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GAO

Report to the Chairman, Committee on Government Operations
House of Representatives

July 1986

ADP PROCUREMENT

Warner Amendment Has Not Reduced Defense's Acquisition Time

GAO

United States
General Accounting Office
Washington, D.C. 20548

Comptroller General
of the United States

B-220195

July 31, 1986

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

Dear Mr. Chairman:

As requested by your office, we reviewed the Department of Defense's use of the Nunn-Warner (Warner) Amendment (10 U.S.C. 2315) to procure automatic data processing (ADP) resources. The Warner Amendment exempts the procurement of certain categories of computer resources from the authority of the Administrator of General Services, who is responsible for all federal ADP procurements under the provisions of the Brooks Act, Public Law 89-306, 40 U.S.C. 759. In April 1985, Defense officials suggested that the Warner Amendment be extended to include all military ADP resources. Subsequently, you asked that we determine the number of Warner Amendment procurements and the extent of competition achieved under that amendment. In addition, you asked us to select examples of Warner Amendment and Brooks Act procurements to ascertain whether Defense was taking less time to procure ADP resources under the Warner Amendment. You also asked us to give you our observations on the selected procurements.

Defense reported to us that it has conducted 141 procurements under the Warner Amendment from the time of its enactment to July 1985. The extent of competition reported by Defense is similar for both Warner Amendment and Brooks Act procurements. In the 22 selected examples we reviewed, we found that there is little difference between Warner Amendment and Brooks Act procurements in the acquisition procedures followed and total time needed to complete procurements. Defense could not provide studies or other support for claims of shorter acquisition time for Warner Amendment procurements. On the basis of our review, we believe that Defense's implementation of the Warner Amendment has not resulted in more expeditious acquisition of computer resources for critical military missions. Therefore, we do not believe the use of acquisition time provides a basis for justifying the extension of the Warner Amendment to exempt all Defense ADP procurements from requirements of the Brooks Act.

Warner Amendment and Brooks Act: A Brief Description

The Warner Amendment exempts certain Defense procurements of ADP resources from the provisions of the Brooks Act. The objectives of the Brooks Act are the economic and efficient procurement and use of ADP resources for the federal government. The act gave sole authority for ADP procurements to the Administrator of General Services. The Administrator may procure the resources for an agency or delegate his procurement authority to the agency. The Warner Amendment exempts Defense from the Brooks Act when the acquired ADP resources are to be used for intelligence, cryptology, command and control, or for equipment that is an integral part of a weapon or weapons system, or that is critical to and in direct support of military or intelligence missions. The amendment was enacted to enable Defense to streamline its acquisition process and reduce the time required to procure ADP resources for critical missions. Defense implementation of the amendment has undergone several changes and, in efforts to translate the provisions of the amendment into specifically exempt ADP systems, Defense officials have taken an expansive view of the coverage of the law. The House Appropriations Committee became dissatisfied with the lack of high-level review of Warner Amendment system acquisitions, and it directed that general-purpose ADP systems be reviewed by the Major Automated Information System Review Council (see appendix II).

During hearings before the Subcommittee on Defense of the House Appropriations Committee in April 1985, the Assistant Secretaries for Financial Management of all three military departments stated that procurement of ADP resources for functions remaining under the Brooks Act takes too long to complete and that reviews by the General Services Administration (GSA) do not add any value. In addition, the Army stated that it no longer needed GSA's oversight because of improvements in the management and procurement of ADP resources that ensured economical and efficient acquisition. These officials suggested exempting all Defense ADP procurements from the Brooks Act.

Scope and Methodology

To obtain information on the number of procurements made since passage of the amendment, we obtained lists of Warner Amendment and Brooks Act acquisitions from the Army, Navy, and Air Force. The services also provided information on dollar amounts and defined each acquisition as fully competitive or noncompetitive. For comparison with information on competition provided by Defense, we also requested information from GSA on Defense acquisitions from December 1981 to July 1985 for which they had delegated procurement authority under

the Brooks Act. GSA provided information on delegation dates, amounts, and competition.

To assess elapsed acquisition time, we selected a sample of 11 acquisitions from the list of 141 Warner acquisitions provided by the services. We eliminated all procurements that were scheduled for award after March 1986. By request of your office, we eliminated acquisitions for intelligence, cryptologic, and command and control systems, as well as those procured as an integral part of a weapon or weapons system. This reduced the list to a total of 60. Because of the uneven distribution of this small universe across Defense functions and organizations, we employed a judgment sample rather than a random sample for the Warner acquisitions. We selected a variety of organizations, functions, equipment, and dollar values. We also selected 11 from a total of 228 Brooks Act acquisitions that were comparable to the Warner acquisitions in purpose, scope, and extent of competition. After our field work was initiated, the Army changed the designation of a supercomputer acquisition from Brooks Act to Warner Amendment. As a result, our final sample was composed of 12 Warner Amendment acquisitions and 10 Brooks Act acquisitions.

We obtained documents for the 22 acquisitions to identify critical dates in the process, including time spent on GSA reviews of agency procurement requests for Brooks Act acquisitions. We did not attempt to assess the value of GSA's review. Although our focus was on acquisition time, we identified some problem areas in the acquisitions we reviewed.

Our review was conducted from July 1985 through March 1986. During that time, we briefed Defense officials responsible for the 22 sampled procurement actions. As you requested, we did not obtain official agency comments, nor did we provide Defense with a draft copy of this report. Except in this one instance, we performed our work in accordance with generally accepted government auditing standards.

A more detailed discussion of our objectives, scope, and methodology is included in appendix I.

Our Response to the Chairman's Questions

The following is a summary of our response to your request. A more detailed discussion is contained in appendix III. Our observations on 22 selected acquisitions are contained in appendix IV.

How Many Acquisitions Were Conducted Under the Warner Amendment?

The services provided us with a list of 141 acquisitions made under Warner Amendment exemption from December 1981, when it was enacted, to July 1985.

Table 1: Number of Warner Amendment Acquisitions Conducted From December 1981 to July 1985

(Dollars in thousands)

Service	Dollar Range			Total Dollars	Number of Acquisitions
Army	$54	to	$715,000	$1,123,426	40
Navy	25	to	1,500,000	2,214,706	26
Air Force[a]	21	to	5,600,000	7,849,320	75
Total[b]	**$21**	**to**	**$5,600,000**	**$11,187,452**	**141**

[a]The Air Force reported acquisitions only from June 1983 to July 1985.

[b]The Air Force did not provide cost information for three acquisitions.

The dollar amounts above are not comparable because the services used varying bases for their reporting. At times they reported system costs that included non-ADP equipment. In some instances, they reported life-cycle costs for design, development, production, operation, maintenance, and support. In other instances, the services reported estimated or actual contract costs that did not always include the costs of options. Furthermore, the Army and Navy reported on Warner Amendment acquisitions from December 1981 to July 1985, but the Air Force reported on acquisitions from June 1983 to July 1985 because of incomplete records.

The data that the Army and Navy reported to us were comparable to the data they reported to the House Appropriations Committee in April 1985. We asked Air Force officials to reconcile their report of 297 Warner Amendment systems[1] to the Committee with the report of 75 acquisitions provided to us in August 1985. They responded that the number reported to the Committee was a mistake that occurred when they added a list of Warner systems compiled in 1984 to a list compiled subsequently. As a result of our inquiry, the Air Force reviewed its justification for mission-critical systems and determined that many, particularly those for logistics management, were weak and did not satisfy Warner Amendment criteria. In April 1986, after we completed our field work, the Air Force gave us a list of 121 systems that have currently been approved. The Air Force told us that this list cannot be reconciled with its list of 75 acquisitions. The list of 121 systems represents the

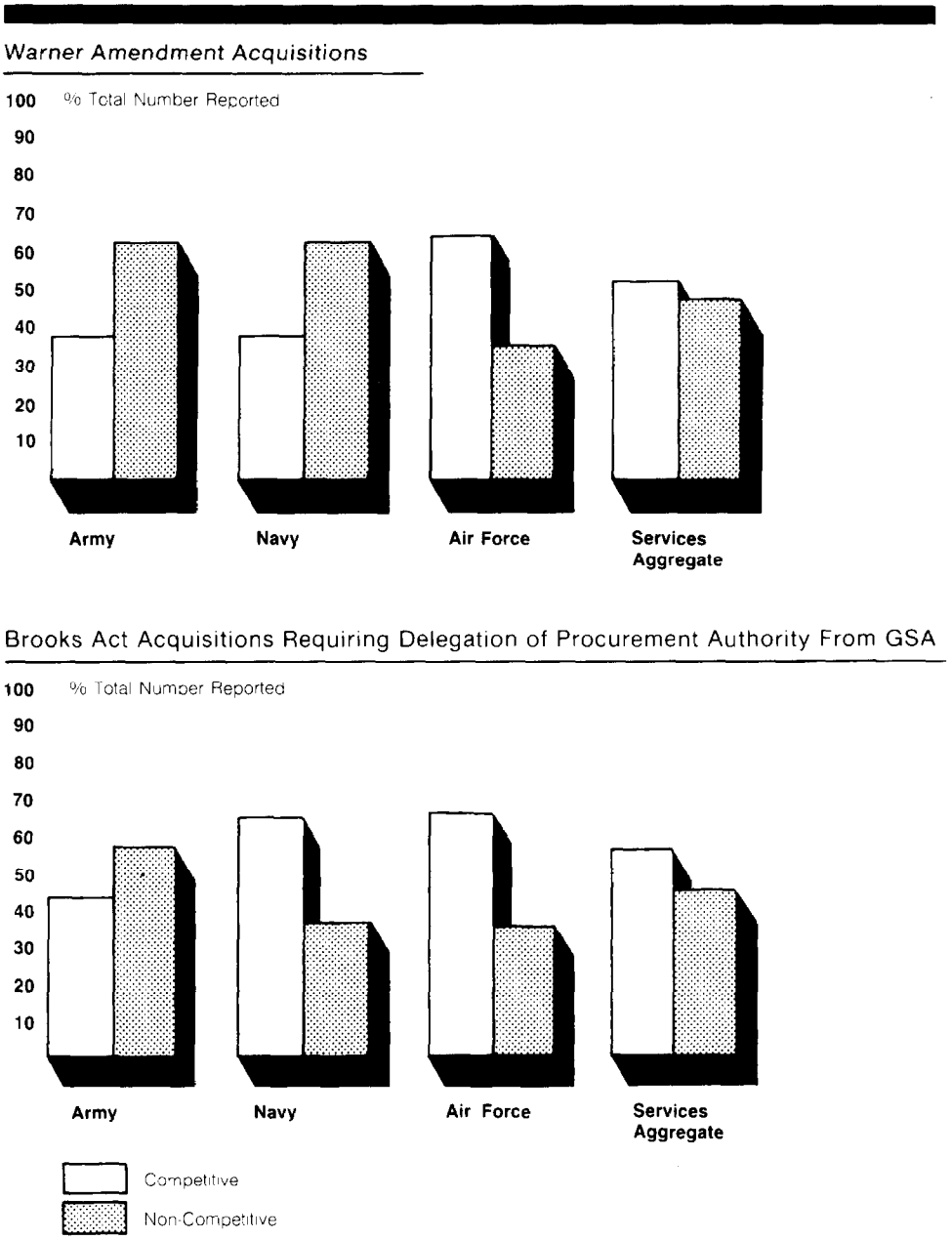
[1]Because the term "system" relates to the mission and is more encompassing than the term "acquisition," a specific procurement within a system, the two terms do not equate.

most recent Air Force position on which systems it considers as exempted under the Warner Amendment authority.

What Is the Extent of Competition in Acquisitions Made Under the Warner Amendment?

We found no significant difference in the aggregate percentage of competitive and noncompetitive acquisitions under the services' Warner Amendment and Brooks Act procurements. Figure 1 shows the percentage of competitive and noncompetitive actions for both types of procurement from December 1981 to July 1985 as reported by the services and GSA.

Figure 1: Comparison of Extent of Competition



Both the Army and Navy have a higher percentage of noncompetitive acquisitions for Warner Amendment procurements than for those under the Brooks Act, and the Air Force has the same percentage of competition for both. In the aggregate for all three services, the percentage of

competitive acquisitions (52 percent for Warner and 55 percent for Brooks Act) is almost the same.

We did not determine the percentage of competitive and noncompetitive acquisitions based on the dollar amount of the acquisitions because each service has high life-cycle costs for one Warner system that would skew the results. For example, the Army Maneuver Control System was noncompetitive and has a reported cost of $715 million, which is 64 percent of the Army's total Warner dollars. The Navy Stock Point ADP Replacement System was competitive and has a reported cost of $1.5 billion, which is 68 percent of the Navy's total Warner dollars. The Air Force Inter-Service Agency Automated Message Processing Exchange System was competitive and has a reported cost of $5.6 billion, which is 71 percent of the Air Force's total Warner dollars.

Do ADP Resources Under the Warner Amendment Take Less Time to Procure Than Under the Brooks Act?

Our review of 22 acquisitions showed that there is little difference in acquisition time for Warner Amendment and Brooks Act procurements. Average acquisition time was 46.9 months for the 12 Warner Amendment procurements and 49.5 months for the 10 Brooks Act procurements. The average of almost 3 months less time for the Warner Amendment acquisitions is a small percentage of the 4-year average it took to complete a procurement. If the extreme case of the Navy's 109-month minicomputer acquisition is removed from our sample, the average total acquisition time for the Brooks Act sample is reduced from 49.5 to 42.9 months—or 4 months less, on average, than the Warner Amendment sample. Table 2 summarizes acquisition time for the 22 procurements reviewed.

Table 2: Acquisition Time in Months for 22 Procurements

	Warner Amendment Procurements			Brooks Act Procurements		
Service	**No.**	**Range**	**Avg.**	**No.**	**Range**	**Avg.**
Army	5	37.8 to 65	50.0	3	26.9 to 75	49.5
Navy	4	15.2 to 77.6	39.9	4	14.9 to 109	54.6
Air Force	3	20.0 to 77.5	50.9	3	35.4 to 49.8	42.7
Total Average			**46.9**			**49.5**

We determined that GSA spent an average of 32.1 days reviewing delegations of procurement authority for the 10 Brooks Act acquisitions in our sample. This is about 2 percent of the average total acquisition time.

Following our close-out conference, Air Force staff reviewed acquisition times for 50 of their procurements to determine whether the acquisition times we identified were representative of the time differences between Warner and Brooks Act procurements. They found no appreciable time difference in their sample. The Air Force staff also concluded that there is no relationship between elapsed acquisition time and the complexity of the acquisition.

We found that the acquisitions reviewed in our current sample took an average of about 13 months longer to complete than a sample of acquisitions made before passage of the Warner Amendment. We determined this by comparing acquisition time of the 22 Brooks Act and Warner Amendment acquisitions selected for this review with 39 Defense acquisitions made in the 1979-1980 period. At that time, all Defense acquisitions for general-purpose ADP were subject to the provisions of the Brooks Act. From this comparison, we noted a substantial increase in the average time used for requirements development in the current sample, as well as an increase in the average time from solicitation to contract award. We did not ascertain the reasons for these increases.

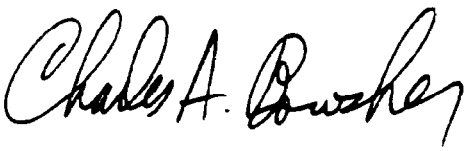
Conclusions

The Warner Amendment has been in effect for over 4 years. Because Defense perceived the Brooks Act as causing delays, the Congress provided the Warner Amendment with the expressed intent of enabling the United States Armed Forces to acquire ADP resources more quickly for critical Defense missions.

Defense has not demonstrated that exemption from the Brooks Act has enabled it to reduce acquisition time in its procurement of ADP resources. Therefore, we do not believe that the use of acquisition time provides a basis for justifying the extension of the Warner Amendment to exempt all Defense ADP procurements from requirements of the Brooks Act.

As arranged with your office, 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 Secretary of Defense and interested parties and will make copies available to others upon request.

Sincerely yours,



Charles A. Bowsher
Comptroller General
of the United States

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Abbreviations

ADP	automatic data processing
AMMUS	Air Force Minicomputer Multi-User System
CAMIS	Continental Army Management Information System
CAPS	Consolidated Aerial Port Subsystems
ENWGS	Enhanced Naval Warfare Gaming System
GSA	General Services Administration
IBM	International Business Machines
MAFIS	Mobile Automated Field Instrumentation System
NAVSCIPS	Navy Standard Civilian Payroll System
NWGS	Naval Warfare Gaming System
OTEA	Operational Test and Evaluation Agency
PMSS	Program Management Support System
SPAR	Stock Point ADP Replacement
SPLICE	Stock Point Logistics Integrated Communications Environment System
TACCS	Tactical Army Combat Service Support Computer System
WSMIS	Weapons System Management Information System

Objectives, Scope, and Methodology

We performed this review in response to the May and September 1985 requests of the Chairman, House Committee on Government Operations. Our objectives were to (1) identify, by service, the number of acquisitions of automatic data processing (ADP) equipment made under Warner Amendment authority, (2) assess the extent of competition for ADP acquisitions conducted under the Warner Amendment, (3) assess Defense claims that acquisitions under the Warner Amendment take less time than under the Brooks Act, and (4) provide observations on selected acquisitions.

The scope and methodology for each objective follow:

(1) Identify the number of acquisitions under Warner Amendment authority. The services provided us with the lists of Warner acquisitions from December 1981 to July 1985 that they developed in response to internal, congressional, and our requests. To determine the accuracy of the service data, we compared it with data supplied in testimony before the House Appropriations Committee in April 1985.

(2) Assess the extent of competition for Warner acquisitions. For each Warner acquisition, the services told us whether it was made competitively or noncompetitively. We used this information to assess the ratio of competitive to noncompetitive acquisitions. To put the competitive ratio of Warner Amendment acquisitions in perspective, we analyzed the same ratio for Brooks Act acquisitions using information supplied by General Services Administration (GSA) on Defense acquisitions from implementation of the Warner Amendment to July 1985.

(3) Assess Defense claims that acquisitions under the Warner Amendment take less time than under the Brooks Act. We reviewed the legislative history of the Warner Amendment, as well as related congressional hearings and Defense and service studies concerning the ADP acquisition process. We interviewed responsible officials from Defense, the services, and GSA, including Defense's Senior Official for Mission Critical Computer Resources and Director of Information Resources Management Systems, and the Deputy Assistant Administrator of GSA's Office of Information Resources Management. In addition, we asked the Assistant Secretary for Financial Management for each service to support claims made in House Appropriations Committee hearings regarding the reduced acquisition time for ADP resources under the Warner Amendment.

We selected 11 Warner and 11 Brooks acquisitions to compare acquisition time and procedures. At the Chairman's request, we selected our sample from categories of Warner acquisitions formerly covered by the Brooks Act. This includes ADP systems that support logistics, research and development, testing and evaluation, and training systems. Our sample did not include cryptologic or intelligence systems, or computers embedded in weapon systems, all of which were historically excluded from the Brooks Act.

Because of the small universe of Warner acquisitions and its uneven distribution across Defense functions and organizations, we employed a judgment sample rather than a random sample. We ensured diversity in the Warner sample by selecting a variety of functions, organizations, acquisition sizes, and ADP equipment configurations. We selected Brooks Act procurements similar in purpose, scope, and extent of competition to the Warner sample. After we began our field work, we found that the Army had changed the designation of one procurement from Brooks Act to Warner Amendment. This changed the composition of our sample to 10 Brooks Act acquisitions and 12 Warner Amendment acquisitions. We reviewed each acquisition in detail, interviewing project officials and obtaining supporting documents from the project and contract offices.

(4) Provide observations on acquisition problems for the 22 examples selected. Using the sample of 22 Warner Amendment and Brooks Act acquisitions, we reviewed the procurement process. We interviewed project and contract staff and reviewed their files for each acquisition. We also reviewed the Competition in Contracting Act, Federal Information Resources Management Regulations, and pertinent Defense, Army, Navy, and Air Force regulations to establish the criteria for acquisition procedures. Although our focus was on acquisition time, we identified some problem areas in the acquisitions we reviewed. We did not independently verify the cost data on the acquisitions selected.

We performed our work from July 1985 to March 1986 at the following locations:

Army

Information Systems Management Activity, Fort Monmouth, N.J.
Information Systems Management Activity, Fort McPherson, Ga.
Training and Doctrine Command's Combined Arms Test Activity, Fort Hood, Tex.
Training and Doctrine Command, Fort Monroe, Va.
Corps of Engineers, Huntington, W.Va.

	Corps of Engineers, Washington, D.C. Military Personnel Center, Alexandria, Va. Test and Evaluation Command, White Sands Missile Range, N.M. Operational Test and Evaluation Agency, Arlington, Va. Information Systems Selection and Acquisition Activity, Alexandria, Va. Army Audit Agency, Alexandria, Va.
Navy	Naval Supply Command, Arlington, Va. Space and Naval Warfare Systems Command, Arlington, Va. Naval Data Automation Command, Washington, D.C. Navy Accounting and Finance Center, Arlington, Va. Chief of Naval Operations, Information Systems Division, Washington, D.C. Marine Corps Headquarters, Arlington, Va.
Air Force	Systems Command, Arnold Air Force Station, Tenn. Logistics Command Headquarters, Wright-Patterson Air Force Base, Ohio. Engineering and Services Center Headquarters, Tyndall Air Force Base, Fla. Computer Acquisition Center, Hanscom Air Force Base, Mass. Military Airlift Command Headquarters, Scott Air Force Base, Ill. Tactical Fighter Weapons Center Headquarters, Nellis Air Force Base, Nev. Chief of Staff, Command and Control and Mission Support Systems, Washington, D.C.

During the review, we briefed Defense officials responsible for the 22 selected procurement actions. As you requested, we did not obtain official agency comments, nor did we provide Defense with a draft copy of this report. Except in this one instance, we performed our work in accordance with generally accepted government auditing standards.

Defense's Implementation of the Warner Amendment

In 1965, the Congress passed Public Law 89-306, 40 U.S.C. 759, commonly referred to as the Brooks Act. This legislation gave GSA responsibility for acquiring general-purpose ADP equipment to be used by the federal government. The objectives of the act were to promote economy and efficiency in the procurement of computer resources.

The Department of Defense, however, perceived the act as an underlying cause of delays in the procurement of computer resources vital to the Nation's defense, and it asked the Congress for relief. In December 1981 the Congress, in the Department of Defense Authorization Act, 1982, Public Law 97-86, enacted 10 U.S.C. 2315 to permit certain categories of computer resources to be purchased directly by Defense and, at the same time, recommended that Defense streamline its acquisition process. This amendment, commonly referred to as the Warner Amendment, exempts the procurement of ADP equipment from the Brooks Act if the function, operation, or use

- involves intelligence activities;
- involves cryptologic activities related to national security;
- involves command and control of military forces;
- involves equipment that is an integral part of a weapon or weapons system; or
- is critical to the direct fulfillment of military or intelligence missions, except routine administrative and business applications (including payroll, finance, logistics, and personnel management applications).

Defense's Expansive View of Warner Coverage

Defense has issued three memoranda to guide the services in implementing the Warner Amendment. The first memorandum quoted the amendment, the second provided Defense's interpretation on systems covered by the amendment, and the third interpreted a Senate Armed Services Committee report. In their efforts to translate the provisions of the amendment into specifically exempt ADP systems, Defense officials have taken an expansive view of the coverage of the amendment.

In September 1981, the Secretary of Defense sent preliminary guidelines regarding the upcoming amendment to top agency officials. After quoting the exclusions to provisions of the Brooks Act from the proposed legislation, the memorandum cautioned that the new autonomy should "not be used as an excuse to depart from sound business and management practices" but should "be viewed as an incentive to seek improved and streamlined methods and practices."

Following enactment of the Warner Amendment in December 1981, the Deputy Secretary of Defense provided interim guidance in February 1982 on Warner Amendment acquisitions. Under the category of "integral part of a weapons or weapons system," the guidance specified that the following functions were included: training, diagnostic testing, maintenance, simulation, calibration, and research and development. Under the category of "critical to the direct fulfillment of missions," the guidance included combat-deployable ADP systems and services and those used for: war planning; weather, oceanographic or satellite activities; classified projects; warning, surveillance, and reconnaissance activities; mapping, charting, and geodesy (a branch of applied mathematics) projects; airlift, sealift, and port facilities; military communications; and other systems designated by the Secretary of Defense. The guidance specified that the following systems were not covered by the Warner Amendment: military and civilian pay; financial management (budgeting, accounting, and disbursing); inventory/stock control, storage depot, and base level; military and civilian personnel management; medical management; civil works; and office automation. The guidance also stated that when there was doubt as to how the system should be classified, the determination should be made on the basis of the most mission-critical function being processed.

In March 1983, the Under Secretary of Defense issued new guidelines based on a Senate Armed Services Committee report on the Defense Authorization Act of 1983.[2] These guidelines further expanded the scope of the amendment by including "logistics systems which provide direct support to operating forces or provide direct support to maintenance of weapons systems (e.g., organic supply, software support facilities for weapons systems, etc.)." However, logistics systems supporting contracting, accounting, disbursing, and budgeting were excluded. The guidelines also stated that Warner designation would be determined in accordance with the significance of the mission-critical applications employed. This is the guidance that Defense currently uses to determine Warner Amendment applicability.

[2]Senate Report No. 330, 97th Congress, 2nd Session, 158 (1982).

Approval Authority for Warner Amendment Acquisitions

In August 1984, the then Deputy Under Secretary of Defense (Research and Advanced Technology) directed that her office have the authority for granting Warner Amendment approval. Until that time, approval had been made by the services. The following month, authority for granting approval for acquisitions of $50,000 or less was returned to the services.

The approval authority for Warner Amendment designation was changed in November 1984 by the Acting Senior Official for Mission Critical Computer Resources. He delegated the authority to the services, except for those systems whose sole purpose and function is research and development in support of: airlift, sealift, or port facility systems; or the provision of direct logistics support to operating forces; or direct support for the maintenance of weapons systems. When these systems cost over $1 million a year or $8 million during the life cycle, they must be approved by the Defense Component Senior Official for Mission Critical Computer Resources.

Defense's Review of Warner Amendment Systems

In August 1984, Defense established the Defense Computer Resources Board for the purpose of advising and assisting in matters related to the acquisition and utilization of mission-critical computer resources, that is, those items that fall under the Warner Amendment. In the same month, the Deputy Under Secretary of Defense (Research and Advanced Technology) directed that the Computer Resources Council review acquisitions of mission-critical computer resources that fall under the Warner Amendment until the Board established formal procedures.

Defense officials told the House Appropriations Committee[3] that, as of April 1985, none of the Warner systems had been reviewed, and only one system would be reviewed in that year. Following this testimony, the Committee expressed dissatisfaction with Defense's management of ADP resources and directed that all general-purpose ADP be placed under the policy and management oversight of the Comptroller. As of February 1986, the Major Automated Information System Review Council was given responsibility for the review of Warner acquisitions. Criteria for review of Warner systems will be the same as those for Brooks Act systems; that is, systems with annual expenditures over $25 million, or with life-cycle costs over $100 million, or of particular interest to the Assistant Secretary for Financial Management.

[3]Department of Defense Appropriations for 1986 - Part 6.

Our Responses to Questions Raised by the Chairman of the House Government Operations Committee

The information provided in this appendix answers the specific questions asked by the Chairman, House Committee on Government Operations.

Number of Acquisitions Under the Warner Amendment

In responding to the Chairman's question about the number of Warner Amendment acquisitions, we also looked at cost information supplied by the services to help us better understand the universe. (See our discussion at the end of this section.)

Our review showed that the services reported 141 acquisitions totaling over $11 billion. Table II.1 summarizes the data furnished us by the services.

Table III.1: Number of Warner Amendment Acquisitions Conducted From December 1981 to July 1985

(Dollars in thousands)

Service	Dollar Range			Total Dollars	Number of Acquisitions
Army	$54	to	$715,000	$1,123,426	40
Navy	25	to	1,500,000	2,214,706	26
Air Force[a]	21	to	5,600,000	7,849,320	75
Total[b]	**$21**	**to**	**$5,600,000**	**$11,187,452**	**141**

[a]The Air Force reported acquisitions only for June 1983 to July 1985.

[b]The Air Force did not provide complete cost information for three acquisitions.

We compared the number of acquisitions with information provided to the House Appropriations Committee in April 1985 and found that, while the Army and Navy lists appeared to agree, the Air Force had reported 297 Warner Amendment systems[4] to the Committee and only 75 Warner Amendment acquisitions to us. Air Force officials told us that the Committee figure was a mistake that resulted when they combined a list of Warner systems compiled in 1984 with information collected subsequently. To respond to our inquiry, the Deputy Assistant Secretary for Logistics and Communications said that he reviewed the justification for mission-critical systems and found that many, particularly those for logistics management, "were weak and did not satisfy Warner Amendment criteria." In April 1986, Air Force officials told us that they had 121 systems designated as Warner Amendment systems and that they had made 75 acquisitions for these systems between June 1983 and July 1985. Air Force officials said that complete data from the passage of the

[4]Because the term "system" relates to the mission and is more encompassing than the term "acquisition," a specific procurement within a system, the two terms do not equate.

amendment to June 1983 were not available. After our inquiry, Air Force officials told us they had instituted a system to track major Warner acquisitions.

We found that the cost information supplied by the services was not comparable because the services used different bases for their reporting. The information was a mixture of life-cycle costs, contract estimates, and actual contract award amounts. In comparing this cost information with contract costs for the 22 acquisitions that we reviewed, we noted that actual acquisition costs were sometimes higher and sometimes lower than the information that the services had reported. For example, the Army reported the cost for the White Sands Missile Range computer replacement as $5.5 million, but the actual contract cost was $12.7 million. The Navy reported the life-cycle cost of the Stock Points ADP Replacement System as $1.5 billion, but the estimated contract cost was $782 million. The Air Force reported the life-cycle cost for the Cyber 74 replacement at Nellis Air Force Base as $10 million; documentation at Nellis supports a life-cycle cost of $4.2 million.

Extent of Competition for Warner Amendment Acquisitions

We compared the extent of competition reported to us by the services for Warner acquisitions with that reported by GSA for Brooks Act acquisitions, both for the period between December 1981 and July 1985. Table III.2 shows that the Navy has about 68 percent more competition (64 vs. 38) for Brooks Act procurements than for Warner Amendment procurements, the Army has about 13 percent more (43 vs. 38), and the Air Force has the same for both types. However, there is little difference in the overall percentage.

Table III.2: Extent of Competition in Warner Amendment and Brooks Act Procurements[a]

(Dollars in thousands)

	Competitive			Noncompetitive		
	Dollars	Number of Procure-ments	Percent of Total No.	Dollars	Number of Procure-ments	Percent of Total No.
Warner Amendment						
Army	$ 263,484	15	38	$859,942	25	62
Navy	2,114,550	10	38	100,156	16	62
Air Force[b]	7,018,940	47	65	830,380	25	35
Total	**$9,396,974**	**72**	**52**	**$1,790,478**	**66**	**48**
Brooks Act						
Army	$1,687,951	43	43	$243,153	56	57
Navy	1,078,871	55	64	39,591	31	36
Air Force	1,621,545	28	65	496,566	15	35
Total	**$4,388,367**	**126**	**55**	**$779,310**	**102**	**45**

[a]The services provided information on Warner Amendment procurements; GSA did likewise with Brooks Act procurements.

[b]Three Air Force procurements were not included because of incomplete cost information.

We could not compare the extent of competition on a dollar basis because each service had one high-cost Warner procurement that would skew the results, and the procurements reported by GSA were limited to those requiring delegations of procurement authority.

For the Warner procurements, each service reported life-cycle costs for one procurement that comprised a large portion of the dollar totals: Army Maneuver Control System, $715 million (noncompetitive); Navy Stock Point ADP Replacement System, $1.5 billion (competitive); Air Force Inter-Service Agency Automated Message Processing Exchange System, $5.6 billion (competitive). In addition, the dollar amounts reported for all of the acquisitions may not reflect the value of the contract over the system life. In comparing the reported dollar amounts with the 22 cases we reviewed, we noted 17 discrepancies. For example, the Army reported the cost of the system that supports the Tactical Army Combat Service Support Computer System as $158 million, but the Army Audit Agency estimates the cost as $276.3 million based on currently planned increases to the contract.

The dollar amounts reported to us by GSA do not include all of the acquisitions made under the Brooks Act. The act gave sole authority for the

procurement of ADP resources to the Administrator of General Services. The Administrator has given the agencies blanket procurement authority for acquisitions under certain dollar thresholds and for some categories of acquisitions (for example, maintenance) if they are not included as part of a more comprehensive purchase. In addition, the dollar amounts reported to us by GSA do not include Navy acquisitions under $10 million because the Administrator has given the Navy a much higher delegation of procurement authority, based on an approved annual plan, than the other two services. Table III.2 reflects only those acquisitions for which GSA has delegated specific procurement authority.

In the 10 cases we reviewed, we found that the dollar amounts GSA reported were sometimes lower and sometimes higher than the actual contract award. For example, the actual contract award for three Air Force acquisitions that we reviewed ranged from $18 million to $342 million more than the GSA-reported amount. We also noted that one Navy acquisition was $1 million less than the delegated amount and one Army contract was $483.5 million less because the acquisition was cancelled before the final award. We did not determine the reasons for the differences in every case.

In comparing Warner Amendment acquisitions by category, we found that procurements of general-purpose hardware had almost the same rate of competition as procurements of more special-purpose hardware.

Using the services' definition of the mission, we divided the acquisitions into two groups to compare the extent of competition between those that often use specially built ADP hardware, "specific mission," and those that more often use general-purpose hardware, "other mission-critical." The first four Warner Amendment categories of intelligence, cryptologic, command and control systems, and integral part of a weapon or weapons system are grouped under "specific mission." We also included telecommunications system applications in this group. The second group is the fifth Warner category of those computers that are considered critical to the direct fulfillment of military or intelligence missions. For the second group, however, we adhered to a strict interpretation of the Warner Amendment and included systems used for training, simulation, research, development, testing and evaluation, which Defense sometimes considers as integral parts of a weapon or weapons system.

The "specific mission" categories often require special-purpose equipment, which would tend to restrict the field of competition. "Other mission-critical" acquisitions are usually procurements of general-purpose,

off-the-shelf hardware. Table III.3 shows that there is little difference in the extent of competition between the two categories.

Table III.3: Extent of Competition in Warner Procurements by Category

(Dollars in thousands)

	Competitive			Noncompetitive		
	Dollars	Number of Procure-ments	Percent of Total No.	Dollars	Number of Procure-ments	Percent of Total No.
Other Mission-Critical						
Army	$ 235,212	10	43	$117,442	13	57
Navy	2,049,550	9	39	95,156	14	61
Air Force	1,143,657	25	68	672,465	12	32
Total	**$3,428,419**	**44**	**53**	**$885,063**	**39**	**47**
Specific Missions						
Army	$ 28,272	5	29	$742,500	12	71
Navy	65,000	1	33	5,000	2	67
Air Force	5,875,283	22	63	157,915	13	37
Total	**$5,968,555**	**27**	**49**	**$905,415**	**29**	**53**

Comparison of Procurement Time Between Warner Amendment and Brooks Act Acquisitions

In April 1985 hearings before the House Appropriations Committee, Defense officials stated that the Warner Amendment had had a positive effect on reducing acquisition time and that Brooks Act acquisitions took too long. We found, however, that Defense had not conducted studies that support these claims. Furthermore, other Defense studies made before and after the Warner Amendment point to Defense's internal processes as the cause of delay in procurements rather than to the review required under Brooks Act procedures.

In the sample of 22 acquisitions selected for this review, we found that the approval processes were similar and there was little difference in the average length of time required to complete acquisitions under the Warner Amendment and under the Brooks Act.

To ascertain whether acquisition time had improved overall since enactment of the Warner Amendment, we compared the times of our current sample of 22 with a sample of 39 pre-Warner acquisitions. We found that the acquisitions in our current sample took an average of about 13 months longer to complete than the pre-Warner acquisitions.

Data Not Available to Support Statements of Defense Officials

In their testimony before the House Appropriations Committee,[5] Army and Navy officials stated that they had not conducted studies to compare acquisition time between exempt and nonexempt systems. Nevertheless, the Air Force provided 4 examples for the record that showed that it took 5 and 9 months to acquire two Warner systems and 16 and 23 months for two Brooks Act systems. Air Force officials later told us that they had been able to modify and use previously prepared request for proposals for the Warner procurements, thus eliminating the time required to prepare documents that they prepared for the Brooks Act procurements. For that reason, we do not believe that the two sets of acquisitions were comparable. In January 1986, we asked the services' Assistant Secretaries for Financial Management and Defense information resources management officials to provide us with information to support the statements made in testimony. As the following demonstrates, the responses do not directly support the officials' testimonial statements.

The services' information resources management officials told us that the hearings statements were not based on studies, but rather on the experience and perception of the officials testifying. The Director, Computer Systems and Software, Office of the Secretary of Defense, and the services' Assistant Secretaries for Financial Management could not provide data to support their statements made in testimony. The Director told us that Defense has not established procedures to compare acquisition times for Warner and Brooks procurements. He believes that the Warner Amendment reduces procurement time because it eliminates the time needed to prepare and review a request for procurement authority from GSA and the time required to respond to GSA's questions about the request.

The Army's Acting Assistant Secretary for Financial Management told us that the Army is committed to the spirit and letter of the Brooks Act. He said that the views expressed in the hearings by his predecessor were based on the Army's development of significant management oversight and a highly professional, centralized ADP acquisition agency. On this basis, he believes that the Army can achieve the objectives of the Brooks Act without detailed approval of individual acquisitions by GSA. He added that the GSA Board of Contract Appeals also provides additional oversight.

[5]Department of Defense Appropriations for 1986 - Part 6.

The Navy's Assistant Secretary for Financial Management said that the Navy has a good working relationship with GSA, but "the time spent with other outside agencies, who generally have less knowledge than [the Navy has] about [its] programs, detracts from the time [the Navy] can spend...overseeing [its] programs...." He stated that the Navy does not keep records on acquisition time. He estimated, however, that for Brooks Act acquisitions, agency procurement request processing takes from 39 to 66 days and additional time is spent in GSA program planning activities. He also said that GSA regulations require an evaluation that adds about 2 to 4 weeks to each acquisition and require contracting personnel to have additional knowledge. In addition, he stated that certain Office of Management and Budget bulletins, applicable only to Brooks Act acquisitions, require several months of work at various Navy management levels. Finally, he stated that contractor protests to the GSA Board of Contract Appeals (Brooks Act acquisitions only) take longer to resolve and are considerably more labor intensive than protests made to the Comptroller General, which require 10 to 14 days part-time effort of two Navy staff.

The Air Force's Assistant Secretary for Financial Management told us that GSA provides valuable service and assistance to the federal government, but adds little value to the Air Force. He said that GSA has modified only three Air Force procurement strategies over the past 4 years and that delegation approval took an average of 32 days in 1985. As evidence of the Air Force's ability to acquire ADP, he added that none of the 29 vendor protests filed against the Air Force in fiscal year 1985 were upheld. The Air Force documents supporting this statement show, however, that seven of the protests were denied and the remainder were withdrawn or dismissed because of technicalities. We noted that in six cases the Air Force cancelled the solicitation or did not award the contract, and in one case the vendor withdrew the protest after the Air Force allowed him to demonstrate his equipment. Therefore, our analysis of the disposition of these vendor protests does not support the Air Force's claim. We do not believe that the disposition of protests is a good indicator of an agency's ability to properly acquire ADP resources.

Studies Identify Internal Acquisition Problems

Studies done before and after passage of the Warner Amendment attribute lengthy acquisition time to Defense's internal problems. These studies provide little information on the difference in time between Brooks Act and Warner Amendment acquisitions.

A May 1981 Institute for Defense Analyses study[6] concluded that Defense ADP procurements take too long because of excessive Defense approval layers. The study recommended integration of Defense regulations and improvement of training for acquisition staff.

A 1981 study conducted by Booz-Allen & Hamilton, Inc.,[7] for the Air Force ADP Acquisition Improvement Group also concluded that acquisitions take too long. The study found that average acquisition time ranged from 33 to 59 months, with GSA approval averaging 2 months of this time. Problems and recommendations identified in the study related primarily to internal Defense processes, such as increased emphasis on project goals and changes in the management structure.

In a 1984 Air Force survey of commands to assess the impact of the Warner Amendment, 20 of the 31 respondees stated that they had no experience with acquisitions under the amendment. One of the 20 commented, however, that Air Staff actions had lengthened the acquisition process. Another saw little difference in the process, and a third said that none of the Warner Amendment objectives had been achieved. Of the 11 who had experience with Warner acquisitions, 7 believed that the amendment reduced acquisition time by 25 days to one year. Two observed that the same set of paperwork was required for both types of acquisition, one cited directives on lease/purchase as causing a 90-day delay in acquisitions, and another stated that the impact of the Warner Amendment was minimal. Another comment was that, although the amendment had freed mission-critical acquisitions from GSA interference, they still had interference from the National Bureau of Standards and GAO. As a result of this study, the Air Force concluded that, although the Warner Amendment has had a positive effect, there have been other management initiatives since 1981 that have helped to streamline the acquisition process.

In April 1985 the Assistant Secretary of Defense (Comptroller) asked the Director, Information Resources Management Systems, to analyze acquisition problems found during reviews made by the Major Automated Information System Review Council and to recommend an improvement program. The draft study found that Defense is effectively expanding its use of automated information systems. The study also

[6]Review of DOD Acquisition of ADPE, Institute for Defense Analyses, Science and Technology Division, May 1981.

[7]Defense ADP Acquisition Study, Booz-Allen & Hamilton Inc., November 30, 1981.

found that the acquisitions for these systems are increasing in complexity. It pointed out that delays are occurring because acquisition strategies limit competition, key alternatives are not being evaluated, and systems are often becoming operational before testing has been completed. Defense officials have planned the following initiatives to address the problems: amplification of policy guidance; use of consultants for assistance; independent reviews; and strengthening of personnel experience and education.

Acquisition Time for Selected Warner and Brooks Act Cases Is Similar

In our review of 22 acquisitions made by the services, we found little difference in acquisition time between Warner Amendment and Brooks Act procurements. Although the services were directed to streamline Warner Amendment procurements, we noted that the internal approval process and acquisition procedures are similar for both types of procurement.

Criteria for Selection of Acquisitions and Determination of Elapsed Time

From the lists provided by the services, we selected 11 of the 141 acquisitions that used the Warner Amendment exemption. In our sample, we did not include procurements dealing with intelligence, cryptologic, command and control, and embedded systems, and acquisitions not scheduled for award before the end of our review. From the remaining 60 acquisitions, we selected 11 acquisitions demonstrating a range of functions, dollar values, and competitive levels. GSA also provided lists of 228 Brooks Act acquisitions; we selected 11 of these acquisitions that also showed a similar range of functions, dollar values, and competitive levels. After starting field work, we found that three contracts would not be awarded by March 1986 as originally reported by Defense. In addition, we found that the Army had changed the designation of the Ballistic Research Laboratory acquisition from Brooks Act to Warner. As a result, our review covers 12 Warner and 10 Brooks Act acquisitions.

To assess total acquisition time for the sample, we divided the process into three components: requirements development, internal approval, and solicitation to award. For acquisitions made under the Brooks Act, we also identified the time required to obtain GSA approval as an additional subset of the total acquisition time. Although Warner Amendment approval requires special steps, we were unable to pinpoint the time required as a subset of the approval process.

Requirements development begins when the need is identified and approved at the lowest level and ends with the final, highest level approval. Internal approval includes, where applicable, the necessary determination of exemption under the Warner Amendment. The solicitation period begins when the request for proposals (or similar solicitation) is issued and ends with contract award. We obtained documents for each of the 22 acquisitions to identify these critical dates.

Elapsed Acquisition Time for 22 Selected Cases

The time for Warner acquisitions ranged from 15.2 to 78 months for an average total of 46.9 months, while those under Brooks Act authority ranged from 15 to 109 months for an average total of 49.5 months. The 3-month longer average time for the 10 Brooks Act acquisitions is not considered to be significant. For example, if the Navy's 109-month minicomputer acquisition case were to be eliminated as a unique (outlier) observation, the average acquisition time for the remaining nine Brooks Act cases would become 42.9 months—or 4 months shorter on average than the 12 Warner Amendment cases. Table III.4 summarizes the range of contract value and elapsed time for the 22 acquisitions we reviewed.

Table III.4: Range of Contract Value and Time for 22 Sample Cases (In Months)

Contract Values in Millions

	Warner Amendment Procurements			Brooks Act Procurements		
	Contract	Acquisition Time		Contract	Acquisition Time	
Service	Value	Range	Avg.	Value	Range	Avg.
Army	2 to 276	37.8 to 65	50.0	12 to 98	26.9 to 75	49.5
Navy	7 to 782	15.2 to 77.6	39.9	16 to 548	14.9 to 109	54.6
Air Force	4 to 42	20.0 to 77.5	50.9	29 to 480	35.4 to 49.8	42.7
Total Average			**46.9**			**49.5**

We also obtained information on the elapsed time for GSA review, a subset of total acquisition time. In March 1981, Defense officials testified before the Senate Armed Services Committee that it took the Army 5 to 340 days and the Navy 60 to 135 days to obtain a delegation of procurement authority from GSA. Our analysis of the 10 selected Brooks Act acquisitions showed that currently the Army range is 33 to 51 days, the Navy 17 to 38 days, and the Air Force 21 to 38 days. The average time to obtain a delegation from GSA was 32.1 days or 2 percent of the average total acquisition time.

To determine whether there has been any overall improvement in acquisition time since the passage of the Warner Amendment in 1981, we compared the times of our current sample of 22 with a sample of 39

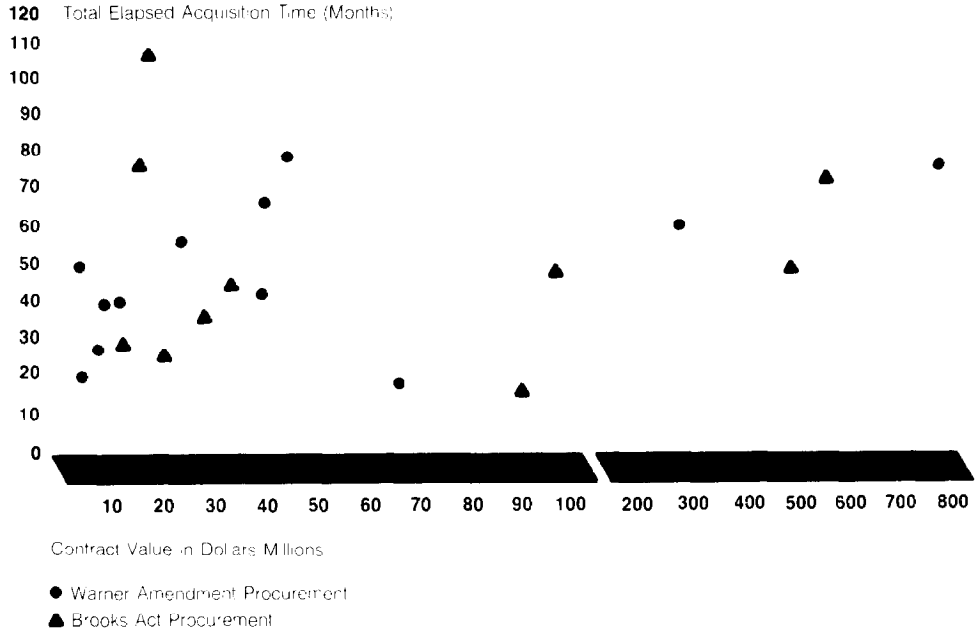
acquisitions made in 1979-1980, which service acquisition officials characterized as typical examples. As shown in table III.5, the elapsed time for acquisitions in our current sample averaged almost 13 months longer than those sampled in the pre-Warner period. A breakout by acquisition phase is shown on page 31.

Table III.5: ADP Acquisition Time, Pre- And Post-Warner

	Pre-Warner 1979-1980		Aggregate of Warner & Brooks 1981-85	
Service	Average Months for Acquisitions	No. in Sample	Average Months for Acquisitions	No. in Sample
Army	37.1	21	49.8	8
Navy	44.8	5	47.8	8
Air Force	28.2	13	46.8	6
Average	**35.1**		**48.0**	

We considered the possibility of a relationship between contract value and elapsed acquisition time, that is, whether high-dollar contracts took longer to acquire. As the randomness in figure III.1 demonstrates, we found no apparent relationship in our sample of 22 acquisitions.

Figure III.1: Elapsed Acquisition Time Vs Contract Value



Services' Processing of Acquisitions Is Almost Identical

Our comparison of the internal approval process for Warner Amendment and Brooks Act acquisitions in our sample of acquisitions and our review of procedures showed that the processes were almost identical. The services collect the same basic information for both types of acquisition and move it through the same approval channels. The two different steps in the process are, of course, GSA's approval of the delegation for Brooks Act acquisitions and internal approval for Warner Amendment exemption.

Each service has unique approval procedures for Warner Amendment acquisitions. The Army sends a written justification to the Office of the Assistant Secretary for Financial Management, and a phone call can constitute approval. For acquisitions above GSA's delegated approval threshold levels, the Navy sends a written justification to the Assistant Secretary for Financial Management. The acquisition is considered approved under the Warner Amendment if the Navy does not hear from that office. Acquisitions below the dollar ceiling are approved at a lower level.

From December 1981 to June 1983, Air Force Warner Amendment approval was at the departmental or Air Staff level. From June 1983 to August 1984, approval was placed at the major command level except for some mission-critical categories. From August 1984 to March 1985, all approval was again at departmental level. Approval, except for some mission-critical acquisitions, went back to the commands from March 1985 to February 1986. Currently, acquisitions must be approved by headquarters, unless they are on the Air Force list of 121 approved Warner systems.

Our review of the acquisition documents required by each service showed that there was little difference between Warner and Brooks Act acquisitions. For every acquisition over the GSA dollar thresholds, as defined by Federal Information Resources Management Regulations, the Army requires the submission of standard information to its central acquisition agency, the Information Systems Selection and Acquisition Activity. If the acquisition is judged to be under the Warner Amendment, the Activity obtains approval from the Assistant Secretary for Financial Management. If it requires GSA approval, the Activity makes minimal changes to the request before sending it to GSA. In both cases, the Activity subsequently delegates acquisition authority to the component or conducts the acquisition for the component. The Navy requires a System Decision Paper for both Warner and Brooks acquisitions. If GSA approval is required for the acquisition, the Navy puts the information

into agency procurement request format. The Air Force requires the same documents for both types of acquisitions. The Warner acquisitions, however, must add a designation request letter if exemption approval is required.

Table III.6 shows that there was little difference in the Army's and Navy's internal approval time for the Warner and Brooks Act acquisitions we reviewed. On the other hand, the Air Force took less time for Brooks Act acquisitions.

Table III.6: Elapsed Time in Months for Internal Approval of Acquisitions

	Warner Approval Time			Brooks Approval Time		
Service	Number	Range	Average	Number	Range	Average
Army	5	12.8 to 54.9	28.8	3	11.1 to 67.2	30.1
Navy	4	1.9 to 10.3	3.9	4	1.1 to 13.5	4.6
Air Force	3	1.3 to 12.9	8.9	3	1.5 to 7.2	3.8

We define internal approval time as starting with the first document submitted for project approval and ending with the last approval before executing the procurement. The GSA process is considered as external approval; we define it as beginning with the date of the agency procurement request and ending with the date of the delegation of procurement authority. The internal approval for Brooks acquisitions took about a month longer on the average than Warner acquisitions in the Navy and the Army, but it took about 5 months less in the Air Force. Center and command officials at the Air Force Arnold Engineering and Development Center told us that, in their experience, it takes longer to obtain internal approval of a Warner acquisition than it does to get a delegation from GSA. They have secured GSA delegations for some mission-critical computers and acquired others with Warner approval.

We considered the possibility of a relationship between the contract value and the length of time spent on internal approval. The randomness in figure III.2 shows that there is no apparent relationship in the acquisitions we reviewed.

Figure III.2: Internal Approval Time Vs Contract Value

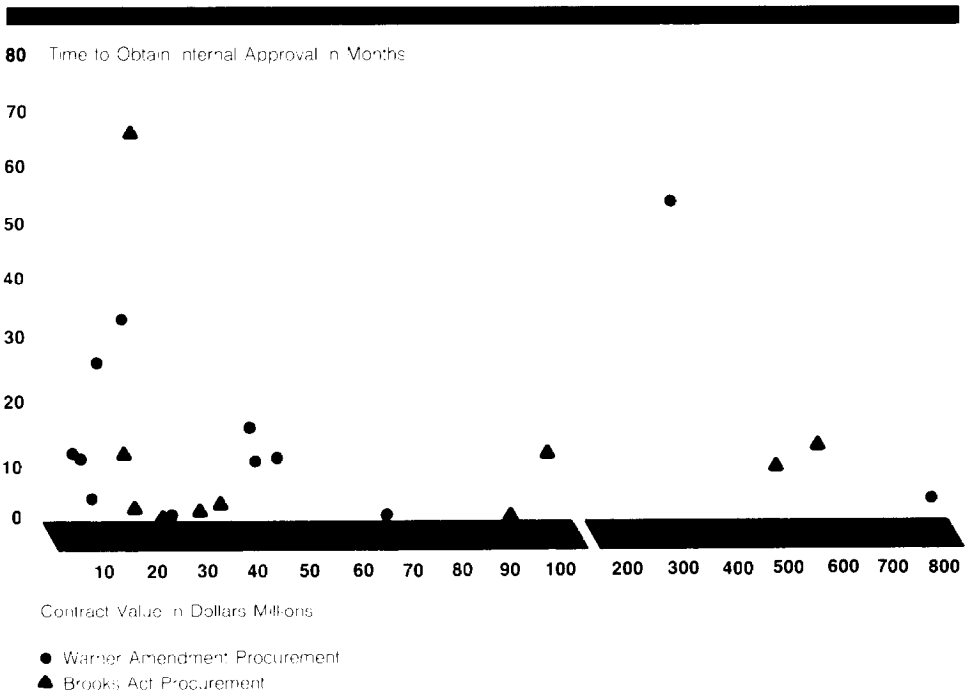


Table III.7 compares acquisition phases of the 22 selected procurements with 39 procurements that we reviewed prior to passage of the amendment.

Table III.7: Comparison of Acquisition Phases Before and After[a] Passage of the Warner Amendment (Average Time in Months)

	Army		Navy		Air Force	
Acquisition Phase	**Before**	**After**	**Before**	**After**	**Before**	**After**
Requirements Development	8.30	30.00	16.10	33.70	10.70	32.00
Internal Approval	12.70	29.30	3.75	4.70	5.30	5.40
APR to DPA[b]	1.90	1.40	2.35	0.88	4.40	0.96
Solicitation to Award	7.90	9.00	3.25	12.90	7.20	8.10

[a]"After" is aggregate of Warner Amendment and Brooks Act acquisitions.

[b]Agency procurement request to delegation of procurement authority by GSA.

We compared the elapsed time of acquisition phases before and after passage of the Warner Amendment and found that the only phase that is shorter is the time required to obtain a delegation from GSA. The most substantial increases were in time spent on requirements development for all services, internal approval time for the Army, and solicitation to award time for the Navy.

Observations on 22 Selected Acquisitions

This appendix contains information on each of the 22 acquisitions selected for our review. Our discussions of the acquisitions for each service are separated into two sections, procurements under the Warner Amendment and those under the Brooks Act, and each section is followed by a summary table.

Army Warner Amendment Acquisitions

Operational Test and Evaluation Agency Computing System

The Operational Test and Evaluation Agency's (OTEA) computing system consists of vendor-provided teleprocessing services that are accessed by minicomputers located at headquarters and selected test sites. The system supports operational testing of Army weapons, force development testing and experimentation, and joint user testing. The test data collected are used to evaluate new doctrine, organization, tactical concepts, and new items of Army materiel. The Army designated the system as exempt from the Brooks Act under the Warner category of systems dedicated to the testing of weapons and weapons systems.

We found that a delay in reprocurement resulted in sole-source contracts to continue services that supported the agency's mission. OTEA's teleprocessing services contract with Computer Sciences Corporation was scheduled to expire in September 1982. In November 1981, OTEA began the process of obtaining approval to recompete the service. OTEA sent the approved request to the Army's Information Systems Selection and Acquisition Activity in June 1982, but the contract was not awarded until January 1985. Because of the delay in procuring a replacement service, OTEA had to award three consecutive 1-year, sole-source contracts to the incumbent vendor to sustain services.

OTEA said that milestones slipped because the selection activity misinterpreted technical specifications and did not give priority to the project. According to OTEA officials, changing the strategy from lease of the equipment to purchase led to further delay. This change resulted from the December 1983 congressional direction to Defense that it purchase ADP unless another approach, including leasing, could be justified on the basis of lowest total overall cost. The selection activity initially applied to GSA for a delegation of procurement authority for the acquisition;

however, the Army later approved the system as a Warner Amendment acquisition.

The competitive procurement for teleprocessing services and lease-to-purchase option for minicomputers was awarded to Martin Marietta in January 1985. The contract period is 60 months, and the estimated cost is $8.8 million. Army reported the life-cycle cost as $10.5 million. Acquisition time from documentation of need to contract award was 37.8 months.

White Sands Missile Range Mainframe Upgrade

The White Sands Missile Range computers provide support for modeling and simulation, nuclear effects evaluation, command and control analysis, high energy laser data analysis, and missile flight data reduction. The Army approved the system as exempt from the Brooks Act under the Warner category of equipment that supports a weapon or weapons system.

We observed two problems in this procurement. First, the Army's delay in approving the replacement of obsolete hardware led to a sole-source interim lease. Second, the contract period of the lease extended beyond the approved number of years.

In November 1980, the Master Automation Plan identified the need to replace White Sands' obsolete Univac 1108 computers with advanced technology, and the following month White Sands requested approval of the functional specifications for a competitive procurement. The specifications were not approved at the local level and were never sent forward to the command. In August 1981, the Sperry Corporation submitted an unsolicited proposal to replace two of the computers with a Univac 1100/62. White Sands then requested approval for a 3- to 5-year sole-source lease as an interim solution. In September 1982, the Assistant Secretary of the Army for Financial Management granted approval for a 2-year lease with the stipulation that White Sands prepare a cost-benefit analysis of full competition during that period. White Sands then prepared a request for proposals, but the attorney who reviewed it in May 1983 noted that the solicitation was geared to a 1-year lease with seven 1-year options. He recommended that the solicitation be restructured or new approval obtained. In August, when the new approval was granted, it specified "three 1-year lease options in lieu of the 2-year lease period."

During our review, we found that the White Sands contract was for a period of 8 months with four 1-year options, despite the approval for only 3 years. We brought this to the attention of the Director of Procurement, and White Sands officials said that they would obtain further approval before exercising options beyond three years.

The sole-source lease of the Univac 1100/62 was awarded to Sperry in January 1984, prior to enactment of the Competition in Contracting Act of 1984, Title VII of Division B of Public Law 98-369. The contract period is 4 years and 8 months, and the estimated cost is $12.7 million. The Army reported the life-cycle cost as $5.5 million. Acquisition time from documentation of need to contract award was 38.5 months.

Mobile Automated Field Instrumentation System

The Mobile Automated Field Instrumentation System (MAFIS) uses lasers, radios, and computers to provide the Army's Training and Doctrine Command with the capability of controlling weapons tests, and collecting and analyzing data on a real-time basis. The Army designated the system as exempt from the Brooks Act on the basis of its being dedicated to testing weapons systems and training personnel in the use of weapons systems. We limited our review to two of the automated systems that support MAFIS, the Command and Control System and the Home Post Development Support System, both of which utilize general-purpose, off-the-shelf minicomputers.

We observed that this acquisition could have been more economical and efficient if the Training and Doctrine Command had conducted one single procurement rather than four separate ones. A single contract could save staff time and costs, and could achieve a lower price because of a larger quantity purchase. We also noted that the initial competitive contract led to two sole-source contracts, one of which was not in compliance with provisions of Army's implementation of the Competition in Contracting Act.[8]

The Army's documentation shows that the Command knew the hardware and compatibility requirements for the MAFIS systems but decided to conduct separate procurements, stating that funding problems were the reason. The Command issued a request for proposals in May 1983

[8]Army Federal Acquisition Regulation Supplement, Part 6.303-2 (a) (90), Subpart 63, August 15, 1985.

for the purchase of one minicomputer for data communications functions but, because of vendor complaints regarding restrictive specifications, the solicitation was revised and reissued in July. The competitive procurement was won by Data General in September 1983. Two months after the award, the MAFIS program manager approved a program plan that called for the sole-source acquisition of an applications processor. The sole-source justification was based on the need for compatibility with the data communications processor. This contract was also awarded to Data General in July 1984, prior to enactment of the Competition in Contracting Act.

In June 1984, the Command issued a solicitation for the competitive procurement of two minicomputer-based display systems, with the option to purchase three additional systems. This contract was awarded to Data General in September 1984.

In January 1985, the Command began a fourth procurement. The MAFIS program office recommended the sole-source acquisition of another minicomputer to support software development, and identified the need for two additional minicomputers as options. Compatibility of these systems with the communications and applications processor was used to justify the sole source. The solicitation was issued in June 1985 after the effective date of the Competition in Contracting Act, and the contract was awarded to Data General in September 1985.

We also noted that the Training and Doctrine Command did not follow directions in the Army supplemental guidance on the Competition in Contracting Act, which state that a justification for other than full and open competition must include options in the estimated price. In its justification for less than full and open competition, the Command did not include the costs of the two optional minicomputers. Although the contracting official certified only one minicomputer and its related software, the Command purchased three.

Data General was awarded two competitive contracts for $1.3 million and two sole-source contracts for $900,000, a total of $2.2 million. Army reported life-cycle costs for the system as $54 million.[9] Acquisition time from documentation of need to final award was 48.7 months.

[9]MAFIS life-cycle costs include all system costs, some of which, for example, remote sensors, are not ADP equipment.

Ballistic Research Laboratory's Supercomputer

The Ballistic Research Laboratory computers support laboratory scientists and engineers in running force-on-force models, war game simulations, and mathematical models for research and development of weapons systems, such as tanks. The Army designated the system as exempt from the Brooks Act under the Warner category of mission-critical resources in direct support of a weapon or weapons system.

In reviewing this procurement, we noted that delays in internal approval and the lack of timely funding resulted in changes to the system designation and the acquisition of two computers when only one was planned originally.

The Army Materiel Command initiated a supercomputer technology study in 1981, and it was later agreed that the Army's first large-scale, scientific computer would be installed at the laboratory. The Army requested and received a delegation of procurement authority from GSA in February 1985, and the Assistant Secretary the Financial Management approved the plan for a competitive acquisition in April 1985.

In August 1985, the Acting Assistant Secretary for Financial Management also approved the lease of a Cray X-MP/48 computer on a make and model basis. Laboratory officials told us they took this action because they were unable to get fiscal year 1985 funding to purchase the supercomputer and needed interim computer support. At the same time, the lease was approved as exempt from the Brooks Act. Army officials told us that funding for the Cray X-MP is from fiscal 1986 research and development, test and evaluation money through the Army Materiel Command.

According to Army officials, they redesignated the supercomputer as a Warner Amendment acquisition in order to get a priority from the manufacturers and returned the delegation to GSA in February 1985. Funding for the purchase is in the fiscal 1986 budget under "Other Procurement-Army, other electronic systems - equipment - ADP systems, automatic data processing equipment for non-tactical management information systems." The Army released both solicitations in March 1986 and plans to award contracts for the supercomputer and Cray X-MP by July 1986. The program manager told us that the Army now plans to keep both computers; however, other Army staff said that the X-MP will be leased only until the supercomputer is operational.

We asked the staff of the Army Judge Advocate General about compliance with the Competition in Contracting Act for the lease of the Cray

X-MP. They told us that it was approved by the Assistant Secretary of the Army (Research, Development and Acquisitions), who cited two subsections of 10 U.S.C. 2304 as authority. The first citation, 10 U.S.C. 2304 (c) (1), authorizes sole-source acquisition where there is only one available source and no other type of property or services will satisfy the need. The second citation, 10 U.S.C. 2304 (c) (3) (B), states noncompetitive procedures may be used when it is necessary to award the contract to a particular source in order "to establish or maintain an essential engineering, research, or development capability to be provided by an educational or other nonprofit institution or a federally funded research and development center."

In our view, the Assistant Secretary's citation of 10 U.S.C. 2304 (c) (3) (B) as justification for this sole-source lease of the Cray X-MP was inappropriate. This subsection categorizes types of organizations to which a noncompetitive contract may be awarded and does not appear relevant to the Army's lease of a computer for the Ballistic Research Laboratory. Moreover, the laboratory is neither an "educational or other nonprofit institution" nor a "federally funded research and development center" as defined by the Office of Management and Budget.[10] We note, however, that this may have been merely an error in citation since the Army relied on 10 U.S.C. 2304 (c) (3) (A) in limiting the procurement to domestic manufacturers. This section provides for contract award to a particular source or sources to preserve the industrial base in case of national emergency or mobilization. We were unable to fully analyze the subsection (c) (1) justification; however, we found no germane documented support for this justification in the contract files.

The Ballistic Research Laboratory expects to award a contract for the lease of the Cray X-MP in July 1986 and estimates that the lease-with-option-to-purchase will cost $41.8 million over an 8-year period. The supercomputer acquisition will be competitive, and the laboratory expects to award a contract in July 1986 with an estimated cost of $39.3 million. The two computers will cost a total $81.1 million. Acquisition time for the supercomputer from documentation of need to award is estimated at 65 months.

[10]Office of Management and Budget Policy Letter No. 84-1, "Federally Funded Research and Development Centers."

Tactical Army Combat Service Support Computer System

The Tactical Army Combat Service Support Computer System (TACCS) is a transportable microcomputer system that provides automated logistical, medical, and personnel support. The Army designated the system as exempt from the Brooks Act under the Warner category of critical to the direct fulfillment of a military or intelligence mission.

The initial requirement was identified in 1973 as part of the Combat Service Support project. The first system designed to meet the requirement was dropped after a year's testing, and further study resulted in the Division Level Data Entry Device program of 1978. This program was terminated in 1982, restructured, and renamed TACCS.

In September 1983, the Army awarded contracts for a compute-off[11] to three vendors at an estimated cost of $6.35 million. Test demonstrations were conducted until April 1984, corrective action was identified, and the award for production was made to the Systems Development Corporation in August 1984.

In November 1985, the Army Audit Agency found serious deficiencies in the TACCS program and recommended that the problems be corrected before production began.[12] The Computer Resources Council also reviewed TACCS in January 1986 and directed (1) further field testing of the system; (2) economic analyses of the personnel supply and maintenance software applications systems; and (3) a cut in systems purchased from the contract maximum of 250 per month to a maximum of 60 per month, and no more than 600 in fiscal year 1986. In June 1986, the Major Automated Information System Review Council increased the total permitted to 900 but maintained the rate at 60 per month.

We noted that changes to original requirements and the development of new requirements have resulted in numerous engineering change proposals to the contract that could result in sole-source add ons. For example, the original requirement for TEMPEST protection[13] cost $1,225 each for one version of the system and $1,648 each for the other version of the system in addition to a one-time charge and totalled over $700,000 for the first year's purchase of 450 systems. When the Army

[11]In a compute-off, competing vendors are awarded short-term demonstration contracts in order to determine which vendor's proposal best meets the agency's requirements.

[12]DOD-Wide Audit of Mobilization Readiness of Automated Combat Service Support Systems, November 20, 1985.

[13]TEMPEST protection is a type of shield installed to protect against emission of electromagnetic radiation that may cause unauthorized disclosure of information.

decided to upgrade the TACCS microcomputers from the Burroughs V1 and V2 models to the B26 model, they made the TEMPEST requirement more stringent by changing it from a distance of 50 meters to 1 meter. They later decided TEMPEST might not be needed at all. Another example of changing requirements is that there was no requirement or provision in the contract for a data base management system. As a result, the TACCS program office later proposed that INFORMIX, a data base management system, be purchased under the TACCS contract.

The 10-year system life cost of $276.3 million that Army reported to us was based on an early estimate of the number of microcomputers that would be needed for TACCS. On the basis of contract quantity of 13,772, however, the Army Audit Agency believes that the cost will be about $2.3 billion. It says that the cost will be even greater if the Army acquires the 25,000 microcomputers that have been approved. However, the latest presidential budget document for fiscal years 1985 through 1991 shows that the Army plans to purchase 9,035 micros in this 6-year period. We were unable to resolve the discrepancy in Army's plans.

The procurement of TACCS microcomputers was awarded competitively to the Systems Development Corporation in August 1984 and took 60 months from documentation of need to award.

Table IV.1: Summary Information on Selected Army Procurements Conducted Under Warner Amendment Exemptions

System Name	Subsystem Name	Resources Acquired
Operational Test & Eval. Agency	N/A	Teleprocessing services, minicomputers for T&E
White Sands Missile Range	N/A	2 Univac 1100/ 62E1 for T&E (Lease)
Ballistics Research Laboratory	N/A	Supercomputer for weapons R&D
Mobile Automated Field Instrumentation System (MAFIS)	Comm Interface Controller (CIC) Applications Processor Display System Home Post Development Support System (HPDSS)	Minicomputer for T&E Data General minicomputer for T&E Display system for T&E Data General minicomputers for T&E
Tactical Army Combat Service Spt. Comp. System (TACCS)	N/A	Microcomputers, software, maintenance for combat support

Estimated Contract Value	Extent of Competition	Elapsed Time by Phase (Months)			
		Requirements Development	Internal Approval of Procurement Request	Solicitation Issuance to Contract Award	Total Elapsed Time[a](Months)
$ 8.8M	Competitive	19	26.3	18.1	**37.8**
$ 12.7M	Sole source	13	34.7	3	**38.5**
$ 39.3M	Competitive	42.2	15.5	5 (est)	**65 (est)**
$ 0.3M	Competitive	8.5	2.6	4.2	
$ 0.2M	Sole source	17.8	3.2	3.0	**48.7**
$1.0 M	Competitive	17.8	3.5	3.7	
$ 0.7M	Sole source	4.2	3.5	3.0	
$276.3M	Competitive	53.7	54.9	5.1	**60**

[a]Total elapsed time is computed from date of initial needs documentation to contract award. Due to overlap caused by parallel phases, this may not be a simple arithmetic sum of the individual phases depicted in this table.

Army Brooks Act Acquisitions

Corps of Engineers Water Control Data System

The Corps of Engineers Water Control Data System regulates reservoir projects through minicomputers that collect and monitor real-time environmental and operational data from field sites. The Corps purchased Harris minicomputers for 11 sites between 1979 and 1982. In 1982, the Corps developed a consolidated plan to automate 18 additional sites and upgrade existing sites as needed.

In November 1984, two vendors paid the necessary $500 per copy to obtain the request for proposals and only one vendor, Harris Corporation, responded. The Corps negotiated with Harris to obtain prices below those of Harris' GSA schedule. These amounted to a 20-percent reduction for hardware and a 50-percent reduction for software. The Corps also negotiated trade-in credits for hardware that was being upgraded at nine sites. In addition, the Corps negotiated the one-time cost of a developmental shut-down feature from $78,000 to $28,400.

One problem we noted was that the estimate of the contract cost over the 60-month system life of the contract—$12 million—was more than the delegated amount of $8.6 million. After we brought this to the attention of the program manager, the Corps requested and received an increase in the delegated authority from GSA.

The contract for 24 minicomputers, software, and maintenance was awarded to the Harris Corporation in March 1985. The delegation of procurement authority was issued 31 days after the date of the agency request. Acquisition time from the documentation of need to contract award was 26.9 months.

Project Mil-80X

The Personnel Support System of the Military Personnel Center supports personnel management functions for regular Army staff and, in wartime, for reserve and national guard staff. In 1980, a GAO report[14] pointed out that the seven Univac 1108s that supported this system were obsolete and uneconomical. In response, the Center made a sole-

[14]Continued Use of Costly, Outmoded Computers in Federal Agencies Can Be Avoided (AFMD-81-9), December 15, 1980.

source lease of two Univac 1100/82 computers as replacements and later added peripherals to the configuration.

We observed that the Center had a problem in developing for MIL-80X the functional specifications that would lead to unrestricted competition. When they granted the delegation of procurement authority for the sole-source lease in 1980, GSA set a time limit of 30 months for the Center to conduct a competitive procurement. Project MIL-80X, a program to expand and modernize personnel systems, was developed in two phases when the Army found it could not meet GSA's time limit. Phase I, which was prior to the Competition Act and was the subject of our review, was a solicitation with 10 contract award groups, some of which were specific make and model and others plug-to-plug compatible. Although the specifications limited competition in Phase I, Phase II was planned as the fully competitive replacement. Despite this, a vendor filed a protest with the GSA Board of Contract Appeals on the basis of restrictive specifications contained in the Phase II solicitation. The Board dismissed the protest without prejudice in May 1986 to afford the parties an opportunity to resolve the vendor's objections.

Eight of the award groups went to the Sperry Corporation for an estimated cost of $91.8 million over the 48-month contract period. Two awards were made to Centennial Computer Products for $6.3 million. We found that the total awards of $98.1 million exceeded the delegated amount of $60.6 million approved by GSA. Although the Center has requested other amendments to the delegation of procurement authority, they have not requested an amendment to the delegated amount. The original delegation was issued 51 days after the date of the agency request. Total acquisition time from documentation of need to contract award was 46.5 months.

Continental Army Management Information System

The Continental Army Management Information System (CAMIS) is the system that was intended to support the management structure of the Reserve Component, with the primary purpose of planning and executing mobilization. It was to replace a largely manual system with a network of distributed processors and terminals linked via a telecommunications network at approximately 4,500 locations, including over 4,300 microcomputers and 12,000 terminals. Since the need was identified in 1979, the Army has spent over $48 million on the planning, design, development and demonstration of the system. Current estimates place system cost at over $1 billion.

We focused our review on the compute-off, a specific part of this complex acquisition. We did, however, review documents that gave an overview of the problems Army has encountered with CAMIS. Many of the obstacles and delays experienced have stemmed from changes in Army direction and management. There have been a series of changes in charters, program managers, and chain of command that have disrupted the project. One program manager functioned without a charter for 18 months, a violation of Army Regulation 70-17. The Office of the Inspector General attributed the situation to policy conflicts over who should have control of the program manager. A delay resulted in August 1983 when the Deputy Chief of Staff for Operations and Planning directed that CAMIS be integrated with two other Army systems. No detail as to how this was to be accomplished was provided until March 1985. In August 1985, the responsibility for CAMIS was moved to the Information Systems Command to be integrated under the Standard Army Network.

The Inspector General also found that CAMIS substantially exceeded budgetary thresholds approved by the Assistant Secretary for Financial Management and GSA. The Assistant Secretary approved $4.3 million for systems engineering and contract support, but as of April 1985 over $8.3 million had been paid and over $13.5 million obligated. In addition, GSA approved a delegation of procurement authority of $2.7 million for ADP resources, but as of April 1985 over $2.9 million had been paid and over $4.6 million obligated.

The compute-off was planned for award in October 1985. After proposals were submitted, the award was suspended pending a review scheduled for 1986 by the Major Automated Information System Review Council. Following this, the Army withdrew all funding for CAMIS except $4.9 million in fiscal 1986 and $7.3 million in fiscal 1987.

The procurement for the compute-off was competitive with an estimated cost of $15 million. GSA issued the delegation of procurement authority for CAMIS production 45 days after the date of the agency request. Acquisition time from documentation of need to suspension of the award was 75 months.

Table IV.2: Summary Information on Selected Army Procurements Conducted Under the Brooks Act

System Name	Subsystem Name	Resources Acquired	DPA Amount	Estimated Contract Value
Corps of Engineers Water Control Data Systems	N/A	Minicomputers, software, ware, and maintenance for civil engineering	$8.6M	$12M
Military Personnel Center Personnel Support System (MIL-80X PHASE I)	N/A	Mainframe computers and peripherals for central personnel MIS	$60.6M	$98M
Continental Army Mgmt. Info. Sys. (CAMIS)	N/A	Hardware and software for Army Reserve	$499M	$15M

Extent of Competition	Elapsed Time by Phase: Requirements Development (Months)	Internal Approval of Procurmt Request (Months)	APR to DPA (Days)	Solici. Issuance to Contract Award (Months)	Total Elapsed Time[a] (Months)
Competitive	7.6	12	33	3.7	**26.9**
Compatibility limited[b]	16.8	11.1	51	14.5	**46.5**
Competitive	65.3	67.2	45	Cancelled 11/85	**75**

[a]Total elapsed time is computed from date of initial needs documentation to contract award. Due to overlap caused by parallel phases, this may not be a simple arithmetic sum of the individual phases depicted in this table.

[b]The requirements were expressed in terms that limited the competition to hardware/software that was compatible with existing hardware/software.

Navy Warner Amendment Acquisitions

Desk Top Tactical Computers

Desk Top Tactical computers support fleet anti-submarine, anti-surface, anti-air, and electronic warfare missions. The system provides tactical information to the battle group commander and his subordinates aboard ship and is also used in research laboratories. The Navy cited the Warner Amendment category of critical to the direct fulfillment of military or intelligence missions for this project.

We observed two instances that illustrated the lack of oversight in this project. First, the project office made a major change in the maximum order quantity after the acquisition was approved by the Assistant Secretary for Financial Management. The change, from 550 to 1,400 microcomputers, increased the maximum contract value from $28.9 million to $65 million and was never approved. Second, the acquisition justification document stated incorrectly on the first page that the system software was tactical and thus excluded from life cycle management regulations. The document later stated, also incorrectly, that tactical systems are excluded from the ADP review chain. These errors were never corrected during review.

We also observed that the Navy did not perform a survey of user requirements until after contract award. The results of this survey indicated that the user demand for microcomputers will exceed the contract maximum of 1,400. A larger quantity based on a user survey made prior to the acquisition could possibly have secured greater volume discounts and avoided a second procurement or possible sole source contract for the additional hardware.

The Navy awarded the competitive contract in July 1984 to Tetra Tech Services, Inc., for Hewlett Packard 9836U and 9020A microcomputers, system software, a data base management system and maintenance. This was an indefinite-quantity, indefinite-delivery contract with an order ceiling of 1,400 micros. The award amount of $65 million covers the delivery of hardware and software for 3 years and maintenance for 8 years. Total acquisition time from documentation of need to contract award was 15.2 months.

Stock Point ADP Replacement

The Stock Point ADP Replacement (SPAR) project will replace the Uniform Automated Data Processing System for Stock Points, which supports supply, logistics, financial, and management functions. The contract award is planned for 1987. The Navy cited the Warner Amendment category of direct fulfillment of military or intelligence missions for this project.

We found that there is still a problem with the characterization of this system as Warner. GSA believes that stock point logistics is not covered by the Warner Amendment but should be covered by the Brooks Act as a routine administrative system. Since September 1984, GSA has repeatedly asked the Office of Management and Budget to make the determination, but no resolution had been made by the time we completed our audit work.

The Navy estimates that SPAR will cost $1.5 billion over the life cycle of the system. We found that, despite the size and cost of the project, there has been no review at the Office of the Secretary of Defense level. The SPAR contract is massive in scope. The contract to the prime vendor will provide a vehicle to replace all system hardware, software, and data communication facilities at 25 data processing centers supporting 73 sites world wide. This includes, where economically or technically required, all interim ADP equipment. The Navy did not require specific hardware configurations in its solicitation, and each vendor may propose his own solution.

We also noted that SPAR has an unusually long contract period, which could extend well into the next century if all of the options are exercised. The Naval ADP Selection Office, which administers the SPAR contract, questioned the 24-year length of the contract period. The contracting officer said that they allowed it with the stipulation that the contract be recompeted in eight years if the vendor does not perform satisfactorily. We note that the exercise of the annual options should be subject to Federal Acquisition Regulation Section 17.

The competitive contract cost is estimated to be $782.2 million. The contract award is planned for March, 1987, and the estimated acquisition time is 77.6 months.

Marine Corps Fleet Marine Force Computers ("Green Machines")

The "Green Machines" are ruggedized minicomputers that support administrative functions in the battlefield. The Marine Corps cited the Warner Amendment category of critical to the direct fulfillment of military or intelligence missions for this program.

The initial procurement, made in March 1980, was a competitive contract awarded to the International Business Machines (IBM) Corporation for their services and minicomputers. To provide field support for the Selected Marine Corps Reserves, the Marine Corps awarded a follow-on contract to IBM 3 years later. The sole-source contract was justified on the basis of software compatibility and the length of time needed for a different vendor to ruggedize the hardware.

We found that the Marine Corps did not follow the Navy requirement for sole-source justification embodied in Secretary of the Navy Instruction 5231.B because it did not provide estimates of cost differentials for other vendors. The Marine Corps did, however, follow Navy documentation and approval requirements. We also noted that the acquisition experienced significant delays because, according to Marine Corps officials, they had difficulty obtaining price information from IBM.

The sole-source contract was awarded to IBM in April 1983, prior to the enactment of the Competition Act, for 291 minicomputers and associated peripherals. The contract period is for 8 years and the estimated cost is $6.86 million. In the information provided to us in August 1985, the Navy reported $11.3 million as the life cycle cost. Total acquisition time from documentation of need to contract award was 26 months.

Enhanced Naval Warfare Gaming System

The Enhanced Naval Warfare Gaming System (ENWGS) is the enhancement to the Naval Warfare Gaming System (NWGS), a system that supports the simulation of real world confrontations for the Naval War College and other training facilities. The Navy cited the Warner Amendment category of critical to the direct fulfillment of military or intelligence mission for the program.

We observed several problems with the ENWGS acquisition: inadequate justification for sole-source contracts; lack of internal periodic reviews; no high-level review; and no approval for the increased contract amount.

Computer Sciences Corporation developed NWGS for the Navy and was also selected noncompetitively as the contractor for ENWGS software and

hardware. Although the contract was not awarded until September 1985, the sole-source justifications for both hardware and software were based on urgent need "to meet CNO [Chief of Naval Operations] dates for Tactical Training requirements," which were stated as June 1984. Secretary of the Navy Instruction 5231.B, however, states that urgency alone is not an adequate justification. The Assistant Secretary for Financial Management was concerned about the sole-source justification and initially denied it, but later reversed his decision. The Navy could not provide us with a documented explanation of why he revised his decision. The contract was awarded after the Competition in Contracting Act was enacted. Navy officials stated that the provisions of the act did not apply because the solicitation was issued prior to the effective date of the act.

We observed that ENWGS did not follow Navy regulations for life-cycle management and review, also embodied in Secretary of the Navy Instruction 5231.B. Although a 1979 Naval Audit Service Report designated NWGS as an ADP system, program officials designated ENWGS as a research and development system. As a result, they had no formal periodic reviews of project plans and progress and made no analysis of economics, alternatives, cost benefit, and user requirements, all of which are normally made during the acquisition of ADP systems.

ENWGS officials did not assess total costs over the life cycle of the system. Although they have not documented the life-cycle cost, they now estimate it as $100 million. Systems with life-cycle costs at this level become subject to review by the Major Automated Information System Review Council. ENWGS, however, has not been scheduled for such review. We also noted that although approval for the cost of software development was made for $7.9 million, the contract was awarded for $12.6 million without approval for the increase.

The sole-source contract was awarded in September 1985 to the Computer Sciences Corporation for a period of 33 months. The estimated cost of software development, Honeywell 870 computers and peripherals, is $39.6 million. In the information provided to us in August 1985, the Navy reported the life-cycle cost as $26 million. Acquisition time from documentation of need to award was 40.8 months.

Table IV.3: Summary Information on Selected Navy Procurements Conducted Under Warner Amendment Exemptions

System Name	Subsystem Name	Resources Acquired
Desk Top Tactical Computers (DTC)	N/A	Microcomputers for tactical computing applications
Stock Points ADP Replacement (SPAR)	N/A	Mainframe computers, peripherals, and software for Navy logistics
Marine "Green Machines"	N/A	Deployable minicomputers
Enhanced Naval Warfare Gaming System (ENWGS)	N/A	Honeywell hardware and software for wargaming simulations

Estimated Contract Value	Extent of Competition	Elapsed Time by Phase (Months)			
		Requirements Development	Internal Approval of Procurement Request	Solicitation Issuance to Contract Award	Total Elapsed Time[a](Months)
$65M	Competitive	28.8	1.9	2.9	**15.2**
$782.2M	Competitive	61	3.3	27.5 (est)	**77.6 (est)**
$6.9M	Sole source	18.1	3.9	N/A	**26**
$39.6M	Sole source	22.2	10.3	N/A	**40.8**

[a]Total elapsed time is computed from date of initial needs documentation to contract award. Due to overlap caused by parallel phases, this may not be a simple arithmetic sum of the individual phases depicted in this table.

Navy Brooks Act Acquisitions

Air Force/Navy Portables

Air Force/Navy Portables was a joint acquisition of microcomputers for the support of administrative functions.

GSA granted the Navy a delegation for procurement authority contingent on a survey of user requirements and specifications. The Memorandum of Agreement between the Navy and Air Force also specified a user needs determination. Despite these commitments, the project team did not perform a user survey but instead relied on estimates based on a prior contract.

We found that the ADP Selection Office changed the procurement from a request for proposals to a two-step invitation for bid without notifying the Assistant Secretary for Financial Management or the Air Force. The Assistant Secretary's initial approval was contingent on being informed of significant changes. The Memorandum of Understanding with the Air Force also specified a request for proposals for the acquisitions. The selection office told us they made the change to expedite the acquisition because it had fallen behind schedule.

The competitive contract was awarded to Federal Data Corporation in May 1985 for a 3-year period. It was an indefinite-quantity, indefinite-delivery contract for $90 million with an order ceiling of 36,000 Seequa Chameleon XL portable microcomputers. GSA approval took 31 days from the date of the request to the date of the delegation. Although GSA temporarily suspended the delegation because of improper wording and omissions in the solicitation, this did not result in delaying the acquisition. Total acquisition time from documentation of need to award was 14.9 months.

Stock Point Logistics Integrated Communications Environment System

The Stock Point Logistics Integrated Communications Environment System (SPLICE) is a minicomputer system that provides on-line distributed processing for the Navy's Uniform ADP System-Stock Points. According to the Navy, it also relieves the saturation problem of the larger logistics system by handling some of the applications. The contract covers systems implementation at 31 mandatory and 31 optional

sites. The latest plan, however, identified 41 mandatory and 62 optional sites for SPLICE.

We saw that, while thorough, SPLICE documentation and approval contributed to lengthy delays in the acquisition process. For example, internal approval of the agency procurement request took 18 months. Delay was also introduced when documentation was converted to the Navy's new life-cycle management format. Additional time was spent in resolving detailed comments and suggestions made on project design by the Naval Data Automation Command.

Although the GSA delegation was for $140 million, the SPLICE contract ceiling is $548 million. After contract award, the Navy designated SPLICE as a Warner Amendment system, citing the category of critical to the direct fulfillment of military or intelligence missions. As a result, Navy officials believe that the GSA regulations no longer apply.

The Major Automated Information System Review Council has the responsibility to review all acquisitions with life-cycle costs over $100 million. Defense has, however, delegated the review responsibility for the SPLICE system to the Navy Assistant Secretary for Financial Management.

The competitive contract was awarded to Federal Data Corporation in November 1983 for a 15-year period, if all options are exercised. It is an indefinite-quantity, indefinite-delivery contract for Tandem Nonstop TXP minicomputers, software and Network Systems Corporation HYPER channel communications at a maximum cost of $548 million. GSA approval took 17 days from the date of the request to the date of the delegation. Total acquisition time from documentation of need to contract award was 71.1 months.

Marine Corps Terminals

The Marine Corps is procuring terminals, printers, and controllers for use throughout the United States and Japan. The hardware will support on-line access to several administrative systems.

We observed two problems in this acquisition: the Navy's contracting office created delay in the procurement and the Corps did not follow Navy guidelines regarding the survey of user requirements.

Although the ADP Selection Office received the acquisition request in October 1984, it did not assign a contract officer until 2 months later.

Another month passed before the office advised the Marine Corps that it needed an agency procurement request from GSA. The Marine Corps completed the request in 2 weeks, and GSA approved the delegation of procurement authority in 19 days. Over 4 months later, the selection office combined the terminal acquisition with a high-speed printer acquisition. The office then changed the acquisition strategy from a two-step invitation for bid to a request for proposals. The contract officer told us that, after the solicitation was released in November 1985, the acquisition was further delayed by vendor questions.

Navy guidelines require that a survey of user requirements be conducted to determine the number of terminals needed. Instead, the Corps estimated the requirement based on the user needs defined in a prior contract.

The competitive contract is scheduled for award in September 1986. It is an indefinite-quantity, indefinite-delivery contract with a ceiling of $20.6 million. GSA issued the delegation 19 days after the request date. Estimated total acquisition time is 23.4 months.

Navy Standard Civilian Payroll System

The Navy Standard Civilian Payroll System (NAVSCIPS) is a system of minicomputers to be installed at 84 sites in the United States and abroad. The hardware and software were purchased to standardize the Navy civilian payroll system.

We observed that the acquisition took over 9 years to complete, due primarily to the difficulty Navy had in defining the project. The project to standardize the civilian payroll system was established in 1971 but was replaced by a new standardization project in 1975. After undergoing several revisions and receiving input from a survey of user requirements, the first formal milestone for the project was approved in 1982.

The Navy used an existing Navy-wide indefinite-quantity, indefinite-delivery contract to purchase the Perkin-Elmer 3210 minicomputers, peripherals and maintenance. The contract is for a period of 50 months, and the ceiling is $31 million for 200 systems. The anticipated costs for NAVSCIPS are $15.7 million, about half of the total contract value. GSA issued the delegation 38 days after the date of the request. Total acquisition time from documentation of need to contract award was 109 months.

Table IV.4: Summary Information on Selected Navy Procurements Conducted Under the Brooks Act

System Name	Subsystem Name	Resources Acquired	DPA Amount	Estimated Contract Value
Navy/Air Force Portables	N/A	Microcomputers for administrative applications	$90M	$90M
Stock Point Logistics Integrated Communications Environment (SPLICE)	N/A	Minicomputers for logistics support	$140M	$548M
Marine Corps Follow-on terminal buy	N/A	Terminals, printers, modems, controllers for adm. support	$20.6M	$20.6M
Naval Standard Civilian Payroll (NAVSCIPS)	N/A	Minicomputers and software for payroll maintenance function	$15.7M	$15.7M

Extent of Competition	Elapsed Time by Phase: Requirements Development (Months)	Internal Approval of Procurmt Request (Months)	APR to DPA (Days)	Solici. Issuance to Contract Award (Months)	Total Elapsed Time[a] (Months)
Competitive	3.1	1.1	31	4.8	**14.9**
Competitive	48.5	13.5	17	19.5	**71.1**
Competitive	0.4	0.5	19	9.6 (est)	**23.4 (est)**
Used existing Navy-wide requirements contract	87.5	3.1	38	N/A	**109**

[a]Total elapsed time is computed from date of initial needs documentation to contract award. Due to overlap caused by parallel phases, this may not be a simple arithmetic sum of the individual phases depicted in this table.

Air Force Warner Amendment Acquisitions

Consolidated Aerial Port Subsystem

The Consolidated Aerial Port Subsystem (CAPS) under the Military Airlift Command supports automated passenger and cargo processing functions at 24 aerial ports world wide. The Air Force designated the system as exempt from the Brooks Act under the Warner category of command and control of military forces.

Prior to acquisition of the hardware, the Command used a World Wide Military Command and Control System contract as the vehicle to develop software for a prototype system. The prototype was developed, implemented, and tested on Honeywell Level 6 minicomputers over a 5-year period. When the system was ready to go operational, the Command found that Honeywell was discontinuing the Level 6 minicomputer and that software conversion would be necessary if they purchased hardware from a different vendor.

In February 1984, Honeywell sent an unsolicited proposal to the Military Airlift Command to offer Honeywell DPS 6 minicomputers, machines that are compatible with CAPS software. In justifying the sole-source procurement, project officials stated that converting the software for use of different hardware would cost between $6.5 and $10.1 million and would result in a delay to the implementation of CAPS. Because the solicitation was issued prior to April 1, 1985, the provisions of the Competition Act did not apply.

In a management review conducted during 1981, project officials stated the acquisition took about 6 1/2 years because they had underestimated the complexity of the system. They also stated that the project expanded in scope during development and that the necessary funding and other resources were not always available for the project.

The sole-source contract was awarded to Honeywell, Inc., in April 1985 for an 8-year period. The 50 Honeywell DPS 6 minicomputers, peripherals, and maintenance will cost an estimated $42.3 million. The Air Force reported that the system life cost is $85 million. Acquisition time from documentation of need to contract award was 77.5 months. This

total does not include the period spent on development (May 1974-October 1978).

Cyber 74 Replacement at Nellis Air Force Base

The data processing facility at Nellis supports the training, testing, and tactics development of fighter aircraft and associated weapons systems for the headquarters, Tactical Fighter Weapons Center. The Air Force designated the system as exempt from the Brooks Act under the Warner category of integral part of a weapons system.

We observed that Nellis officials changed the acquisition strategy to software compatibility limited because they believed they would have insufficient time to conduct software conversion if a different computer were acquired. We also found that the Warner Amendment designation for this acquisition was not determined until five months after the solicitation was issued.

When a major user group was transferred in 1980, the Nellis Cyber 74 system became substantially underutilized. The Center planned a competitive procurement to replace the Cyber with a smaller, more efficient computer that could use a modern operating system. Although this strategy was approved in October 1981, the acquisition strategy was changed 4 months later to require software compatibility. Center officials made the change because they wanted to use the mission-critical Cyber space to install the base's Phase IV administrative computer system by March 1983. This would have left only a small amount of time to convert the Cyber 74 applications to a different type of computer. When the solicitation was issued in April 1982, one vendor complained about the restrictive nature of the specifications, and only the incumbent contractor for Cyber 74 maintenance responded. The Data Automation CY-40 Requirement[15] was based on a specific make and model, Cyber 170/730, and was approved in September 1982, 5 months after the solicitation was issued.

The contract was awarded to Vanguard Technologies Corporation in September 1982 for a period of 7 years and 7 months. Total cost for the Cyber 170/730 with technical support and maintenance over the contract period is $4.2 million. The Air Force reported the system life cost as $10 million. Acquisition time from documentation of need to contract award was 19.8 months.

[15]This is a statement of ADP resource requirements that must be approved before the Air Force acquisition process can be initiated.

Weapons System Management Information System

The Weapons System Management Information System (WSMIS) is a system that produces information used by logistics and operational commanders in making decisions on weapons system readiness and sustainability. It is a major part of the Logistics Command's $850 million modernization program. The Air Force designated this and all logistics management systems as exempt from the Brooks Act under the Warner category of critical to the direct fulfillment of military missions.

Our review was limited to the software development contracts for WSMIS. Software development was separated into three modules. The first module was a contract awarded to the Analytical Sciences Corporation in July 1983. The second module was composed of six contracts under a basic ordering agreement with Dynamics Research Corporation. The contract for the third module, awarded in January 1986, is an extension of the Analytical Sciences contract. Hardware to support WSMIS was purchased under separate contracts and installed at Tinker Air Force Base's Data Services Center and at the Logistics Command headquarters.

Air Force officials told us that WSMIS will cost $115.5 million over its life cycle. The system has not, however, been scheduled for review at the Department of Defense level. The Air Force estimated the cost of software development, operations, and maintenance as $47.3 million through fiscal 1987. The contracts we reviewed have a total value of $24.7 million. This total does not include the cost of hardware purchased for WSMIS. Acquisition time from documentation of need to contract award was 55.3 months.

Table IV.5: Summary Information on Selected Air Force Procurements Conducted Under Warner Amendment Exemptions

System Name	Subsystem Name	Resources Acquired
Consolidated Aerial Port Subsystem (CAPS)	Passenger Automated Check In System (PACS) Aerial Port Documentation & Mgmt. System (ADAM-III)	50 Honeywell minicomputers for airlift management
Cyber-74 Replacement at Nellis, AFB Nevada	N/A	Mainframe computer for T&E
Weapons Sys. Management Information System (WSMIS)	N/A	Design, development, operations & maintenance of software to support logistics functions

Estimated Contract Value	Extent of Competition	Elapsed Time by Phase (Months)			
		Requirements Development	Internal Approval of Procurement Request	Solicitation Issuance to Contract Award	Total Elapsed Time[a](Months)
$42.3M	Sole source	50.2 PACS 62.2 ADAM	7.1 PACS 5.5 ADAM	13.8	**77.5**
$4.2M	Compatibility- limited[b]	17.0	12.9	7.6	**19.8**
$24.7M	Competitive	29.5	1.3	1.9	**55.3**

[a]Total elapsed time is computed from date of initial needs documentation to contract award. Due to overlap caused by parallel phases, this may not be a simple arithmetic sum of the individual phases depicted in this table.

[b]The requirements were expressed in terms that limited the competition to hardware/software that was compatible with existing hardware/software.

Air Force Brooks Act Acquisitions

Arnold Engineering Facility Computer Enhancement Program

The computer system at the Arnold Engineering Development Center performs on- and off-line test data reduction and analysis. These applications support testing, archival data storage and retrieval, engineering design and analysis, and test management for rockets, air breathing engines, wind tunnels, and ranges.

Arnold officials determined that their DEC-10 minicomputers were inadequate to process their current workload and initiated a replacement project. Officials told us that they could have made the replacement acquisition under Warner exemption, but chose the Brooks Act procedure because it was faster. Although the facility has a Cray X-MP and an Amdahl 5860 procured under the Warner Amendment, Arnold computing resources are not on the list of 121 approved Warner systems provided us by the Air Force in April 1986.

The competitive contract was awarded to Grumman Data Systems Corporation in September 1985. The contract is for the purchase of 8 VAX 8600 minicomputers, 48 analysis display stations, 3 networks, maintenance, software, and training.

GSA issued a delegation of procurement authority 21 days after the date of the agency request. We noted that the amount delegated by GSA was $10.9 million, while the estimated contract value is $28.7 million over the 5-year system life. We brought this to the attention of Center officials, and they have submitted an amended agency procurement request to GSA.

Acquisition time from documentation of need to contract award was 35.4 months.

Air Force Minicomputer Multi-User System

The Air Force Minicomputer Multi-User System (AMMUS) was an acquisition of minicomputer systems with workstations that support word processing, graphics and applications for civil engineering, billeting, food services, and other general purpose data processing.

In our review of AMMUS, we observed that, although the requirements for two primary systems were defined in 1981 and 1982, the acquisition for these systems was delayed until 1985 because of decisions made by higher level Air Force staff. In 1981 the Air Force Engineering and Services Center developed the requirements for the Work Information Management System, which supports base and major command civil engineering functions. In late 1982, the center also developed requirements for the Source Information Management System, which supports base level applications. Before approving these requirements, Air Force headquarters conducted a study to determine the feasibility of using the existing Phase IV program to acquire Sperry minicomputers. The study showed that Phase IV could meet only 65 percent of the estimated requirements. In addition, an economic analysis indicated that it would cost more to use the Phase IV contract than to obtain the minicomputers competitively. The Air Force then decided to satisfy the two center requirements through the AMMUS Air Force-wide minicomputer acquisition.

We found that, upon receipt of the agency procurement request from the Air Force in March 1984, GSA expressed concern because the Air Force requested procurement authority for 375 to 2500 systems over an 8-year contract period. The concern was directed to the difference between firm and estimated requirements as well as the possibility of acquiring obsolescent technology in later contract years. After surveying potential users, the Air Force subsequently reduced the estimated requirements to 1,600 systems over a 5-year ordering period. The AMMUS procurement process was well under way before the document defining project scope, assigning responsibilities and authorizing specific actions was formally approved. Air Force officials dismissed the importance of the untimeliness. They said that the document was being worked on for a year and was not completed until November 1984.

The competitive contract was awarded in December 1985 to Wang Laboratories, Inc., for its VS minicomputers and maintenance. The contract for hardware, which has a 5-year purchase period and an 8-year maintenance period, will have a value of $480 million if all options are exercised. Although the cost of AMMUS qualifies it for review by the Major Automated System Review Council, Defense has excluded the system from this high level review. GSA issued the delegation 38 days after the date of the agency request. Acquisition time from documentation of need to contract award was 49.8 months.

Program Management Support System

The Program Management Support System (PMSS) is part of the Logistics Management System Modernization Program, a project that the Air Force had designated as exempt under the Warner Amendment. Logistics officials decided, however, that PMSS should come under the Brooks Act because it is a management tool that helps to implement the project.

The prototype for PMSS was developed as a joint effort by the Logistics Command, GSA, and System and Applied Sciences Corporation, with Robbins & Gioia, Inc., as the subcontractor. After the production contract was declared a small business set-aside, only Robbins-Gioia submitted a proposal.

The contract was awarded to Robbins-Gioia in September 1985. It is for turnkey service and the purchase of 9 HP 1000s, 29 IBM PCs, 4 IBM PC XTs and peripherals. The contract covers a 5-year period for ordering hardware and an 8-year maintenance period. Although the delegated amount was $13.9 million, the contract value will be $32 million if all options are exercised. GSA issued the delegation 28 days after the date of the agency request and total acquisition time from documentation of need to contract award was 42.8 months.

Table IV.6: Summary Information on Selected Air Force Procurements Conducted Under the Brooks Act

System Name	Subsystem Name	Resources Acquired	DPA Amount	Estimated Contract Value
Facility Computers Enhancement at Arnold	N/A	Minicomputer systems for T&E	$10.9M	$28.7M
Program Management Support System (PMSS) for AFLC	N/A	MIS supporting Logistics Modernization system	$13.9M	$32M
Air Force Minicomputer Multiuser System (AMMUS)	WIMS - Work Info. Mgt. Sys. SIMS - Service Info. Mgt. Sys.	Minicomputers for administrative support	$138M	$480.1M

	Elapsed Time by Phase				
Extent of Competition	Requirements Development (Months)	Internal Approval of Procurmt Request (Months)	APR to DPA (Days)	Solict. Issuance to Contract Award (Months)	Total Elapsed Time[a] (Months)
Competitive	27.4	1.5	21	5.5	**35.4**
Competitive	35[b]	2.8	28	5.9	**42.8**
Competitive	20.8	7.2	38	13.8	**49.8**

[a]Total elapsed time is computed from date of initial needs documentation to contract award. Due to overlap caused by parallel phases, this may not be a simple arithmetic sum of the individual phases depicted in this table.

[b]Includes 14.5 months for development and operational testing of prototype system.

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