

GAO

Report to the Chairman, Subcommittee on
Federal Services, Post Office, and Civil
Service, Committee on Governmental
Affairs, U.S. Senate

June 1988

DECENNIAL CENSUS

Minicomputer Procurement Delays and Bid Protests: Effects on the 1990 Census



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The Honorable David Pryor
Chairman, Subcommittee on Federal
Services, Post Office, and Civil Service
Committee on Governmental Affairs
United States Senate

Dear Mr. Chairman:

This report responds to your June 22, 1987, request that we review the Bureau of the Census' procurement of minicomputers primarily for the 1990 Decennial Census. You asked that we determine the cause and effects of the delays associated with the procurement. You also requested that we determine the reasons for two bid protests and whether the settlement of the first bid protest was warranted.

As arranged with the Subcommittee, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after its issue date. At that time, we will send copies to the House Subcommittee on Census and Population, other appropriate congressional committees, the Secretary of Commerce and the Director of the Bureau of the Census, the Director of the Office of Management and Budget, and the Administrator of the General Services Administration. Copies will also be made available to other interested parties upon request.

Sincerely yours,

A handwritten signature in cursive script that reads 'Richard L. Fogel'.

Richard L. Fogel
Assistant Comptroller General

Executive Summary

Purpose

In January 1986, the Bureau of the Census (Bureau), part of the Department of Commerce (Commerce), decided to procure an estimated 555 minicomputers at a maximum potential cost of \$80 million. The goal was to improve the accuracy and timeliness of data collection activities, primarily for the 1990 Decennial Census. The Bureau awarded the minicomputer contract in May 1987, much later than planned. In addition, two bid protests were filed, with one involving a settlement of \$1.1 million.

The Chairman of the Subcommittee on Federal Services, Post Office, and Civil Service, Senate Committee on Governmental Affairs, requested the General Accounting Office (GAO) to determine the cause of the minicomputer procurement delays and the effects of the delays on the Bureau's operations, particularly for the 1990 Decennial Census, and to determine the reasons for the bid protests and whether the settlement of the first bid protest was warranted.

Background

In January 1986, the Bureau decided to procure about 555 minicomputers of various sizes as well as support equipment and services. The vast majority (529) of the minicomputers were expected for use in the 1990 Decennial Census for such purposes as checking in questionnaires, keying questionnaire and address data, and preparing maps.

The Bureau issued a request for proposals (RFP) in September 1986 and awarded a contract in May 1987 under which it could purchase up to \$80 million of equipment and services. Bid protests were filed with the General Services Administration Board of Contract Appeals (GSBCA) before and after the award. The first protest was settled and the second was withdrawn by the protestors.

Results in Brief

Incomplete plans for the 1990 Decennial Census' organization and procedures prevented the Bureau from fully identifying, documenting, and planning for its automatic data processing (ADP) needs and initiating the minicomputer procurement process in a timely manner. This late start was compounded by a 6-month delay in the Bureau's planned minicomputer procurement schedule.

Commerce and the Bureau settled the first bid protest by paying a total of \$1.1 million to three offerors primarily because they felt they could not afford the additional time required to resolve the protest, regardless of the merits. Although the concern for time was not without merit, the

cash settlement could have been avoided if the Bureau had not initially created its own management dilemma by failing to plan properly for and manage the minicomputer procurement.

The procurement delays and bid protests contributed to a decrease in the time available to develop and test software for the 1990 census, a delay in beginning a key operation in preparation for the 1990 Decennial Census, increased costs, and delays in other procurements essential for the census.

Principal Findings

Delayed Procurement Process

Decisions on the organization and operating procedures for the 1990 Decennial Census, such as the number of processing offices and procedures for maintaining the address control file, were not finalized at the time the Bureau made its minicomputer procurement decisions and some are still not finalized. As a result, the Bureau was unable to fully justify its requirements to Commerce and GSA.

One of the key requirements was that all of the minicomputers be fully compatible. Both Commerce and GSA believed that this requirement restricted competition and were not satisfied with the justification the Bureau provided. This concern was the principal reason for delaying the contract award by approximately 6 months. In spite of this concern, Commerce and GSA approved the Bureau's request for procurement authority.

The Bureau also did not provide adequate documentation to comply with federal procurement requirements, including the preparation of a contingency plan in case the computer system fails to properly function. A contingency plan is particularly critical because the procurement delays have reduced the time available for developing and testing software for the 1990 census and have prevented the testing of some software applications under census-like conditions, as planned for the 1988 Dress Rehearsal. A contingency plan is particularly important in light of computer system failures the Bureau experienced in its 1986 tests of the decennial census. (See pp. 12 to 16.)

Bid Protests

The first bid protest (pre-contract award) was filed with the GSBCA by three offerors who contested the Bureau's determination that their proposals did not adequately respond to technical provisions of the RFP. After a hearing, the GSBCA temporarily suspended Commerce's procurement authority.

Commerce and the Bureau decided to settle the protest rather than defend it on its merits. Because of a late start and delays in the procurement process and the suspension of the procurement authority, they believed they could not afford additional time for the GSBCA to decide the case. Commerce also discovered a procedural flaw in the procurement process which it believed would have been discovered by the three offerors and would have jeopardized the government's case before the GSBCA. Commerce cited this procurement flaw as a contributing factor in its decision to settle.

The settlement stipulated that each of the three offerors would receive up to \$400,000 for proposal preparation and protest costs after submitting appropriate supporting documentation. After making a cursory review, the Bureau, without questioning the documentation submitted, paid a total of \$1.1 million to the three offerors, which represented all claims submitted up to the \$400,000 maximum for each offeror.

The second protest (post-contract award) involved two offerors. After the GSBCA ordered a temporary suspension of the procurement, the offerors voluntarily withdrew their complaints.

The bid protests overtaxed the Bureau's procurement office, which at that time employed three of the six authorized contract specialists and was beset by high turnover in its leadership with five managers in 3 and 1/2 years. This delayed other decennial census procurements, including equipment and supplies needed to print the maps used to collect and tabulate population data by geographic areas. By July 1987, the Bureau had filled most of the vacancies. (See pp. 21 to 29.)

Effects of Delayed Procurement and Bid Protests

The minicomputer procurement delays and bid protests (1) contributed to delays in developing and testing software for the 1990 census and in beginning the address list development for suburban and rural areas (delays in this activity in the 1980 census led to a more expensive and less accurate census), (2) resulted in the payment of \$1.1 million to settle the first bid protest, (3) influenced the Bureau's decision to lease computer time from another agency at an added cost of up to \$3 million,

and (4) contributed to the delay in other procurements needed for the 1990 census. (See pp. 16 to 19.)

Recommendations

Because the late start and delayed contract award reduced the time available for software development and testing, particularly under census-like conditions in the 1988 Dress Rehearsal, GAO recommends that the Secretary of Commerce direct the Census Bureau to prepare a formal contingency plan in the event the minicomputer system does not operate properly.

Agency Comments

GAO did not obtain official agency comments but did discuss the contents of this report with Bureau officials. They provided technical clarification which GAO incorporated where appropriate.

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Abbreviations

ACF	Address Control File
ADP	Automatic Data Processing
CCF	Collection Control File
DPA	Delegation of Procurement Authority
FAR	Federal Acquisition Regulation
FIRMR	Federal Information Resources Management Regulation
G and A	General and Administrative Costs
GAO	General Accounting Office
GB	Billions of Bytes
GSA	General Services Administration
GSBCA	General Services Administration Board of Contract Appeals
IG	Department of Commerce Inspector General
IRS	Internal Revenue Service
MB	Millions of Bytes
MIPS	Millions of Instructions Per Second
OMB	Office of Management and Budget
RAM	Random Access Memory
RFI	Request for Information
RFP	Request for Proposals

Introduction

On September 19, 1986, the Bureau of the Census (Bureau), which is part of the Department of Commerce (Commerce), issued a request for proposals (RFP) to acquire minicomputers and support equipment and services, primarily to support the 1990 Decennial Census. While the Bureau expected to award the contract by November 26, 1986, it encountered several procurement problems, including two bid protests (one pre-contract and one post-contract award). The pre-contract award protest was settled by paying \$1.1 million. As a result of the procurement problems and the first bid protest, the contract was not awarded until May 15, 1987, a delay of about 6 months. This delay compounded problems arising from the Bureau's late start in beginning its procurement activities. The combination of the procurement problems and delayed contract award have disrupted the Bureau's operations, including several key activities vital to the success of the 1990 census.

On June 22, 1987, the Chairman of the Subcommittee on Federal Services, Post Office, and Civil Service, Senate Committee on Governmental Affairs, requested that GAO assess the Bureau's procurement problems, including the bid protests, and determine their cause and effects, particularly on the 1990 census.

Overview of Bureau Activities

The Bureau is the primary source of statistics collected to assist federal, state, and local governments as well as the private sector in the development and evaluation of social and economic programs.

The Bureau's largest and most complex undertaking is a complete count of the nation's population and housing every 10 years (decennial census). The Constitution mandates the population count, which has been done since 1790. Three major uses of the decennial census data are the (1) determination of the number of seats each state is entitled to in the House of Representatives, (2) formulation of congressional and state legislative redistricting plans, and (3) distribution of billions of dollars in federal and state funds. The cost of taking the census has grown over the years, and the Bureau estimates that the 1990 Decennial Census will cost about \$2.6 billion. By law, the census data will be collected as of April 1, 1990 ("Census Day"), and the population counts must be provided to the President by December 31, 1990.¹

Every 5 years, the Bureau takes three other major censuses:

¹See 13 U.S.C. Section 141 (1982).

- census of agriculture;
- economic censuses, covering businesses, construction, manufacturing, mining, and transportation; and
- census of governments.

Between these periodic censuses, the Bureau, using statistical sampling techniques, conducts surveys to update certain data. The Bureau also collects other statistics which are used extensively as input into broad indicators of economic activity, such as the Gross National Product, Index of Industrial Production, and international trade statistics.

Minicomputer Procurement History

Originally, the Bureau only planned to acquire 6 to 10 large, high speed minicomputers for its annual data collection surveys, such as the Annual Survey of Manufactures. This plan, however, was later changed significantly. In November 1985, the Bureau submitted a request to Commerce, which has oversight over the Bureau's procurements of automatic data processing (ADP) equipment, to acquire these minicomputers. In January 1986, the Bureau decided to consolidate some of the automation requirements for three other programs—1990 Decennial Census, geographic update system, and the agricultural and economic censuses—with its original request. The Bureau made this decision in the hope that the procurement for the three programs would be expedited.

Under the revised plan, the Bureau expected to procure an estimated 555 minicomputers and related hardware, software, training, and maintenance over an estimated 6-year system life spanning 1987 to 1992. The Bureau planned to purchase the minicomputers through a contract which did not require a specific quantity of equipment, materials, and services but which did stipulate a ceiling value of \$80 million.² About 500 of these minicomputers were exclusively for use in the 1990 Decennial Census. Twenty-nine were to be used for the geographic update system needed to support the decennial census.

In January 1986, the Bureau decided to procure five different types of minicomputer systems instead of one, as originally planned. The systems vary greatly in speed, memory, size, and cost as shown in table 1.1. Moreover, the Bureau required that all five minicomputer systems be

²For the procurement, the Bureau used an indefinite-quantity type contract which provided for a range of equipment, supplies, and services with a stated minimum (\$6.9 million) and a maximum amount (\$80 million) to be provided over a fixed period of time (6 years).

capable of using the same operating and applications software programs (compatibility). This procurement is referred to by the Bureau as a family of compatible minicomputers.

Table 1.1: Types of Minicomputer Systems

System	Speed (MIPS) ^a	Random access memory (MB) ^b	On-line storage (GB) ^c	Estimated cost ^d
A	8	32	20.0	\$700,000
B	4	24	15.0	400,000
C	1	16	5.0	150,000
D	0.5	4	2.0	75,000
E	0.25	2	0.5	50,000

^aMIPS is a measure of how fast a computer operates and stands for millions of instructions per second that a computer can perform.

^bRandom access memory (RAM) resides inside the computer itself. RAM is faster than the on-line storage memory. MB stands for millions of bytes and is a measure of a system's information storage capacity.

^cOn-line storage is memory that resides on disk or tape outside the computer. GB stands for billions of bytes and is a measure of a system's information storage capacity.

^dAverage unit cost, estimated by the Bureau, including the cost of peripheral equipment and software license agreements.

Objectives, Scope, and Methodology

On the basis of the Subcommittee's June 22, 1987, letter and subsequent discussions, we agreed to determine the

- actual and potential effects of the minicomputer procurement problems on the Bureau's operations, particularly the decennial census;
- reasons why the Bureau took longer than expected to obtain the needed approvals from Commerce and the General Services Administration (GSA);
- reasons for the first bid protest, and whether the settlement was warranted and reasonable;
- reasons for the second bid protest;
- actions taken to improve the procurement function in order to avoid future problems and delays; and
- adequacy of the staffing levels in the procurement office.

In responding to these issues, we obtained and examined the transcripts of the two protest hearings as well as documents submitted in connection with the hearings. We examined minicomputer procurement documents, including the Bureau's request for proposals (RFP), vendor proposals, protestor claims and supporting documentation, and GSA's

minicomputer delegation of procurement authority (DPA) file. We reviewed the Bureau's files on the procurement office's staffing. We interviewed Commerce Department procurement and legal officials and the Deputy Secretary; Bureau management, procurement, program, and administrative staff; GSA procurement personnel; and protestor representatives. We also reviewed previous GAO and Department of Commerce Inspector General (IG) reports on Bureau operations. Our review was done in accordance with generally accepted government auditing standards. Our field work was done between July 1987 and February 1988.

At the subcommittee's request, we did not obtain official agency comments. We did, however, discuss the contents of the report with Bureau officials. They provided technical clarifications which we incorporated where appropriate.

Minicomputer Procurement Delays Adversely Affect Bureau Operations

The delays in procuring the minicomputers have adversely affected the Bureau's operations, particularly the 1990 Decennial Census, and have resulted in increased costs. The Bureau's late decision to procure minicomputers for the census was compounded by a 6-month delay in its contract award. It started the procurement process late because of incomplete plans for the 1990 Decennial Census and uncertain census ADP requirements. In addition, the Bureau did not follow federal regulations covering ADP procurement and did not fully justify certain requirements included in its procurement request.

Major Reasons for Delay in the Procurement Process

The Bureau's late decision to procure minicomputers for the 1990 Decennial Census was compounded by a 6-month delay in the Bureau's planned minicomputer procurement schedule. The major reasons for these delays were that

- the procurement process was delayed as a result of incomplete plans for the 1990 Decennial Census;
- needed delegation of procurement authority from GSA, through Commerce, took longer than planned; and
- evaluation of vendor proposals and conducting negotiations took longer than planned.

Late Start

The Bureau did not decide to procure the family of minicomputers until January 1986. At that time, the minicomputer contract was expected to be awarded on November 26, 1986. Detailed draft specifications, however, were not completed until April 1986. This allowed the Bureau only about 7 months or 210 days to perform all the required planning, obtain approvals from Commerce and GSA, develop and issue the RFP, receive and evaluate the proposals, conduct live test demonstration tests, and award the contract.

This 210-day period is substantially less than current Bureau guidance. In fact, the Director of the Bureau of the Census issued a memorandum, dated June 22, 1987, which said that program offices should allow at least 300 days to award competitive contracts for procurements totaling \$1 million or more. This memorandum further said that the 300 days applied only after the detailed specifications and other requirements had been completed and submitted to the Bureau Procurement Office.

As discussed in a prior GAO report,¹ the Bureau and Commerce historically have taken 4 to 5 years to have automated equipment available for use after its need was identified. This time period accommodates the identification of the type of equipment, developing specifications, requesting and evaluating proposals, contract award, equipment delivery and installation, testing equipment, and testing the computer programs designed for the equipment. For example, for the 1990 Decennial Census, the Bureau planned to start preparing maps in October 1987. On the basis of longstanding experience, the Bureau should have started identifying and planning for its minicomputer requirements to support its geographic needs by October 1983. However, the Bureau did not decide to procure the minicomputers until January, 1986.

A major reason for the delayed start in the procurement was the uncertain and changing ADP needs for the 1990 Decennial Census. As of February 1988, these needs had still not been finalized. The Bureau has decided that the address control file (ACF) will not be maintained on the minicomputers, as originally planned. This was one of the principal reasons for obtaining the minicomputers. Instead, the Bureau will maintain an abbreviated version of the ACF on the minicomputers, which is called the collection control file (CCF). The ACF will be maintained on the Bureau's mainframe computers.

While the Bureau plans to use minicomputers (systems B and C) at processing offices, the number of offices has changed. The Bureau originally planned to have 49 processing offices. It later decided to reduce the number to 11. At the conclusion of our audit work, the Bureau was considering a further reduction.

Delegation of Procurement Authority Process Took Longer Than Expected

Agencies must obtain a delegation of procurement authority from GSA in order to obtain major ADP procurements.² The Bureau allowed 30 calendar days to obtain the needed authority through Commerce from GSA, but it actually took 4 and 1/2 months, 3 and 1/2 months longer than expected. The Bureau's expectation of obtaining the DPA within 30 calendar days proved to be unrealistic because it did not provide adequate justification for requirements contained in the procurement request which Commerce and GSA believed would tend to limit competition.

¹The Census Bureau Needs to Plan Now for a More Automated 1990 Decennial Census (GAO/ GGD-83-10, Jan. 11, 1983).

²See 40 U.S.C. 759 (1982), as amended.

With few exceptions, the Federal Information Resources Management Regulations (FIRMR)³ require GSA to review and approve agency ADP procurement requests within 20 working days of receipt, with an additional 5 days for mail transport.⁴ Some of the exceptions include failure to adequately justify requirements, especially those that restrict competition, and submitting incomplete documentation. On the basis of statistics GSA provided, we found that GSA generally approves agency ADP procurement requests within the 20 working day requirement.

There were two reasons why the Bureau's minicomputer procurement request approval was delayed. The first and primary reason was the Bureau's requirement that all five minicomputer systems be capable of using the same operating and application system software. Both Commerce and GSA believed that this compatibility requirement restricted competition, as there were a limited number of manufacturers who made the range of minicomputers that met both the performance characteristics the Bureau wanted and the compatibility requirement. Moreover, GSA believed that the Bureau had not adequately justified the compatibility requirement.

The second reason was the Bureau's desire to use an indefinite-quantity type contract. Commerce officials said they were concerned that an indefinite quantity-type contract might allow the Bureau to acquire more minicomputers than its current needs justify.

Despite these concerns, both Commerce and GSA eventually approved the Bureau's minicomputer procurement request and the contract awarded did provide for the compatibility desired by the Bureau. However, Commerce did impose one major restriction—the Bureau had to have every equipment order approved by Commerce before the Bureau could actually place the order.

Evaluating Proposals Took Longer Than Planned

The Bureau took 1 and 2/3 months longer than expected to complete the evaluation and negotiation process. The Bureau had allowed 3 and 1/3 months to complete this process, but actually took 5 months. The delay occurred during the initial evaluation portion of the process because the Bureau was unable to readily determine if some of the offerors' proposals complied with the technical RFP requirements. Consequently, the

³See 41 C.F.R. Chapter 201 (1986).

⁴See 41 C.F.R. section 201-23.107(b),(c) (1986).

Bureau had to request the offerors to supply additional information to clarify their proposals, and then re-evaluate their proposals.

Planning Requirements Not Followed

When acquiring automated information systems, agencies are required to adhere to the FIRMR and Office of Management and Budget Circular A-130 as well as other federal procurement regulations, such as the Federal Acquisition Regulation (FAR).⁵ Some of the most important requirements are

- defining the agency's missions and goals,
- determining the information needed to meet the agency's missions and goals,
- developing and examining alternative solutions for meeting the agency's information needs,
- selecting the best alternative based on a cost/benefit analysis,
- developing contingency plans in the event that the selected solution fails or encounters problems during development,
- developing back-up plans in the event the selected solution fails once it is operational, and
- providing a list of key activities and the dates for accomplishing these activities.

The purpose of these planning requirements is to ensure that agency management has thoroughly examined its information needs, determined the most effective way to meet these needs, and assessed the risks that the development of any information system involves.

The Bureau did not fully meet these requirements for any of the four programs for which it is acquiring the minicomputers. The Bureau did some of the required planning for the annual data collection surveys program before initiating the contract award phase of the procurement process. Our review of the Bureau's annual data collection surveys requirements initiative, however, showed it lacked a

- complete discussion of alternative solutions,
- cost/benefit analysis,
- contingency plan should the system fail during development or after operation commences, and
- list of key activities and dates for completing these activities.

⁵See 48 C.F.R. Chapter 1 (1987).

The Bureau did not complete the requirements initiatives for the other three programs before submitting its minicomputer procurement request to Commerce for approval. None of the three requirements initiatives were approved by Commerce before the request for proposals (RFP) was issued. Commerce subsequently approved the requirements initiatives for the agricultural and economic censuses programs, the geographic system and portions of the 1990 census. However, our review of these requirements initiatives revealed deficiencies similar to those we observed for the annual data collection surveys initiative. Moreover, the requirements initiative for the main part of the 1990 census had still not been completed or approved as of the end of February 1988, even though the bulk of the minicomputers was for this activity.

The Commerce IG noted similar problems in a September 1987 report on the Bureau's minicomputer procurement planning process.⁶ The Bureau concurred with all the IG's findings and agreed where possible to do the required planning after the fact, time permitting.

Effects of Delayed Procurement

Two major effects of the delayed minicomputer procurement are 1) delaying the development and testing of software for use in the 1990 Decennial Census and 2) slowing the start of address list development for suburban and rural areas.

Software Development and Testing Delayed

The Bureau had planned to test the minicomputer software in the dress rehearsal, which began in 1987 and continues through 1988. This dress rehearsal is intended to replicate, with only minor adjustments, the actual census. However, the Bureau was unable to use the minicomputers for some dress rehearsal activities, including the keying of data used to develop the ACF, the production of maps, and the updating of geographic information. The Bureau expects to use the minicomputers for some later 1988 dress rehearsal operations, including name keying, and believes this could be a surrogate test of the equipment for ACF applications.

The Chief of the Bureau's Decennial Operations Division said that the minicomputer software quality assurance program would not be completed in time for the 1988 dress rehearsal. He said the reason the minicomputer software could not be fully tested was the delay in receiving

⁶Final Audit Report on Census Family of Compatible Minicomputers, Report Number AIS-7-12.

the minicomputers. As a result, he believed the Bureau will be entering the census without a test of some software under census-like conditions.

Using software before it is fully proven is risky and could result in the minicomputer systems not functioning as intended. This happened in the 1986 pretests for the 1990 census⁷ when the Bureau did not allow sufficient lead time to adequately test software programs that were developed for that test before usage. As a result, many software programs initially did not work for some operations, such as checking-in questionnaires, and had to be modified. To resolve these problems, headquarters staff provided technical assistance and support to the pretest sites. During the full-scale census, however, these resources would not be available to support several hundred regional, district, and processing offices spread across the country. Problems, such as those encountered in 1986, could adversely affect processing operations in 1990 due to the large workloads and the time constraints.

Problems experienced by the Internal Revenue Service (IRS) during 1985 also underscore the risks inherent in not allowing adequate time for testing. In our earlier work on those problems, we noted that an adequate quality assurance program was not applied and that software programs were put into production before they were fully tested.⁸ As a result, some programs ran inefficiently while other programs failed to meet users' needs. This contributed to inaccurate notices to taxpayers, untimely responses to inquiries, and increased interest paid by the government on delayed refunds.

Using software that has not been fully tested and shown to function properly is also contrary to the intent of Office of Management and Budget Circular A-130, which requires that a system be fully tested before being used. For example, to comply with the spirit of the circular, the Bureau decided not to use the new minicomputer system for the Census of Manufactures, an important part of the 1987 Economic Censuses. This decision was reached because the Bureau could not test the equipment and software programs planned to be used in the 1987 Census of Manufactures in its prior Annual Survey of Manufactures.

⁷Decennial Census: Pretests Could be Used More Effectively in Census Planning (GAO/GGD-87-24BR, Jan. 1987).

⁸Tax Administration: Replacement of Service Center Computers Provides Lessons for the Future (GAO/GGD-87-109, Sept. 1987).

Delayed Address List Development

As of February 1988, the Bureau had postponed the scheduled beginning of the address list development for rural and suburban areas by 4 months to June 1988. This list development is a critical part of the decennial census. Much of this postponement was caused by delays in producing maps from the Bureau's automated geographic support system. The minicomputers were to be used to prepare computer tapes needed to print the maps. According to the Bureau, its mainframe computers lacked sufficient processing capacity to produce all the needed maps within the required time frames. In Decennial Census: Automation of the Geographic Support System (GAO/GGD-87-75BR, May 1987), we commented on the Bureau's underestimation of its computer requirements for the automated geographic support system and delays the Bureau was experiencing in developing computer files needed to generate maps.

Delays in developing address lists can lead to later problems. One of the most important prerequisites for the decennial census is the development of an address list for rural and suburban residences. An address list is crucial because it is used for mailing out questionnaires, controlling the list of nonrespondents for followup activities, and tabulation purposes. The Bureau estimates that for the 1990 census there will be about 40 million residences in the rural and suburban areas, and an additional 60 million residences in urban areas.

In the 1980 census, late maps and a longer-than-expected period of field canvassing resulted in the Bureau cancelling one of its key quality control procedures, a Postal Service check of the Bureau's suburban and rural address list. This resulted in a less accurate census. To help compensate for the missed procedure, the Bureau instituted a last-minute recanvassing of some of the rural portions of the country, which included approximately 15 million households. The Bureau estimated that about 105,000 housing units were added to the address list from this procedure at a cost of \$10.3 million. The housing unit cost for each addition was about \$98, making it one of the least cost-effective procedures in the 1980 census.

For the 1990 census, the Bureau expects to employ the Postal Service check, which was omitted in the 1980 census, for most suburban and rural residential households. In addition, the Bureau plans to use a procedure to reconcile differences between its self-developed address data and data the Postal Service provides.

The delayed minicomputer procurement and the need to expedite map production resulted in the Bureau leasing time on the Department of

Agriculture's mainframe computer in Fort Collins, Colorado, to generate computer tapes needed to produce maps. The agreement is for 1 year, from October 1987 through September 1988, at an annual cost of about \$3 million. However, the Bureau can cancel the agreement at the end of any month.

The Bureau anticipates that it will be unable to use the minicomputers for the early maps, but is planning to use them for updating the maps by mid-1988. This means that the software developed for the mainframe computer will have to be converted for use by the minicomputers. According to the Bureau's Special Assistant to the Chief, Geography Division, if the Bureau had received the minicomputers when planned, it would not have had to lease time on another agency's mainframe computer. Also, the Bureau could have avoided the cost for software conversion because the programs could have been written specifically for the minicomputer system.

Continued slippage in the development of address lists, as the Bureau's March 1988 progress reports suggest is occurring, could jeopardize completion of some of the Bureau's planned census operations. If planned quality control procedures are eliminated as they were in 1980, the quality of the address list could be impaired, thereby reducing the accuracy of the census count. Also, an elimination of the procedures might force the Bureau to institute the costly recanvass operation used in the 1980 census.

Conclusions

A major reason for the minicomputer procurement problems was the Bureau's failure to develop and finalize in a timely manner the detailed organizational structure and procedures to be used for the 1990 Decennial Census. The Bureau's planning for the minicomputers was started late and remained incomplete. As of the completion of our audit work, plans for the 1990 Decennial Census, which was only 2 years away, had still not been finalized. This was evident in the Bureau's continued indecision regarding the number of processing offices.

The Bureau's minicomputer procurement problems have, directly and indirectly, delayed and disrupted several key activities vital to the success of the 1990 Decennial Census. Because of the delayed minicomputer procurement, the Bureau may be unable to fully develop and test some minicomputer software needed to support the 1990 census. This could

lead to the minicomputers not functioning as intended. Despite the problems in the minicomputer procurement and the requirements for a contingency plan, the Bureau has not developed one.⁹

At the completion of our field work in February 1988, the Bureau was 4 months behind schedule in producing maps needed to develop address lists for suburban and rural residential households. This, in turn, delayed the start of the address list development, a critical census process. The delay may cause the Bureau to reduce or eliminate some or all of its planned quality control checks on the address lists.

Recommendation

We recommend that the Secretary of Commerce direct the Bureau to develop a formal contingency plan that identifies options for employing backup automated equipment and/or possible manual operations to meet essential operational needs in the event that the minicomputer system, including the software, does not operate properly.

⁹See OMB Circular A-130 and Federal Information Processing Standards Publication 38.

Bid Protests and Settlement: Causes, Costs, and Other Effects

The Bureau's minicomputer procurement was the subject of two bid protests. The first was filed before contract award, and the second after the contract was awarded. The Bureau settled the first bid protest by paying a total of \$1.1 million to three offerors. Commerce and the Bureau decided to settle the protest primarily because they believed they could not afford the delay and disruption to the procurement process that would accompany resolving the protest through the administrative process. The second bid protest was withdrawn by the offerors shortly after it was filed.

Although the bid protests did not materially delay the award of the minicomputer contract, the protests placed a heavy burden on the Bureau's understaffed procurement office. As a result, other procurements vital to the decennial census were delayed. To help avoid future problems and delays, Commerce and the Bureau have taken actions to improve the Bureau's procurement function.

Reason for First Bid Protest

The first bid protest, filed on February 26, 1987, with the GSA Board of Contract Appeals (GSCBA), stemmed from the Bureau's decision that three offeror proposals were technically unacceptable for failure to comply with two of the database management software requirements contained in the minicomputer RFP. The protest was initially filed by one of the offerors and the other two offerors joined as intervenors, each objecting to the Bureau's decision on substantially the same grounds.

On March 11, 1987, after holding a hearing on the matter, GSCBA granted the protesting parties' request to suspend Commerce's minicomputer procurement authority. This suspension was to have remained in effect until the GSCBA rendered a decision on the merits of the protest, a period of up to 45 working days from the filing of the protest unless it specifically determined that a longer period was required. The initial 45-day period would have ended on April 30, 1987.

Commerce and the Bureau Settle First Bid Protest

Commerce and the Bureau decided to settle the protest rather than to defend it before GSCBA. On March 19, 1987, the protestors and the Department of Commerce filed a joint motion with the GSCBA to dismiss the protest on the basis of a joint stipulation which included the following provisions:

- Commerce would withdraw its determination that the technical proposals submitted by the three offerors were not technically acceptable and

were not susceptible to being made acceptable, within 1 calendar day after the date of the GSBICA's order approving the joint motion.

- Commerce would amend the RFP to clarify its requirements for data access software within 2 calendar days after the date of the GSBICA's order approving the joint motion.
- Commerce would permit the three offerors to submit revisions to their proposals in response to the amendment to the RFP not later than 5 calendar days after receipt of the amendment.
- Commerce would evaluate any revised proposals submitted by the three offerors and, upon determining the acceptability of them, arrange not earlier than 20 calendar days after receipt of the RFP amendment a live test demonstration.
- In lieu of submitting a revision to their proposals, each offeror had the option of notifying Commerce of its intention to seek from Commerce payments of its protest legal fees and related expenses as well as bid and proposal preparation costs. Such notification was to be submitted not later than 3 calendar days after receipt of the RFP amendment, but in no event would the sum paid to any party exceed \$400,000.

The GSBICA approved the joint motion on March 19, 1987, the same date it was filed, dismissing the protest and rescinding the March 11, 1987, procurement suspension order. All three offerors decided to seek payment of their protest legal fees and bid and proposal preparation costs rather than to submit revisions to their proposals. The Bureau paid a total of \$1.1 million to the three offerors. Table 3.1 shows, by offeror, the amount claimed by type of cost and the total amount the Bureau paid.

Table 3.1: Bid Preparation and Protest Costs

Figures in thousands of dollars				
Type of cost	Offeror One	Offeror Two	Offeror Three	Total
Direct labor	\$156.1	\$51.2	\$105.7	\$313.0
Overhead	280.0	132.1	134.2	546.3
Other direct costs	44.1	39.2	91.2	174.5
General and administrative	90.6	66.6	32.8	190.0
Legal fees ^a	44.0	29.9	30.3	104.2
Total amount claimed	\$614.8	\$319.0	\$394.2	\$1,328.0
Amount paid	\$400.0 ^b	\$319.0	\$394.2	\$1,113.2

^aLegal fees for bid protest

^bThe Bureau paid the protestor's costs up to the full amount allowed by the settlement agreement.

Reasons for Commerce's and the Bureau's Decision to Settle the Protest

According to Commerce and Bureau officials, they decided to settle the protest primarily because of their concerns about time and cost and not because they felt the rejection of the three offerors' proposals was erroneous, as was reflected in the settlement. Due to a late start and prior delays, the Bureau was significantly behind schedule procuring the minicomputers. They believed they could not afford to wait the additional time or incur the further disruption to the procurement process that would be required for the GSBGA to decide the case. Before the protest was filed, the Bureau decided that if it could not award the minicomputer contract by June 1, 1987, it would eliminate the decennial census minicomputer requirements from the procurement. Thus, the Bureau would resort to doing the 1990 census much as it had done the 1980 census.

The former Deputy Secretary of Commerce, who made the decision to settle the protest, said that regardless of whether Commerce and the Bureau ultimately won or lost the protest, the amount of time that would have been required to defend the protest would have precluded the use of the minicomputers for the 1990 Decennial Census. According to the then Deputy Secretary, this would have resulted in increased operational costs and a decrease in the accuracy and timeliness of the census. He said that the estimated expenses of about \$1 million to settle the protest was the least costly way to go, increasing the total procurement costs by about 1 and 1/2 percent.

Commerce was also concerned that it might lose the protest because of the discovery of a procedural flaw in the procurement process. This flaw was not the basis of the protest, as the three offerors were unaware of it when they filed their complaint. The Bureau had approved an extension of time requested by one offeror to permit it to change its proposed software package. According to Commerce and Bureau officials, the other offerors did not ask to change their software packages or request an extension of time. The Bureau, however, did not inform them of the extension granted to the one offeror or offer them an opportunity for a similar extension. The Commerce attorney responsible for handling the protest believed the extension for the one offeror could have jeopardized the government's case before the GSBGA. According to the attorney, this error would have been discovered by the three offerors in the course of litigation and could have resulted in the loss of the protest.

Analysis of the Settlement

Because of their concern about time, Commerce and the Bureau decided that a cash settlement was the most expeditious method of disposing of

the protest and proceeding with the procurement. As part of the settlement, Commerce and the Bureau agreed to withdraw their determination that the offerors' proposals were unacceptable and they further agreed to amend the RFP. By withdrawing their findings that the three offerors' proposals were unacceptable, Commerce, in effect, conceded that the offerors had been improperly excluded from the competition. This satisfied the GSBICA requirement for a finding of a statutory violation necessary for awarding protest and bid and proposal preparation costs. Under GSBICA rules, protest and bid and proposal preparation costs may be paid if the GSBICA determines that a challenged agency action violates a statute or regulation or the conditions of any delegation of procurement authority.¹

However, on the basis of evidence obtained through our review, it appears that despite the provisions of the agreement, Commerce and Bureau officials continued to believe that the three proposals were, in fact, technically unacceptable. From interviews with senior officials at both Commerce and the Bureau, we found general agreement that the RFP was clear and that the offerors' proposals did not meet the requirements of the RFP. They believed that a strong case existed to pursue the protest on those issues. A Bureau official involved with the procurement said that the RFP amendment, which the settlement stipulated, was unnecessary and added that at the time of the settlement the Bureau was willing to do whatever was necessary to settle the protest.

Moreover, from our review of the record, we found that the three offerors' proposals did not fully comply with the RFP's database management software requirements. The proposals did not satisfy the RFP provision of supporting up to 2,000 data fields per record without diminishing the user friendly system objective. We believe that this provided a basis for the Bureau's position that the proposals were unacceptable. Furthermore, on the basis of our independent review of the RFP and the amendment resulting from the settlement, we believe that the RFP was clear and did not require the amendment for clarity.

Regarding the procurement flaw cited by Commerce as a contributing factor in the decision to settle the protest, we are not certain to what extent the flaw would have affected Commerce's and the Bureau's case if it had gone to the merits.

¹40 U.S.C. Sec. 759(h)(5)(B)(C)(Supp. III 1985).

If Commerce and the Bureau felt that it was necessary to cure the flaw, the appropriate remedy would have been to allow each of the three offerors a reasonable opportunity to submit a revised proposal. However, this would have required additional time which Commerce and the Bureau said they did not have. Instead, Commerce and the Bureau elected for a cash settlement of the protest. While the settlement agreement did allow the offerors the option of submitting revised proposals under an amended RFP in lieu of a cash settlement, Commerce and Bureau officials said they did not expect the offerors to accept this option since the 5-day period provided little time to prepare revised submissions.

Reasonableness of Amount Paid and Costs Claimed in First Bid Protest Settlement

On the basis of our limited review of the offerors' claims and supporting documentation, we have four concerns regarding the amounts paid to settle the first bid protest. These concerns involve

- insufficient or no support for a large portion of claimed costs;
- costs claimed for work before the issuance date of the RFP;
- bid preparation costs claimed for work after the Bureau notified the offerors that their proposals were noncompliant and, therefore, no longer eligible to compete for the minicomputer contract; and
- incorrect computation of some claimed costs.

However, with the exception of the incorrectly computed claimed costs, we were unable to conclude definitely that these other costs are improper, and, therefore, should not have been paid, because what constitutes allowable bid and proposal preparation and protest costs is not clearly defined. Due to the fact that we could not reach any definite conclusions on these costs, we did not attempt to identify the total dollar values involved.

We also found that the Bureau made a cursory review and did not question the offerors' claimed costs. The Bureau's current procurement chief said that the reason for this was that the 30-day period allowed in the settlement agreement to make this review was insufficient to arrange and make an examination by audit personnel. He said at least 60 days was needed.

Insufficient Support for Some Claimed Costs

The settlement agreement required that the offerors submit "appropriate supporting documentation" with their claims. The three offerors did not provide sufficient documentation for more than one-half of the costs

they claimed. Of the \$1,327,700 claimed by the offerors, \$736,300 or 55.4 percent was for overhead (\$546,300) and general and administrative costs (\$190,000). None of the offerors provided any support or backup data for overhead costs claimed other than describing their accounting procedures.

Only Offeror One provided a breakout of general and administrative costs. However, it consisted only of summary figures and did not describe the costs in detail. This summary raised questions for us because it included items such as federal and state income taxes, funds received from a litigation settlement, sales discounts, and asset sales, all of which are usually not considered general and administrative costs.

Costs Incurred Before Issuance of the RFP

The settlement agreement said that the offerors' claims would be limited to costs incurred in preparing their proposals and pursuing the protest action. However, we found that claims by Offerors One and Two included costs incurred before the minicomputer RFP was issued on September 19, 1986.

Offeror Two claimed and the Bureau paid \$3,455 for responding to the Bureau's request for information (RFI) on its proposed minicomputer acquisition. The RFI took place about 6 months before the RFP was issued. Offeror One's claim included direct labor charges for four employees before the minicomputer RFP was issued. Offeror Three did not submit sufficient documentation for us to determine if it too had included costs in its claim incurred before the minicomputer RFP was issued.

Claim of Proposal Preparation Costs Incurred After Notice of Proposal Rejection Was Received

In a letter dated February 9, 1987, the Bureau notified all three offerors that their proposals were noncompliant with the database software requirements contained in the minicomputer RFP. This letter further said that all three were no longer eligible to compete for the minicomputer contract. All three offerors included in their claims the proposal preparation costs they incurred after the Bureau formally notified them that they were no longer eligible to compete for the minicomputer contract. For example, in examining the offerors' submissions to support the settlement payments, we found that Offeror Two included at least \$32,922 of these costs in its claim. This represents about 10 percent of Offeror Two's \$319,000 claim.

Incorrect Computation of Cost

Offeror Two's claim was overstated by \$1,552 because it incorrectly computed the amount of general and administrative costs applicable to the minicomputer procurement. The offeror made a partial payment to its lawyers and claimed this amount as a direct cost rather than as a legal expense. As a result, the offeror applied its general and administrative (G and A) rate to the payment, which resulted in the overstatement. Had it been classified as a legal expense as the remainder of the lawyers fees incurred were, the additional \$1,552 in G and A costs would not have added to the claim because the legal fees would not be subject to the G and A rate.

Reasons for Second Protest

The second bid protest was filed with the GSBGA on May 22, 1987, about a week after the contract was awarded, and involved two other offerors with different reasons for protesting. One offeror believed it should have been awarded the minicomputer contract since it had a lower evaluated price than the winning offeror. The second offeror claimed it filed a protest with the Bureau after being notified by the Bureau on February 13, 1987, that it had been eliminated from the competitive range. This offeror asserted that the Bureau ignored its protest and awarded the contract to another offeror in violation of FAR.

On May 29, 1987, the GSBGA held a hearing and temporarily suspended the Bureau's authority for the minicomputer procurement. On June 11, 1987, both offerors withdrew their protests, but retained their right to pursue the protests at a later date. Neither offeror gave a reason for withdrawing its protest. On June 17, 1987, the GSBGA lifted the suspension order.

Bid Protests Delay Other Procurements

The work required to address the bid protests placed a heavy burden on the Bureau's understaffed procurement office. As a result, the procurements of equipment and supplies needed for generating maps and equipment for entering questionnaire information into computer files were delayed.

Bureau Procurement Staff Below Authorized Levels

In late 1983, Commerce delegated the responsibility for making larger procurements to the Census Bureau. The Bureau was authorized a procurement chief and up to six contract specialists through fiscal year 1987. However, from its inception in early 1984 to mid-1987, the Bureau's procurement office operated with a staff significantly below its authorized level and experienced a high turnover in its leadership.

For example, during the first bid protest in March 1987, the Bureau employed an acting chief and three of the six authorized contract specialists. Moreover, in its first 3 and 1/2 years of operation, five different persons served as either the permanent or acting chief of the office.

Commerce and the Bureau took actions after the bid protests to improve the performance of the procurement office. First, the Bureau filled most of the contract specialist vacancies by July 1987. Second, the new procurement chief said he has identified the training needs of the staff and developed a strategy for fulfilling these needs. He also has established a program of weekly seminars on procurement issues for his staff. Also, the then Deputy Secretary of Commerce told us that he had verbally told his subordinates to build in sufficient time in the procurement process to handle future bid protests.

Delayed Procurement of Geographic Equipment and Supplies

The contract award for monochromatic plotters, which the Bureau planned to award by October 30, 1987, was made on January 26, 1988. The plotters are used to draw the maps used in the census. According to the Bureau's Special Assistant to the Chief, Geography Division, the understaffed procurement office contributed to the delay. The other reasons he offered for the delay included the difficulty of designing the specifications and the time needed to develop procurement justifications. To compensate for the delay in the receipt of the plotters, the Bureau was considering at the time of our review a 40 percent increase in the number of plotters to be purchased so that they could have additional capacity, if needed.

Furthermore, according to a Bureau official, the delay in the award of the plotters caused a delay in the procurement of the paper needed for the maps because different types of plotters require different types of paper. Thus, the procurement of the paper could not be initiated until the Bureau awarded the plotter contract.

Data Entry Equipment Delayed

The Bureau's Chief, Technical Services Division, told us that procurement of equipment used to transfer information from census questionnaires to computer files was delayed by about 1 year because of the understaffed procurement office. As a result, the equipment expected to be used in the 1990 census to read the data will not be tested in the 1988 Dress Rehearsal. Instead, the Bureau plans to test the equipment in one

of its monthly data collection activities. However, the monthly data collection activities are not fully representative of a decennial census because different types of questionnaires are used.

Conclusions

Given the late start and earlier delays in the minicomputer procurement, Commerce and the Bureau were motivated by management concerns to reach an early settlement of the protest and proceed with the procurement. Because the procurement was suspended by the GSBICA pending a decision on the protest, Commerce and the Bureau did not feel that they could invest the additional time that would be required to defend the protest and still be in a position to award a contract before the June 1, 1987, deadline. They believed that the early settlement was the best way to avoid additional delays and other adverse effects for the 1990 Decennial Census.

Although Commerce's and the Bureau's concerns are not without merit, aspects of this procurement and bid protest settlement are disturbing. We believe that the Bureau could have avoided the cash settlement if it had not created its own management dilemma by failing to plan properly for the procurement, by starting the procurement process late, and by not adhering to proper procurement procedures. These management deficiencies created serious time pressures that persuaded the Bureau to opt for a cash settlement. In essence, the management deficiencies placed the Bureau in a position which, in its opinion, did not permit the necessary time to pursue the protest on the merits or cure the procurement flaw. As a result, the government paid a total of \$1.1 million to settle the protest and proceed with the procurement.

We are also concerned about the amount of money paid in the settlement. We have reservations about the reasonableness of some of the claimed costs paid and believe that they were not adequately reviewed before payment. However, in the absence of clear definitions of what constitutes allowable bid and proposal preparation costs and protest costs, and recognizing that the Bureau, under the settlement agreement, had a 30-day period to review claimed costs and did not question any of the claimed costs, we do not believe that questionable payments are recoverable.

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