocessing services contracts, we recommend that the Administrator of General Services change FPR 1-4.1203 (f) to read as follows:

> "Increased requirements beyond 25 percent of those specified in the base year or each option year individually in the contract shall be deemed outside the scope of this paragraph and shall require a new APR submission."

We did not obtain agency comments on this report. Unless you release its contents earlier, we plan no further distribution of the report until 30 days from its date. At that time we will send copies to the Administrator of General Services and to the heads of agencies whose contracts were discussed in the report and will make copies available to other interested parties.

Sincerely yours,

W. D. Campbell
Acting Director

# Contents

## Abbreviations

| | |
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| ADP | automatic data processing |
| FIPS | Federal Information Processing Standards |
| GSA | General Services Administration |
| NBS | National Bureau of Standards |
| OMB | Office of Management and Budget |

APPENDIX I



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



The Honorable Charles A. Bowsher
Comptroller General
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

APPENDIX II

## BACKGROUND, OBJECTIVES, SCOPE, AND METHODOLOGY

Teleprocessing services, which are remote computer facilities and their communication networks, are used to support a wide range of Federal programs including forest fire reporting, military recruiting, student loans, and foreign military sales. Usually an agency purchases teleprocessing services because (1) its needs are not substantial enough to justify the purchase of a new or larger computer system, (2) the agency lacks the necessary in-house expertise to operate a data processing system, or (3) the agency needs a large communications network. The latest figures available from GSA indicate that, in fiscal 1982, Federal agencies spent between $154 and $164 million to purchase commercial teleprocessing services.

### TELEPROCESSING SERVICES IN THE FEDERAL GOVERNMENT

The Brooks Act (Public Law 89-306), enacted in October 1965, provides for the economic and efficient purchase, lease, maintenance, operation, and use of data processing equipment. Under the act, the General Services Administration (GSA) is responsible for developing, implementing, and monitoring Government-wide policy for the acquisition, use, and management of data processing resources. The Department of Commerce, primarily through the National Bureau of Standards (NBS), is responsible for providing scientific and technological advisory services and for developing Federal Information Processing Standards. The Office of Management and Budget (OMB) is responsible for fiscal and policy control, and each Federal agency is responsible for managing its own data processing resources and costs.

To meet the need for procuring teleprocessing services economically and efficiently, GSA entered into an agreement with Computer Sciences Corporation in 1972. Computer Sciences provided a nationwide network service known as the National Teleprocessing Service, which was supposed to be the primary commercial service available to Federal agencies.

In 1976, GSA initiated the Teleprocessing Services Program, which opened the field to all vendors. This program enables the Government to have the benefits of competition and a broader range of services than under the earlier agreement with only one vendor. GSA manages the program centrally and all agencies who use commercial teleprocessing services must use the program. Users have a choice of two methods of competitive procurement: the multiple award schedule and the basic agreement. Users who need services not covered under the program must obtain an exception from GSA.

#### Multiple award schedule

The multiple award schedule provides for indefinite quantity contracts with fixed unit prices and Government-wide volume discounts. Under the schedule, GSA negotiates annual contracts with

vendors who guarantee that the prices given the Government are lower than any prices they have given commercial clients. A Government agency can then conduct a simple cost/performance competition to select a vendor from the multiple award schedule and place a delivery or purchase order to obtain teleprocessing services. In fiscal 1982, 50 vendors participated in the schedule, and GSA handled about 2,000 accounts for the participating agencies.

GSA receives one monthly bill from each contractor for all the multiple award schedule services the contractor provided Federal agencies. GSA uses the Automatic Data Processing (ADP) Revolving Fund to pay these bills which, in fiscal 1982, totaled about $84,075,000. The single billing system enables GSA to obtain volume and prompt payment discounts. However, the system is currently experiencing problems with financial management, program controls and verification of invoices.[1]

Some agencies are also dissatisfied with the single billing system because it can take as long as 10 months to receive copies of monthly invoices from GSA. The lengthy time lapse makes it difficult for agencies to verify usage and obtain credit for incorrect billing. In addition, if agencies do not receive bills promptly, they cannot identify and correct problems; for example, excessive on-line processing that could be partially shifted to a less expensive batch mode. The lag time also creates problems for GSA because late reimbursement by the user agencies puts the Fund in a reduced cash position. GSA is aware of the problems connected with single billing and is working to correct them.

Basic agreement

The basic agreement is a written understanding between GSA and teleprocessing services vendors that is used as a framework for competitive procurement. It contains standard provisions on such areas as conversion, dedicated systems (that are not covered under the multiple award schedule), benchmarking, and pricing clauses. These provisions are incorporated in each basic agreement contract. An agency must comply with the provisions of FPR 1-3.8 and with all other applicable regulations when conducting a procurement under the Teleprocessing Services Program. In the fiscal 1982 program, there were about 65 active basic agreement contracts and 96 participating vendors.

Unlike the multiple award schedule, prices are not agreed upon with GSA but are negotiated between the procuring agency and the interested vendors. Another difference is that each agency receives and pays its own invoices. The only method GSA has at

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[1]See "Improvements Needed in Financial Management of GSA's Teleprocessing Services Program" (GAO/AFMD-83-8) for a discussion of these problems.

present of tracking the amount of dollars spent under the basic agreement is through voluntary reports from the vendors. Based on the incomplete information received, GSA estimates that fiscal 1982 expenditures under the basic agreement were between $70 and $80 million.

Exceptions to the Teleprocessing Services Program

In addition to the usual teleprocessing services, some agencies also need support for programming, data entry, and production, none of which are covered by the Teleprocessing Services Program. Agencies must request an exception from GSA to procure such a package service. GSA wishes to hold these exceptions to a minimum.

How does an agency choose between multiple award schedule and basic agreement?

There are no set rules for choosing between the two procurement methods, but GSA officials offer the following advice in the October 1981 Teleprocessing Services Program Handbook (issued in January 1983).

Since the multiple award schedule offers set prices for available services, the procurement process is easier and quicker than with the basic agreement. If time is critical, the schedule is also a faster way to acquire teleprocessing services. GSA advises that the schedule should also be used in the following situations:

--When the proposed system is short (less than 5 years).

--When the system is new and/or the workload is not well-defined.

--When the procurement staff lacks the necessary expertise to conduct a procurement.

--When the probability of being able to negotiate a lower price is slight.

--When the system required is too small to warrant a full-scale procurement.

GSA advises that the basic agreement should be used under the following conditions:

--When all of the data processing services needed cannot be met through the multiple award schedule (which covers limited technical service areas).

--When the workload is clearly defined and not subject to wide variances.

--When the opportunity exists to negotiate for a lower price than is available under the multiple award schedule.

While the basic agreement does not guarantee lower costs, many agencies feel they can obtain lower prices through the negotiations involved in the basic agreement procurement process, based on the volume and nature of services required.

## OBJECTIVES, SCOPE, AND METHODOLOGY

The objectives of our review were to determine

--the prevalence of teleprocessing services contracts that experience cost overruns,

--the causes of cost overruns in these contracts, and

--what action can be taken to remedy the situation.

This review was performed in accordance with generally accepted government auditing standards. We did not obtain agency comments on our conclusions and recommendations. The data presented in this report were obtained for contracts current in 1982. We reviewed pertinent GSA regulations, NBS guidelines, and other publications, and we contacted 11 teleprocessing services vendors and all Government departments to obtain information which would define the universe of current contracts. We then selected 28 of the larger contracts that represented a broad range of types of contracts, Federal agencies, and teleprocessing services vendors. After selecting these contracts we became aware that 20 had been awarded competitively and 8 sole source. The contracts involved 10 civil agencies, 6 defense agencies, and 14 teleprocessing services vendors. Because of the limited size of our sample, the statistics of this report should not be extrapolated to the entire Government. (See app. VII.)

We obtained copies of GSA's delegation of procurement authority, the cost proposal, and the vendor evaluation for each of the 28 contracts, as well as other related documents and correspondence. In addition, we interviewed the agency officials, data processing management, and contracting personnel concerned to obtain their views on the Teleprocessing Services Program. We also interviewed officials of GSA, NBS, and seven teleprocessing vendors and met with an industry trade association to obtain its views on pricing regulations.

We reviewed relevant Comptroller General decisions regarding protests that pertained to the subject contracts as well as our previously published reports on topics related to teleprocessing services.

## COST OVERRUNS FOR TELEPROCESSING SERVICES AFFECT MANY AGENCIES

Cost overruns--that is, costs that exceed the contract award amount--are a common occurrence in teleprocessing services contracts. Of the 20 competitive contracts we reviewed, we obtained invoices and were able to make cost comparisons for 17 of them. Of those, 11 are incurring costs in excess of the award amount. The two principal causes of cost overruns are unrepresentative benchmark tests[1] and unbalanced pricing. When these two factors are combined, the proposal itself is unbalanced and there is no assurance that the price obtained represented the lowest cost to the Government.

### UNREPRESENTATIVE BENCHMARKS RESULT IN COST OVERRUNS

All but 1 of the 20 competitive procurements we reviewed used benchmark tests to project the costs of processing and determine the award amounts. First, the agency runs a benchmark test which is constructed to represent the types of work the agency expects to perform and to determine specific costs for specific tasks. The evaluation team then combines these results with workload estimates to project costs for the system life of the contract.

As discussed in our October 1982 report on benchmarking,[2] a benchmark test is the best way to estimate teleprocessing services cost because of the vendors' complex, and sometimes undisclosed, billing algorithms. However, the procedure presents many opportunities for an agency to err. For example, if the agency omits batch processing from its benchmark test, it has no yardstick by which to measure the cost for this portion of its work. Similarly, if the agency fails to evaluate accurately the volume of its workload over the system life, or if the agency fails to have an accurate mix of the types of application programs and resource requirements, the projected costs will be inaccurate. In cases where both benchmark test programs and workload estimates are not representative, high cost overruns can result. GSA guidelines recommend that the agency simplify these benchmark tests to the maximum extent practicable so that the cost to vendors is reduced and competition is encouraged.

#### Workload estimates inaccurate

In 10 of the 11 contracts we found with cost overruns, inaccurate workload estimates were either a primary or contributing

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[1]A benchmark test is used to evaluate the performance of hardware or software or both.

[2]"Benchmarking: Costly and Difficult but Often Necessary When Buying Computer Equipment or Services" (GAO/AFMD-83-5, Oct. 22, 1982).

cause. The National Defense University procurement illustrates the consequences of underestimating and omitting portions of the agency workload. The University wanted to replace the teleprocessing services that supported student processing. When it ran the benchmark test, however, the University did not project the increased use later made of the system and omitted an energy model from the test. The winning vendor offered to process at no cost a quantity of work equal to the University's estimated volume, with commercial, nondiscounted prices for work over that volume. The University awarded a 5-year contract for $10,001, an amount which included its estimate for running the energy model. Six months after the award, the head of the University's Decisions Systems Directorate, allowing for a 10-percent increase in workload, estimated their system life costs at $165,721. However, invoices show that the University is currently paying over $269,000 per year because of the volume of processing it omitted from the workload estimates. We project the system life cost at about $1.3 million.

Benchmark programs not representative

The experience of the Army illustrates how an unrepresentative benchmark can affect contract cost. The Army needed to procure teleprocessing services to support its recruiting systems. The same contractor who developed the system developed synthetic programs for the benchmark test. (Both the contractor and agency officials later said the benchmark did not represent the actual work that the Army performed.) Although the benchmark test was not the only cause of the inordinately large cost overrun the agency is experiencing, it contributed substantially to it. In 1 year alone, from June 1981 to May 1982, the Army paid $18,830,185 for teleprocessing services that it had estimated would cost $8,493,934 for the entire 5-year system life of the contract. (See GAO/AFMD-82-51, Mar. 24, 1982.)

## UNBALANCED PRICING CAN LEAD TO HIGH COSTS

Pricing is unbalanced when it is low in cost for some work and disproportionately higher in cost for additional work. As we saw in two of the contracts we reviewed, this can be to the Government's advantage when requirement estimates are accurate. However, when the benchmark programs are not representative or when the workload estimates are inaccurate, unbalanced pricing can result in disproportionately high costs to the Government. We reviewed four contracts where this combination of problems, which constitutes an unbalanced proposal, caused cost overruns of 615 to 13,468 percent.

How vendors can manipulate cost proposals

Agencies are at a disadvantage in procuring teleprocessing services because the process occurs infrequently and they often have data processing and contracting staff who lack experience with this type of procurement. Further, they are required to simplify the benchmark tests to encourage broad competition. In contrast, it is the full-time business of the service vendors to construct

cost proposals that are cost competitive but profitable to the contractor. Vendors often acquire a better understanding of the agency's computer programs and workload characteristics than the agency itself, and are more experienced in interpreting resource unit consumption of the various computer systems.

Serious problems for the agency can arise when vendors know the benchmark is unrepresentative and tailor their cost proposals to fit the agency estimates. This can take the form of low prices or high discounts for the agency's benchmarked workload and high prices or low discounts for work beyond that. For purposes of contract award, the agency usually evaluates only the portion of the cost proposal that is tailored to its benchmark test. After the award, the agency discovers that the unevaluated part of the cost proposal affects a great part of its processing, that prices are unbalanced, and that costs are far higher than expected.

## GSA's recent amendments help agencies avoid unbalanced pricing

Unbalanced pricing is a problem that occurs primarily in basic agreement contracts. It can take many forms and is sometimes difficult for agencies to detect. GSA has recently added pricing clauses to the basic agreement which should help reduce the incidence of unbalanced pricing. GSA also provides a consulting service to assist agencies in applying the pricing amendments to specific cost proposals.

Before GSA made Amendment 4 to the basic agreement on September 16, 1981, no regulation pertained to pricing clauses. In brief, the amendment states:

--The unit price of any element cannot increase as the level or quantity of service increases.

--The percentage of discount or credit cannot decrease as the level of usage increases.

--Price, discount, and/or credit of one element cannot be tied to the use of another.

--Any discounts, credits, or discount levels earned or achieved by the Government cannot be lost.

--A discount is not mandatory.

--If a discount is proposed, it may be specified as a percentage across the entire workload range and must increase at a progressive rate.

In August 1982, GSA added Amendment 5 to the basic agreement. That amendment states that the vendor may vary prices for each year of the contract system life, but each year's plan must contain discrete prices. The pricing must be specific and cannot be tied to

an economic price indicator or to other measures. All of the contracts reviewed here were awarded before Amendment 5 became effective.

The purpose of these amendments is to assure that costs do not increase disproportionately to volume usage. However, another salutary effect of the amendments is the encouragement of open market competition. Before the amendments became effective, teleprocessing services vendors who had noted the success of unrealistically low bids expressed two viewpoints regarding unbalanced pricing. Some felt the Government was fair game, because each vendor could submit multiple proposals with the assurance that, even if unbalanced offers were detected and thrown out, its balanced offers would remain in competition. Other vendor representatives said they would stop competing because their companies would not countenance unbalanced pricing, and a basic agreement procurement could not be won without it.

### Two contracts on target despite unbalanced pricing

We reviewed two contracts, awarded before Amendment 4 became effective, where the Government benefited from unbalanced pricing. In both instances, agencies had workload estimates that were reasonably accurate.

The Navy Civilian Personnel System contract has a sliding discount that starts at 10 percent for a low dollar volume, increases up to 69 percent, then drops to zero beyond a fixed dollar amount. To date, the Navy's processing volume has remained within the optimum discount range and costs are running substantially under the contract award amount.

Labor's Directorate of Information Technology has also managed its contract successfully. The contract provides fixed annual fees for fixed amounts of teleprocessing services. Although the contract makes no provision for services over the fixed amount, Labor thinks its cost would be considerably higher. Because the agency uses teleprocessing services from another vendor for overflow work, it has stayed within the confines of this contract.

### Examples of cost overruns due to unbalanced proposals

We also reviewed four contracts, awarded before Amendment 4 became effective, where unbalanced pricing combined with unrepresentative benchmark tests caused high cost overruns. Two of these, the Army and National Defense University contracts, were discussed above. Another example is the Navy's contract to support its recruiting services. The contract specified that certain amounts of teleprocessing resources would be provided at no cost to the Government. Processing over these amounts would be charged commercial, nondiscounted prices. Based on the Navy's benchmark test and

workload estimates, the winning vendor bid $523,969 for the 42-month contract. Although the Navy says its workload has not increased, the vendor-measured resource consumption is so far above the evaluated amounts that, based on extrapolation of actual invoices, system life costs are now projected at $13 million. (See GAO/AFMD-82-51, Mar. 24, 1982.)

A Social Security Administration (Office of Program Operations) contract is another case in point. Under its terms, a 64-percent discount applies to the dollar value of teleprocessing services estimated for each option year. For volume over these projections, the discount decreases to 31 percent. Because Social Security underestimated the volume of its processing, the agency is now paying in one year over $2.2 million for services originally estimated at $1.8 million for 5 years. This overrun is attributable to both the excess workload and the higher prices resulting from diminishing discounts.

Unbalanced pricing continues despite GSA's amendments

We reviewed two cases of unbalanced pricing where the contracts were awarded after Amendment 4 went into effect. One was an Air Force contract for $2.1 million that contained unbalanced pricing which was not apparent to the officials concerned. We recommended that the contract be terminated. (See GAO/AFMD 82-112, Sept. 30, 1982.) So far, the Air Force has not taken such action.

The second case was an Army Corps of Engineers contract for $25 million that both the Corps and GSA examined for unbalanced pricing before the award. At the post-award briefing, however, the vendor explained to agency officials that the evaluated cost proposal contained an algorithm that applied only to the parameters of the teleprocessing performed in the Corps' benchmark test. The benchmark demonstration used interactive processing jobs that ran for 10 minutes and batch processing jobs that used 125,000 characters of memory. The Corps found that, when these limitations were exceeded, the cost of interactive processing would increase between 3 and 10 times, and the cost of batch processing would increase 122 times. In contrast to the Air Force, the Corps initiated prompt action to terminate this contract.

CONCLUSIONS

We found that the two most common causes of cost overruns in teleprocessing services contracts are unrepresentative benchmark tests and unbalanced pricing. Agencies can improve the accuracy of their cost estimates if they improve the quality of their benchmarks by (1) collecting accurate workload data and (2) selecting computer programs that reflect the agency's work. Agencies can avoid unbalanced pricing if they take advantage of GSA's consulting service to assist them in evaluating the cost proposal before contract award.

APPENDIX III

RECOMMENDATIONS

To improve the accuracy of contract cost evaluation, we recommend that agency heads

--improve benchmark tests by maintaining monthly usage statistics for ongoing contracts to build a foundation for accurate workload estimates and

--seek consultation with GSA during cost evaluation to avoid unbalanced pricing.

APPENDIX IV

## SOME AGENCIES DO NOT CONDUCT COMPETITIVE PROCUREMENTS

Competition with regard to contracts is a basic policy of the Federal Government. Full and open competition generally results in better solutions and significantly lower cost. However, far too many agencies conduct sole source procurements; that is, procurements where, without competition, only one vendor is determined to be eligible and competent to perform the service. In fiscal 1982, GSA issued $199 million in delegations for 151 sole source procurements of teleprocessing services.

Of the teleprocessing services contracts we reviewed, agencies conducted sole source procurements in eight of them. We also reviewed one procurement, nominally competitive, where only the incumbent vendor was able to qualify. When a procurement has but one offeror, the benefits of competition in terms of price and quality of service can be lost and the Government cannot be assured it has received the lowest cost possible.

### COMPETITION POLICY AND RESPONSIBILITY

It is the policy of the Congress to promote economy, efficiency, and effectiveness in the procurement of property and services by the Federal Government. In brief, this policy requires that

--full and open competition be promoted;

--property and services be acquired that are of the requisite quality, within the time needed, and at the lowest reasonable cost; and

--fair dealing and equitable relationships be promoted among the parties in Government contracting.[1]

FPR 1-4.1103-1 assigns to agency ADP managers and contracting officers the responsibility for the management and planning actions that will ensure maximum practicable competition and the lowest overall cost.

### MANAGEMENT NEEDS TO PLAN FOR COMPETITION

Competitive procurements are achievable when management plans for them and is committed to fulfilling its responsibilities in attaining them. However, a history of plans made and plans changed

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[1]Public Law 96-83, Office of Federal Procurement Policy Act, Amendment of 1979.

has led to many sole source procurements. Long range data processing plans often were not implemented because

--data processing requirements were underassessed,

--management changed its priorities, and

--plans were disapproved by other agencies.

In the confusion that results when plans are not implemented, management turns to sole source contracts as interim solutions. These sole source contracts, however, are extended year after year. In many cases that amounts to, or surpasses, a period of time equal to the system life of a competitively awarded contract.

## Important factors in planning for competitive procurement

In planning for procurement, management should be aware of two problems that could reduce competition: conversion of agency programs and restrictive benchmarks.

### Conversion of agency programs

Almost every vendor has software[2] extensions that make its teleprocessing service unique. For example, many vendors use International Business Machines (IBM) hardware and operating software, but most of them have customized at least some parts of the software. Further, IBM or any other vendor's software does not always conform to Federal standards. As a result, an agency that plans replacement of teleprocessing services must also plan for conversion. When this consideration is neglected, it can have a deleterious effect on competition.

Most of the agencies' computer programs we reviewed were originally written in a high level language.[3] Subsequently, however, the agencies had incorporated the vendor's proprietary software to make programs run more efficiently. Before moving to a different system, agencies would have to replace the proprietary software either with standard code or with the new vendor's proprietary software. As discussed in our earlier report,[4]

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[2]Software is a set of computer programs, procedures, rules, and possibly associated documentation concerned with the operation of a data processing system.

[3]A high level language is a programming language that does not reflect the structure of any one given computer or that of any given class of computers.

[4]"Conversion: A Costly, Disruptive Process That Must Be Considered When Buying Computers" (FGMSD-80-35, June 3, 1980).

however, agency management should direct that vendor-unique features be avoided when possible. When these features must be used, management should require that (1) such use be justified by savings in operating costs,(2) the justification be documented, and (3) the use of unique features be isolated into separable parts of the application program.

An example of changed plans and program conversion problems is the Army Finance Center, which has renewed a sole source contract since 1976. The contract, projected to cost about $11 million in fiscal 1982, supports systems that control about $170 billion in annual expenditures. In 1976, the Army planned to bring the system in-house once development was completed. However, because the purchase of the computer was delayed and, when purchased, the computer was undersized, the Army continued its sole source teleprocessing services contract. Since that time, the Army has determined that its system is tied to proprietary software and must be rewritten to be portable. Another factor complicating the situation is that the Air Force and Navy also use part of this system and the Army has stated it will not support the other two services if and when it brings the system in-house.

As an interim solution and to reduce costs, the Army is negotiating what it calls a "2-year sole source basic agreement" contract with the incumbent vendor. Although the Army currently plans to accomplish the in-house move by 1984, its lack of progress over the past 6 years makes this move uncertain at best.

A lack of planning for competition and dependence on proprietary software have also led to sole source contracting at the Department of Transportation, which has 14 contracts for teleprocessing services that have been awarded sole source for a number of years. Five of these are currently being replaced and four are scheduled for future replacement, but agency officials said their contracts that use proprietary software will remain sole source. Although three of the contracts we reviewed at Transportation had been awarded sole source for many years, officials said no records of renewal exist prior to 1977.

The oldest example of sole source procurement dates from the days of GSA's now-defunct National Teleprocessing Service. Originally awarded in 1972, GSA's Public Building System contract[5] is not scheduled for competitive procurement until 1985. Program officials said they have made two abortive attempts to procure hardware since 1978 and that a contract team has been working on a teleprocessing services procurement since February 1981. The officials also said that about 70 percent of the system is dependent on proprietary software and, because of that, the incumbent contractor will have a significant advantage in a competitive procurement.

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[5]This contract was the subject of our two previous reports, (B-200948) Oct. 24 and Dec. 17, 1980.

Since proprietary software would affect a procurement of either hardware or services, GSA's failure to make the system portable shows very little progress toward achieving competition. In GSA's recent procurement of the financial system discussed below, the agency received only one acceptable proposal, even though it was a nominally competitive procurement.

Restrictive benchmark tests

Another factor dependent upon management planning is the benchmark test used to evaluate proposed teleprocessing services. A benchmark test can reduce competition if it

--is too large,

--requires too much conversion, or

--is tailored to favor the incumbent.

Such was the case with the procurement to support GSA's finance operations, System E. Instead of the portable benchmark recommended by Federal Information Processing Standards (FIPS) guidelines, GSA's benchmark for this contract required the conversion of about 78,000 lines of program code, including some that was proprietary to the incumbent contractor. According to FIPS Publication 42-1, "a data base or program which is tailored to the architecture or features of a specific vendor restricts competition."

Of the 70 vendors who indicated an initial interest in the procurement, only two attempted the benchmark test and only one, the incumbent, was able to complete it satisfactorily and to make a best and final offer. Four other service vendors cited this benchmark as an example of reduced competition and did not submit proposals because of the lengthy and costly conversion effort the benchmark required. One of the vendors filed a bid protest (B-204225, Mar. 17, 1982) regarding the benchmark's complexity. We denied the protest but acknowledged that the particular circumstances surrounding this procurement influenced our decision. We expressed confidence that GSA would broaden the competitive base for this requirement when it implemented its long range data processing plan. Despite the question of the benchmark, GSA did achieve a substantial cost reduction over its previous contract for services.

The GSA officials who manage the Public Buildings System, a vintage sole source procurement discussed above, said they have been directed to make their upcoming procurement a "carbon copy" of the System E procurement. GSA has had ample time to prepare for this procurement and to construct a portable benchmark, and its current plan is not in consonance with either FIPS guidance or our decision.

APPENDIX IV

## CONCLUSIONS

If the existing sole source contracts are procured competitively, costs for teleprocessing services could be reduced. With proper planning, management could decrease the high incidence of sole source contracts. We recognize that some contracts are truly sole source; specifically, certain econometric models. In such cases competition may not be practical, but we believe that in most cases aggressive efforts to obtain competition will be beneficial. To obtain maximum competition, management should avoid the use of vendor-unique software, or plan ahead for conversion of agency programs. Management should also adhere to FIPS guidelines in preparing the benchmark test to ensure that it is not restrictive and that it encourages competition.

## RECOMMENDATIONS

To reduce the cost of teleprocessing services, we recommend that agency heads seek to replace sole source contracts through competitive procurement in all possible cases.

## MANAGEMENT CONTROL OF TELEPROCESSING SERVICES

## COST IS INADEQUATE

Management is responsible for meeting the agency's data processing requirements as economically and efficiently as possible. It is up to management to install controls over system use and costs, to monitor cost overruns, and to take action to reduce costs. Our review showed that in many cases management has not taken appropriate action to control costs.

### MANAGEMENT HAS NOT ALLOCATED COSTS TO END USERS

A method for controlling computer use and costs is to establish procedures that account for and allocate all costs of data processing to the end users according to the service they receive. Although primarily directed toward users of in-house facilities, these principles were presented in our earlier report,[1] in our guidelines,[2] and in the Office of Management and Budget Circular No. A-121 (Sept. 16, 1980).

In most of the contracts we reviewed, we found that agency management controls cost by (1) attempting to verify the accuracy of invoices, (2) monitoring in some manner the use of teleprocessing services, and (3) requiring justification of new applications. However, we found 16 contracts where agencies issue invoices at the military service or program level rather than to the end user. This practice does not comply with our guidelines and recommendations for accounting and allocation of costs.

### MANAGEMENT IS SLOW TO ACT WHEN COSTS EXCEED PROJECTIONS

Management is responsible for monitoring contracts to assure that teleprocessing costs remain within the operating budget and to take action when costs exceed projections. Our review shows, however, that agencies tend to remain in a contract for the entire system life and often delay replacement of service. As a result, the original contract must be extended, regardless of cost.

Government contracts for teleprocessing services are usually effective for 1 year with annual options for renewal over the system life of the contract. According to Federal Procurement Regulation (FPR) 1-4.1206-6, "the agency shall conduct an analysis to determine whether exercising the renewal option is the most

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[1]"Accounting for Automatic Data Processing Costs Needs Improvement" (FGMSD-78-14, Feb. 7, 1978).

[2]"Guidelines for Accounting for Automatic Data Processing Costs," Federal Government Accounting Pamphlet Number 4, USGAO 1978.

advantageous method of fulfilling the Government need, price and other factors considered." However, six agencies said they had no procedures for option renewal analysis and the civil agency currently using the largest dollar volume of teleprocessing services had only a working draft of procedures. Only two agencies said they conducted market surveys to make the required price comparison.

Before making the decision to renew an option, management should ask these basic questions:

--Is the service satisfactory?

--Are costs for services within the evaluated amount?

--Is this the best price available to the Government?

If the answer to any of the above questions is no, then management must determine whether it is prepared for alternative action, such as recompetition or bringing the service in house. In most cases, bringing the work in house requires considerable advance planning and lead time. If management is not prepared, there is usually no alternative, other than renegotiation, to continuing with the contract regardless of cost and regardless of the quality of service.

A case in point is the Army REQUEST/RETAIN system. Under its old contract for teleprocessing services, response time had become so degraded that the Army could not support user demands. It took the Army about 5 years to award a new 5-year contract. When the Army received the first month's bill in June 1981, it found that costs were almost triple those of the old contract and about nine times greater than those projected from the award amount. Costs continued to rise in succeeding months. Not until we made our recommendations in March 1982, did the Army begin preparations to recompete the contract. The current target date for contract award is October 1983; thus, management's only alternatives are to renegotiate or renew the current contract until that date or even longer to the extent conversion and testing by parallel processing are required under the new contract.

Another example of options being exercised longer than necessary occurred at the National Oceanic and Atmospheric Administration, whose first year's costs for service amounted to about $2 million instead of the estimated $400,000. Because of the high costs and the difficulty of administering a bulk price contract, the agency plans an early reprocurement. Here management has reacted to the cost overrun and is trying to obtain a better contract; however, the length of time taken for replacement will result in exercising options for at least 3 of the 5 contract years.

## MANAGEMENT HAS NO GOOD MECHANISM FOR DEALING WITH POOR SERVICE OR COST OVERRUNS

Why is management slow to act when the service is inadequate or when contract cost overruns occur? A great part of the problem can be attributed to the lack of a good mechanism for corrective action. A contract can be terminated for two reasons--for default or for the convenience of the Government. Termination for default is, in general, so difficult to document and effect that virtually no one tries to do so. Termination for convenience can incur additional expense to the Government. In either case, the agency may be faced with the unpleasant prospect of legal action brought by the vendor.Another method of ending a contract is by simply not renewing it at the end of the contract year. Whether the contract is terminated or not renewed, management still has the problem of replacing the service.

In the contracts we reviewed for which data was available, the procurement process took an average of 28 months from the time of requirements analysis until award, and up to 12 months from award until actual production, depending on the amount of conversion and testing needed. According to findings from our current study of ADP acquisition, agencies spend well over half the time needed for procurement on presolicitation tasks. Therefore, if management wishes to take prompt remedial action on teleprocessing contracts, management should always have, at the minimum, current requirement specifications and an up-to-date package of programs and workload estimates for the benchmark test. With these in hand, management is prepared to determine replacement alternatives. Particularly in cases where basic agreement contracts have high costs due to unbalanced prices, management may wish to consider cutting costs and procurement time by using the multiple award schedule.

## CONCLUSIONS

Management has not implemented our guidelines and recommendations on accounting for and allocating the costs of data processing to the end users according to the services they receive. In most cases, management does not consult market surveys prior to option renewal to determine whether the contract cost is the most advantageous to the Government. Although no convenient mechanism exists for replacing a contract for teleprocessing services, management could shorten the procurement process by maintaining current requirement specifications and benchmark tests.

## RECOMMENDATIONS

To reduce costs for service and improve cost control on teleprocessing services contracts, we recommend that agency heads

--take appropriate and timely action when cost overruns occur and evaluate cost vs. marketplace at each option point to comply with FPR 1-4.1206, and

--adopt cost accounting and chargeback according to OMB circular A-121 to ensure that costs for service are passed back to the users.

## CENTRAL AGENCIES ASSIST WITH PROCUREMENT BUT HAVE LIMITED RESOURCES

In many agencies, the data processing and contracting staff have little or no experience in procuring teleprocessing services. To obtain these services economically and efficiently, they look to GSA and NBS as central agencies for guidance and assistance.

GSA provides the major portion of assistance through its administration of the Teleprocessing Services Program (see app. II), and it recently issued a regulation that could help bring cost overruns to management's attention. Although the two central agencies coordinate their teleprocessing-services-related projects, they can provide only limited assistance because of funding constraints.

### HOW GSA ASSISTS

The Brooks Act assigns GSA the responsibility for operational management to ensure the economical and efficient procurement of data processing in the Federal Government. GSA recognizes that teleprocessing services are more difficult to procure than computer hardware because more intangible factors must be evaluated. Accordingly, the main thrust of GSA's efforts are directed to negotiating contracts with private industry for the multiple award schedule program, which simplifies the procurement of services for Federal agencies. GSA is currently working to make the price schedule easier to use, particularly for small procurements.

Before 1982, GSA had only minor involvement with basic agreement contracts. The increase of unbalanced bids, however, increased GSA's requirements for technical assistance in this area. GSA plans to continue its efforts to reduce the incidence of unbalanced bids by (1) extending the current pricing regulations to cover contractor algorithms and (2) offering a seminar on unbalanced bids. GSA currently offers assistance to agencies who are in the process of evaluating cost proposals under the basic agreement.

### GSA's Teleprocessing Services Program Handbook leaves some agencies with questions

One of GSA's more visible means of procurement assistance is the Teleprocessing Services Program Handbook, first published in 1978 and revised in 1979 and 1981. The 1979 issue, then current, was used for 17 of the 28 contracts we reviewed. Seven agencies found it to be of little help in their procurements while eight considered it helpful, but with reservations. Two agencies offered no comment. In general, the agencies thought that the handbook was not clearly written and that the information was not current. They also complained that the handbook was too general, particularly in the following areas:

--Thresholds. Both the basic agreement and the multiple award schedule contain rules that depend on a dollar threshold. Many agencies need clarification in this area.

--Unbalanced pricing. Even with Amendments 4 and 5, which address unbalanced pricing specifically, agencies desire more precise guidelines.

--Benchmarks. It was suggested that a benchmark library be set up by GSA, where an agency could obtain guidance on successful benchmarking.

--Preparing technical specifications. This is a particularly difficult area for many agencies and they would like better guidance from GSA.

There was widespread agreement that the handbook was a good beginning, but most agencies thought it needed many improvements before it could fulfill their procurement needs. The new handbook, dated October 1981 and issued in January 1983, contains improved guidance on how to choose between the basic agreement and the schedule. (See app II.)

Other GSA assistance

GSA publishes a Teleprocessing Services Program monthly report, which acts as a supplement to the handbook. It provides current information on changes to the procurement methods and presents articles of general interest to teleprocessing services users. GSA also offers a 2-hour presentation which gives an overview of teleprocessing services procurement, but the seminar has met with very little demand. In addition, GSA is working on a new handbook which will make benchmarks and workload estimating easier and will provide guidance on monitoring contract warranties.

## CHANGE TO REGULATIONS TRIGGERS COST OVERRUN REPORTING

GSA recently changed the regulations that govern the submission of agency procurement requests when requirements increase for existing teleprocessing services contracts. The amended regulation could improve the management of contracts with cost overruns because it requires their earlier justification and reporting. We think that a further revision to the regulation would provide an even better management tool. However, GSA does not plan to monitor compliance with the regulation.

According to the Teleprocessing Services Handbook (October 1979), a GSA Form 2068 had to be submitted for approval if the cost estimate or duration of the delegation of GSA's procurement authority were revised. Because the delegated amount in basic agreement contracts is usually much greater than the award amount, this situation would seldom arise. However, FPR.1-4.1203(f) of May 1982 states:

"The authorization to proceed may be used under the following conditions to provide for changes to requirements (including equipment and software specifications) to meet increased data processing requirements, increase economy or efficiency, improve performance, or save energy. The changes shall be within the scope of the changes provision in the contracting arrangement (including the TSP [Teleprocessing Services Program] purchase order under the MAS [multiple award schedule] or contract using the BA [basic agreement]). Any changes shall be within the system life of the requirement as specified in the APR [agency procurement request]. Increased requirements beyond 25 percent of those specified in the contract (including contractually specified options) shall be deemed requirements outside the scope of this paragraph and shall require a new APR submission. The agency shall be responsible for determining the need for and the nature of benchmark changes or reruns necessary to evaluate and price the proposed actions."

An official of GSA's policy staff told us that FPR.1-4.1203(f) was written to make the regulations governing teleprocessing consistent with those of hardware acquisition. The intent is to provide agencies with a 25-percent leeway in dealing with new technology and changes to agency requirements. We discussed the following sentence from the regulation with four GSA officials: "Increased requirements beyond 25 percent of those specified in the contract (including contractually specified options) shall be deemed requirements outside the scope of this paragraph and shall require a new APR submission." They agreed that the award amount specified in the contract is a requirement. However, until we raised the question, it had not occurred to them that this could be interpreted as applicable when actual costs exceeded the contract award amount. It is our view that it should, and that agencies should be obligated to submit a new procurement request when costs of service increase 25 percent over the award amount specified in the contract. The obligation to report cost overruns could cause management to take earlier notice of excessive costs than under the previous rules.

A modification of the current regulation quoted above would make it an even more effective management tool. This modification is set forth in the recommendation section on page 25. Under our suggested modification, a new agency procurement request would be required when costs exceed the amount (plus 25 percent) projected in the contract for each year of the system life. For example, assume that an agency received a delegation for procurement authority for $800,000 and awarded a 3-year contract for $450,000, with $100,000 projected for the base year, $150,000 for option year one, and $200,000 for option year two. Under the old regulation, the agency would submit a new procurement request when costs went over $800,000. Under the current regulation, the agency would submit a new request when costs were more than $562,500. Under the proposed

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regulation, modified as we have discussed, the agency would submit a new procurement request when base year costs were more than $125,000 or option year one costs were more than $187,500, and similarly for option year two, when costs were 25 percent over $200,000. The earlier that management is alerted to cost overruns and is required to justify them, the greater the opportunity for management to institute controls or to take remedial action.

The GSA delegations group does not presently plan to monitor compliance with FPR 1-4.1203(f) because it (1) believes the responsibility for cost control lies with the agency and (2) lacks an effective reporting system for basic agreement contract costs. We agree that the agencies have the basic responsibility, but GSA also has a responsibility under the Brooks Act to see that data processing procurement is done economically and efficiently.

GSA is able to maintain accurate records on multiple award schedule contract costs because it receives the invoices directly from the vendors. For cost data on basic agreement contracts, however, GSA currently relies upon monthly summary reports from the vendors. We examined the manual file of vendor reports and found that some vendors did not respond, and some who did had not submitted reports every month. GSA later told us that vendor reporting of cost data had improved since our visit.

## GSA USES ADP REVOLVING FUND FOR ASSISTANCE

GSA devotes about 23 staff-years to the management of the multiple award schedule program and about 3 to management of the basic agreement. GSA uses the Automatic Data Processing Revolving Fund to support its work for both programs. Most participants in the schedule program pay an administrative fee of 2.5 percent on single and prompt payment invoices to reimburse the ADP Fund. However, the few multiple award schedule participants who receive direct invoices and all of the basic agreement participants make no contribution to the fund, even though they benefit from services provided by it. GSA should evaluate the possibility of placing a minimal surcharge on all monthly invoices to fund additional support for basic agreement participants.

Basic agreement contracts, though fewer in number, are almost equal in dollar value to those of the multiple award schedule. Each participating agency usually prepares a benchmark test and negotiates its own basic agreement contract, so the procurement process is more difficult and time-consuming than when the schedule is used. Because of these factors and the additional problem of unbalanced pricing, this area clearly needs more guidance from GSA. Also, if an improved system of monitoring basic agreement contract costs were installed, the data available would be useful to both GSA's delegations and program staffs.

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## NBS ALSO OFFERS LIMITED ASSISTANCE TO AGENCIES

The NBS Institute for Computer Sciences and Technology directly assists other agencies only under a reimbursable agreement when Bureau staff is available. Although NBS funds only about 1-1/2 staff-years annually to work in the teleprocessing services area, it contracts for studies on various aspects of teleprocessing and issues guidelines based on the studies.

Some of the Bureau's published guidelines are directed to multiple award schedule users. For general use, NBS recently prepared draft guidelines on workload analysis which focus on forecasting techniques and a methodology for translating agency requirements. In addition, it has initiated a study which will result in guidelines on how to acquire teleprocessing services, with special attention to cost evaluation problems.

## CONCLUSIONS

GSA appears to be managing the multiple awards schedule program adequately, but lacks the funding necessary to increase monitoring and assistance for the basic agreement program. Further, GSA could improve earlier management recognition of cost overruns if FPR 1.4-1203(f) required that an agency procurement request be submitted when costs exceed the amount (by 25 percent) projected in the base year or each option year of the contract.

## RECOMMENDATIONS

We recommend that the Administrator of General Services assist agency mamagement in reducing teleprocessing services costs by changing FPR 1-4.1203(f) to read:

> "Increased requirements beyond 25 percent of those specified in the base year or each option year individually in the contract shall be deemed requirements outside the scope of this paragraph and shall require a new APR submission."

## SUMMARY OF 28 TELEPROCESSING SERVICES PROCUREMENTS

| DEPARTMENT | AGENCY | VENDOR (note a) | TYPE OF CONTRACT (note b) | SYSTEM LIFE (YEARS) | DPA AMOUNT | AWARD AMOUNT | PROJECTED SYSTEM LIFE COST (note c) | PREVIOUS CONTRACT 1-YEAR COST | CURRENT CONTRACT 1-YEAR COST | ANNUAL I PERCENT OF AW (note |
|---|---|---|---|---|---|---|---|---|---|---|
| Defense: | | | | | | | | | | |
| Army | Corps of Engineers | Boeing | BA | 5 | $50,000,000 | $25,640,803 | e/ N/A | $6,942,948 | N/A | N/ |
| | Finance Center | CDC | SS-M | 1 | 12,984,000 | 12,984,000 | $ 12,984,000 | 7,948,000 | $11,519,000 | 8 |
| | Recruiting Command-REQUEST/RETAIN | Boeing | BA | 5 | f/ None | 8,493,954 | 120,000,000 | 7,373,168 | 18,850,185 | 1,10 |
| Air Force | Systems Command-COPPER IMPACT | Boeing | BA | 5 | 18,700,000 | 2,130,796 | g/ N/A | 3,450,072 | N/A | N/ |
| Office of the Secretary of Defense | Defense Contract Audit Agency | CompuServe | BA | 5 | f/ None | 2,233,445 | g/ N/A | 1,451,211 | N/A | N/ |
| | Defense Logistics Agency | CSC | BA | 5 | 1,500,000 | 996,822 | h/ N/A | 696,217 | 299,152 | 15 |
| | National Defense University | Boeing | BA | 5 | 600,000 | 10,001 | 165,721 | 106,992 | 269,356 | 13,46 |
| Navy | Civilian Personnel-NAOMIS | CSC | BA | 5 | 22,000,000 | 22,000,000 | 22,000,000 | i/2,392,526 | 2,953,549 | 6 |
| | Recruiting Command-PRIDE | Boeing | BA | 3.5 | 3,220,000 | 523,969 | 13,000,000 | 1,611,850 | 3,504,767 | 2,34 |

a/Boeing - Boeing Computer Services Company
CDC - Control Data Corporation
CSC - Computer Sciences Corporation

b/BA - Basic Agreement
SS-M - Sole source extension to the MAS

c/Agency projection.

d/This column is computed by comparing the Current Contract 1 Year Cost to the Award Amount divided by the System Life (Years) and expressing the result as a percentage.

e/Contract was terminated before pro
f/No DPA was issued because GSA cond
g/Conversion is in process and full
h/Bid protest was upheld and contrac
i/Projected from invoices for 10 mon

SUMMARY OF 28 TELEPROCESSING SERVICES PROCUREMENTS (cont.)

| DEPARTMENT | AGENCY | VENDOR (note a) | TYPE OF CONTRACT (note b) | SYSTEM LIFE (YEARS) | OPA AMOUNT | AWARD AMOUNT | PROJECTED SYSTEM LIFE COST (note c) | PREVIOUS CONTRACT 1-YEAR COST | CURRENT CONTRACT 1-YEAR COST | ANNUALIZED PERCENTAGE OF AWARD (note d) | END USER BILLED | UNREPRESENTATIVE BENCHMARK | UNBALANCED PRICING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Agriculture | Forest Service-AFFIRMS | CSS | MAS | 5 | 4,000,000 | 1,097,793 | 2,200,000 | 476,000 | e/444,794 | 203 | X | X | |
| | Statistical Reporting Service | MMDS | BA | 5 | 19,000,000 | 7,098,631 | 16,000,000 | 4,155,572 | 2,719,906 | 192 | X | X | |
| Commerce | NOAA—agencywide | ADP Network | BA | 5 | 12,500,000 | 2,360,000 | 12,500,000 | 1,883,116 | 1,829,555 | 388 | X | X | |
| | NOAA—National Geodetic Survey | OSI | SS-B | 1 | 650,000 | 650,000 | 650,000 | 320,000 | 559,068 | 86 | X | | |
| Education | Guaranteed Student Loan | Boeing | X | 5 | 40,000,000 | 11,750,697 | 12,500,000 | 5,699,052 | 3,464,052 | 147 | | X (note f) | |
| General Services Administration | System A-PBS | CSC | SS | 1 | 5,785,500 | 5,785,500 | 5,785,500 | 5,882,086 | 5,785,500 | 100 | | | |
| | System E-NEAR | CSC | BA | 5 | 20,000,000 | 29,600,000 | 20,300,000 | 6,007,073 | g/4,366,511 | 74 | X | | |
| Health and Human Services | Parent Locator | CSC | BA | 5 | 3,750,000 | 3,750,000 | 1,500,000 | 624,417 | h/498,172 | 66 | | | |
| | Social Security Administration-OPO | CSC | BA | 5 | 12,500,000 | 1,858,258 | 12,500,000 to 17,500,000 | i/2,508,780 | 2,261,249 | 615 | | X | X |

a/CSS - Computer Sharing Services, Inc.
MMDS - Martin Marietta Data Systems
OSI - Optimum Systems, Inc.
Boeing - Boeing Computer Services Company
CSC - Computer Sciences Corporation

b/MAS - Multiple Award Schedule
BA - Basic Agreement
SS-B - Sole source extension to BA
X - Exception to the Teleprocessing Services Program
SS - Sole source

c/Agency projection.

d/This column is computed by comparing the Current Contract 1 Year Cost to the Award Amount divided by the System Life (Years) and expressing the result as a percentage.

e/Projected from invoices for 10 months.
f/Workload estimates only; no benchmark was run.
g/Projected from invoices for 6 months.
h/Projected from invoices for 7 months.
i/Projected from invoices for 9 months.



APPENDIX VII

SUMMARY OF 28 TELEPROCESSING SERVICES PROCUREMENTS (cont.)

| DEPARTMENT | AGENCY | VENDOR (note a) | TYPE OF CONTRACT (note b) | SYSTEM LIFE (YEARS) | DPA AMOUNT | AWARD AMOUNT | PROJECTED SYSTEM LIFE COST (note c) | PREVIOUS CONTRACT 1-YEAR COST | CURRENT CONTRACT 1-YEAR COST | ANNUALIZED PERCENTAGE OF AWARD (note d) | END USER BILLED | UNREPRESENTATIVE BENCHMARK | UNBALANCED PRICING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Housing and Urban Development | HUDMAP-OHUNS | MMDS | e/ SS-M | 1.8 | 4,279,000 | 4,279,000 | N/A | 857,407 | 799,573 | N/A | X | | |
| | Miscellaneous Housing | Datacrown | BA | 6 | 15,000,000 | 8,829,330 | f/ Unknown | g/ N/A | 236,957 | 16 | X | | |
| Interior | Bur. of Indian Affairs | MMDS | SS-M | 1.1 | 4,050,000 | 4,050,000 | 4,050,000 | h/ 259,817 | 3,578,634 | 99 | X | | |
| Justice | Immigration & Naturalization Service | NDC | BA | 3 | 2,700,000 | 983,291 | 1,650,000 | g/ N/A | i/404,488 | 123 | | X | |
| Labor | Agencywide (backup/ overflow) | OSI | X | 4 | 1,600,000 | Open | Open | 5,295,131 | 1,854,067 | - | X | | |
| | Dir. of Information Technology | Boeing | X | 4 | 10,000,000 | 5,272,320 | 5,272,320 | g/ N/A | 1,224,000 | 95 | X | | X |
| Transportation | Coast Guard | Tymshare | SS-M | 1 | 1,117,000 | 1,117,000 | 1,117,000 | No record | 700,180 | 65 | | | |
| | Federal Aviation Administration | UIS | SS-M | 1 | 1,608,625 | 2,108,625 | 2,108,625 | No record | 1,763,785 | 84 | | | |
| | National Highway Safety Administration | Informatics | SS-B | 1 | 7,211,400 | 7,211,400 | 7,211,400 | No record | 4,052,769 | 56 | | | |
| | N.E. Quarter Improvmt. | McAuto | BA | 5 | 950,000 | 950,000 | Unavailable | g/ N/A | 345,220 | 182 | | X | |

a/MMDS - Martin Marietta Data Systems
NDC - National Data Corporation
OSI - Optimum Systems, Inc.
Boeing - Boeing Computer Services Company
UIS - United Information Services
McAuto - McDonnell Douglas Automation Company

b/SS-M - Sole source extension to the MAS
BA - Basic Agreement
X - Exception to the Teleprocessing Services Program
SS-B - Sole source extension to the BA

c/Agency projection.

d/This column is computed by comparing the Current Contract 1 Year Cost to the Award Amount divided by the System Life (Years) and expressing the result as a percentage.

e/Contract was replaced under the BA on Dec. 29, 1982.
f/The program this system supported has been dropped.
g/New system, no previous invoices.
h/Projected from invoices for 10 months.
i/The invoices cover 8 months of development, 4 months of production.



APPENDIX VII

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