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ADMINISTRATION OF PUBLIC LAW 89-306,
PROCUREMENT OF ADP RESOURCES
BY THE FEDERAL GOVERNMENT

THIRTY-EIGHTH REPORT

BY THE

COMMITTEE ON GOVERNMENT
OPERATIONS

together with

ADDITIONAL VIEWS



OCTOBER 1, 1976.—Committed to the Committee of the Whole House on the
State of the Union and ordered to be printed

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OCTOBER 1, 1976.—Committed to the Committee on the Whole House on the
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Mr. BROOKS, from the Committee on Government Operations,
submitted the following

THIRTY-EIGHTH REPORT

together with

ADDITIONAL VIEWS

BASED ON A STUDY BY THE LEGISLATION AND NATIONAL SECURITY
SUBCOMMITTEE

On September 28, 1976, the Committee on Government Operations approved and adopted a report entitled "Administration of Public Law 89-306, Procurement of ADP Resources by the Federal Government." The chairman was directed to transmit a copy to the Speaker of the House.

I. INTRODUCTION

The annual Automated Data Processing (ADP) costs in the Federal Government are estimated to range between \$4 and \$10 billion. These costs include the procurement of ADP hardware, maintenance, and services, as well as personnel and other operational costs. These estimates, however, do not generally include Federally financed ADP expenditures by Federal grantees and contractors. Also, they may well not include all Federal expenditures on "special purpose" ADP equipment which is generally designed as an integral part of non-ADP operations. If the costs of these additional functions were included, Federal annual ADP costs could easily exceed \$15 billion. This

means that current Federal ADP expenditures may amount to approximately 4 percent of the entire Federal budget.

The magnitude of these costs compels the Congress to reevaluate the manner in which we perceive and manage Federal ADP operations in the Federal Government, and, more importantly, how these operations impact upon the budgets and management of executive agencies.

Traditionally, computers have been embraced by government managers as a revolutionary tool for improving efficiency and conserving resources. As a result, these manager's expectations have all too often exceeded the reality of the computer's capability to solve their problems. The level of current Federal expenditures on ADP resources must compel us to reexamine the true impact of computers on government operations. Since we are now devoting such a large share of our Federal budget to ADP resources, we need to scrutinize more carefully whether these expenditures are justified from a cost/benefit standpoint. Equally important, however, is the question whether acquisition of ADP resources is necessary to carry on an essential program or whether such acquisition will foster non-essential activity simply because the computer is available.

Both of these issues can have such an impact on government agencies' operations that they require a more careful scrutiny of ADP procurement and operations than is now being conducted within the Government. Automatic data processing equipment can no longer be viewed as a mere tool but must now be treated in the same way as other major programs and, as such, receive the attention of top management.

The primary means for providing this direction by top management lies in the effective administration of Public Law 89-306 (The Brooks Act). This Act, while directed primarily toward the procurement of ADP resources, in effect, compels agencies to examine their needs and uses of ADP if they are to achieve the economies and efficiencies intended by the Act.

II. HEARINGS

The Government Operations Committee, through its Subcommittee on Legislation and National Security, conducted three days of hearings on June 28 and 29, and July 1, 1976, in which procurement and utilization under the Brooks Act were reviewed. Preparatory to these hearings, the Subcommittee devoted several months to reviewing the administration of this Act by the Office of Management and Budget (OMB), the General Services Administration (GSA), and the National Bureau of Standards (NBS). Considerable information was obtained from these agencies regarding their role in administering the Act, as well as information relating to Federal user agencies' ADP procurement and use. In addition, data was obtained directly from the user agencies on their ADP inventory and its acquisition.

At the hearings, testimony by representatives of OMB, GSA, and NBS provided the Subcommittee with additional information concerning their activities under the Act. The General Accounting Office (GAO), in turn, presented a ten-year summary covering the implementation of the Act. Finally, the Computer and Business Equipment Manufacturers' Association and the Computer Industry Association testified as to the ADP industry's position regarding the implementation of the Act.

A review of this information and testimony has disclosed that the Brooks Act has been neither administered nor implemented in accordance with the intentions of Congress:

GSA has repeatedly authorized noncompetitive procurements which were not adequately justified.

GSA has failed to enforce regulations and restrictions in ADP procurement authority delegated user agencies.

GSA has not provided adequate management guidance to user agencies.

OMB has failed to establish concise, clearcut policy.

OMB has not provided adequate direction in the enforcement of those policies it has established.

NBS has failed to provide necessary hardware and software standards.

Federal user agencies have consistently failed to cooperate with GSA.

Federal user agencies have shown a general reluctance to adhere to the purpose and intent of the Brooks Act.

Under the Brooks Act, GSA has the authority for procuring ADP resources required by Federal user agencies. GSA may either procure those ADP requirements which a user agency specifies or delegate to an agency authority to procure under such restrictions and conditions as GSA specifies. The Act does not permit GSA to impair or interfere with an agency's determination of its requirement. This cannot be interpreted, however, as preventing GSA from determining the best means for an agency to fulfill its ADP requirements. A dispute between GSA and a user agency is to be resolved by OMB.

III. SURVEYS OF ADP PROCUREMENTS

In a survey conducted by the Subcommittee of delegations of ADP procurement authority granted by GSA, it was found that in Fiscal Year 1975 only 36 percent of the systems required were procured in a fully competitive manner.¹ The balance were noncompetitive—sole source, make and model, brand name or equal. This low percentage of competitive procurements is clearly inconsistent with the goals and objectives of the Brooks Act and reflects a decline in the level of competition from historic percentages developed by the Subcommittee of user agency procurements over an eight year period. This latter survey showed that an average of 60 percent of all systems procurements were competitive during that eight year period. What is particularly disturbing about this sharp decline in the level of competition is the fact that, as GSA admitted to the Subcommittee, noncompetitive procurements are more costly to the Federal Government than competitive procurements. According to the GSA, since enactment of Public Law 89-306, over \$681 million in cost avoidance has been achieved in 302 competitive ADP contracts.

It was pointed out at the hearing that the Brooks Act has stimulated a greater participation in the Government market by ADP manufacturers than in the commercial market. Whereas, 70 percent of the commercial computer market is dominated by one firm, that firm controls only approximately 30 percent of the Government market. While the Brooks Act can justifiably take credit for this, these statistics do not represent true competition in the sense that they do not reflect whether competition occurred in any specific procurement.

¹ This percentage does not include the large number of noncompetitive delegations granted by GSA under Temporary Regulation, E-32, relating to renewals of leased equipment rented under the ADP Schedule. If these procurements had been included, the percentage of competitive procurements would have been even lower.

IV. BASIC CAUSES OF NONCOMPETITIVE PROCUREMENTS

The basic causes for noncompetitive procurements are lack of (1) adequate justifications for ADP acquisition, (2) long-range planning, (3) standards, (4) high level languages, (5) utilization reviews, and (6) use of functional specifications.

LACK OF ADEQUATE JUSTIFICATION

GAO has documented several cases in which GSA granted procurement delegations which had not been fully justified by user agencies. Among these were procurement requests by the Department of Agriculture, Veterans' Administration, and the Social Security Administration. Several reasons appear to exist for GSA's actions. Foremost, in the Committee's view, is GSA's lack of resources to examine in depth an agency's justification for a noncompetitive procurement. To conduct an adequate in-depth review of a justification for a major ADP system would require the expenditure of hundreds of man-hours by technically qualified personnel. Generally, GSA lacks sufficient manpower to devote that amount of time to such reviews. The Federal Computer Performance Evaluation and Simulation Center (FEDSIM) does possess the capability to perform such services but its resources are so limited that it is unable to provide a significant degree of timely assistance in this area.

In addition, GSA, on occasion, appears to grant a user agency a delegation of procurement authority because of the latter's prestige or dominance in the bureaucratic structure of government. In essence, this prestige or dominance permits an agency to exercise influence over another agency without taking any apparent overt action. This influence stems from the mission of the agency and the support it can garner from the higher levels of government. GSA, unfortunately, ranks below many other agencies in the world of bureaucracy. As a consequence, it is unable, standing alone, to resist pressures from a more dominant source if such source signals GSA that it intends to exert pressure concerning a particular request.

Even worse, there have been occasions where user agencies have refused to cooperate with GSA when the latter sought fuller justification for noncompetitive procurement requests. In recent months, Departments of Interior, Commerce, Transportation, and HEW have, in one way or another, challenged GSA's authority to obtain additional documentation for procurement requests. These challenges have been based on the requirements section of the Brooks Act which prohibits GSA from questioning an agency's requirements. The validity of these challenges are clearly without legal support under the law. If an agency disagrees with GSA regarding justification for a particular procurement, the Act provides that the dispute be brought to OMB for resolution. In the past neither GSA nor the agencies have exercised this right to appeal to any extent.

The Committee is very disturbed over an apparently increasing trend of user agencies to interpret the law to suit their own purposes. Whether intentional or not, this type of behavior will have the effect of subverting the effectiveness of Public Law 89-306. If GSA were to be denied the right to require full documentation for ADP procurements, the objectives of fully competitive procurements under the Act would be effectively destroyed. Federal agencies strongly resisted enactment of the Brooks Act. Since passage, they have shown little willingness to comply voluntarily with the law. The low level of fully competitive procurements further illustrates their non-cooperative state of mind. Either user agencies must learn to comply with the full thrust of the Act or OMB must take all necessary action to make them do so. In particular, OMB must make it clear to every user agency that its right to determine its own ADP requirements under the Act does not include the right to dictate a specific brand name of equipment as its requirements or refuse to supply GSA with appropriate feasibility studies. In addition, GSA must be given the resources to perform adequate reviews of user agencies' procurement justifications.

GSA, in turn, must take a more aggressive position when dealing with user agencies. Being fully cognizant of the bureaucratic facts of life, however, it has to be realized that GSA will not be able to assume this new role unless OMB fully supports it.

The manner in which the Brooks Act is being administered is unacceptable. If this continues, the Act's effectiveness will become seriously jeopardized at a cost of millions of dollars to the taxpayers.

LACK OF LONG-RANGE PLANNING

The second major cause for noncompetitive procurements is the failure to prepare effective long-range plans. These plans must be based upon a user agency's projected missions and programs for a period of five or more years, and not merely a guesstimate of future ADP needs divorced from the agency's missions and programs. Once these plans have been prepared, an agency should develop the ADP requirements necessary to support its mission and program needs. At this stage, the ADP resources should be procured on a fully competitive basis through the use of functional specifications. It is noted that several witnesses at the hearings supported functional specifications for major systems procurements. GSA is in the process of issuing regulations which, while still containing many shortcomings, encourage the use of functional specifications. OMB, if it effectively enforces its action, has gone a step further by issuing Circular A-109, which requires all major systems, including ADP systems, to be procured by means of functional specifications.

Assuming that an agency has planned effectively, the ADP resources to be acquired should fully support the agency's missions and programs for the duration of the plan and should obviate the necessity for interim upgrades, add-ons, and replacement systems. The only apparent exception should be in those instances where new or increased responsibilities have arisen which an agency could not have reasonably predicted at the time the original system was procured. The establishment of ADP requirements at the time a plan is developed is not meant to imply, however, that all hardware and software must be procured at

the beginning of the plan. Instead of acquiring unneeded capacity in the short run, contracts can be awarded which call for phased installation of equipment over a period of years.

In effectively implementing this planning system, OMB must assume primary responsibility for its success. Not only must it issue clear and concise policy guidance, but it must also insure that such policy is adhered to by user agencies. The success of this planning concept is equally dependent upon Congress' approving funds for ADP procurements which it supports and which are consistent with agency plans. Further, in order for this planning and procurement role to be effective, a need exists to develop line item appropriation authority for ADP.

At the present time, it is difficult for Congress and OMB to monitor effectively agency expenditures or requests for expenditures for ADP because they are buried in other funding requests. There are those who argue that ADP is merely a tool designated to assist agencies in fulfilling mission needs. As a consequence, it is maintained that singling out ADP for separate consideration would distort the budgetary process. In actuality, however, current and prospective usage of ADP is so interrelated with agency policies, planning and programs that fundings of ADP requirements can become as important as funding of programs themselves. In addition, ADP expenditures represent such a significant percentage of the overall budget that effective management of budgetary priorities requires that such expenditures be singled out for separate consideration.

Only if this planning concept is faithfully pursued will the spirit and letter of the Brooks Act be fully realized. The Act requires the economic and efficient procurement of ADP resources. This can only be realized if, in the long run, procurements are conducted in a fully competitive manner.

It is recognized, however, that under the most favorable circumstance it will take time to implement effectively both a workable planning process and the functional specification concept. Conceivably, its objectives may never be fully realized. Pending successful implementation, many steps can be initiated immediately which will contribute significantly to the achievement of fully competitive ADP systems procurements.

LACK OF STANDARDS

First and foremost is the development of meaningful hardware and software standards. Under the Brooks Act and Executive Order 11717, NBS is charged with the responsibility for developing ADP standards. At the hearings, GAO expressed serious concern about the lack of progress being made by NBS in the development of standards. This concern of GAO was prompted, in large part, by its recognition that standards are essential to the achievement of full competition and to the saving of large sums of money by the Government. To date, NBS has only developed to a limited extent standards necessary to fully implement the Act, even though it acknowledged at the hearings that lack of standards seriously impedes effective competition. As the Computer Industry Association testified at the hearings, NBS has developed no meaningful hardware standards and only a relatively few software standards for ADPE. This sentiment was echoed by GSA.

Perhaps the most dramatic example of this failure is NBS' ten-year effort without success to develop Input/Output Interface standards. These standards, which would enable peripheral devices of different manufacturers to be connected to the same central processing unit, would, as GSA has informed the Committee, greatly enhance the effectiveness in achieving competition in both systems and peripheral procurements. Yet, NBS has not aggressively pursued the development of these standards because it apparently has been committed to the adoption of voluntary standards developed under American National Standards Institute (ANSI) procedures. This voluntary process under ANSI is generally sound so long as it does not unduly impede the development of worthwhile standards. When, however, as in the case of the Input/Output Interface standards, conflicting interests serve to preclude the timely adoption of a standard, NBS has the obligation to develop Federal Standards. In response to a Subcommittee question, NBS stated that development of Input/Output standards is essential in order to provide more effective competition. Furthermore, at the hearings NBS testified that additional delay in the adoption of voluntary Input/Output standards will compel it unilaterally to adopt Federal standards.

It has been alleged that the development of ADP standards will preclude the Government from taking advantage of technological advances and perhaps even stifle the development of such advances. If, in fact, there is any validity to this allegation, the pitfalls suggested therein can be avoided by NBS maintaining constant vigilance to assure that standards are modified in accordance with advances in technology.

Even in those case in which standards have been adopted, their implementation has not been effectively enforced. NBS has informed the Subcommittee that it has no data on agency compliance with standards and, furthermore, maintains that enforcement of standards presently resides in each individual agency. GSA has incorporated most Federal standards into its procurement regulations, but it has made little or no effort to see that they are complied with. OMB, in turn, last exercised its policy guidance role in this area in 1966 when it issued Policy Guidelines to NBS. Since that time, OMB has neither updated these guidelines nor taken action to see that they are followed. This means that even if standards are developed in the future, such development will be of little value unless an effective means of enforcement is developed. While NBS has indicated that centralizing enforcement responsibility will improve compliance, it maintains that it is not an appropriate agency to perform this function. In consequence, OMB must establish procedures for the effective enforcement of ADP standards, and designate GSA as the agency responsible for enforcing compliance with such standards.

LACK OF HIGH LEVEL LANGUAGES

Another fundamental course of action which must be adopted is the requirement that Federal user agencies write their ADP programs in higher level languages. Writing programs in higher level languages contributes to effective hardware competition by eliminating most of the costs associated with converting software from one brand of equip-

ment to another brand. Increasingly, software conversion costs are dictating that specific ADPE be procured, thereby preventing full competition. The survey conducted by the Subcommittee of delegations of procurement authority for FY 1975 revealed that a large number of noncompetitive procurement requests were justified on the grounds of avoiding excess conversion costs. This clearly suggests that a sizable share of existing programs have been written in lower level languages and that there is little evidence of effective central direction in the Government encouraging conversion to higher level languages.

The Government's primary effort to meet this problem has been to concentrate on the development of higher level languages. Even here, however, success has been limited. Cobol was adopted as a federal standard in 1968; yet, the continuing large number of noncompetitive procurement requests justified on the basis of avoiding conversion costs suggests that the standard has not been widely complied with. Moreover, even if user agencies have written programs in Cobol, it is doubtful how successful this will be in reducing the conversion problem. As noted earlier, there is no centralized enforcement of standards by NBS or any other agency. This means that a user agency may adopt Cobol but employ unique features which will impede conversion. Furthermore, even though NBS has been developing a Fortran standard for several years, none has yet been adopted. Only when standard high level languages are developed and their use enforced will a barrier to effective competition be eliminated.

Standardization of Cobol and Fortran alone will not be enough. As GSA informed the Committee, the establishment of large data base applications, which include considerable expense for software, storage, and training has created a new problem. There is no standard data base management system or approach. Each manufacturer and service company has its own system. Without a standard for data base management systems, conversion problems will continue. In the absence of standards for high level languages and data base management systems, the policy should be established that, when a user agency acquires a new ADP system, it will generally be required to absorb software conversion costs and not include those costs in determining what equipment will be acquired.

LACK OF UTILIZATION REVIEWS

Another factor contributing to the high level of noncompetitive ADP procurements is the failure of user agencies to effectively and efficiently utilize their ADP resources. The economic benefits of competitive procurements of ADP resources under the Brooks Act are dependent upon the efficient utilization of such resources. By means of such utilization, noncompetitive interim upgrades, add-ons and replacements can be minimized. And, even in those cases where increased capacity for an interim period is required in spite of efficient utilization, such can frequently be obtained through the competitive procurement of peripherals, minicomputers or service contracts.

At the hearings, the GAO cited many examples of agencies' failures to properly utilize their equipment. Perhaps the most flagrant example was that of the Social Security Administration which was operating equipment at 50 percent of capacity and running second

generation programs on third generation equipment. In addition, the GAO also described procurements by the U.S. Department of Agriculture and the Treasury Department which were not supported adequately by utilization reviews. In each of these, costly equipment was acquired through noncompetitive procurements.

The GAO reported that where inadequate utilization was uncovered, as in the above examples, such inadequacy was found to be caused by one or more of the following: improper design, inefficient application, or operational deficiencies. In each case, of course, the user agency must be held primarily accountable for these inefficiencies. However, OMB, GSA, and NBS must share a portion of the responsibility for this state of affairs: OMB for failing to provide policy guidance and overall leadership, GSA for failing to challenge questionable justifications, and NBS for failing to develop criteria for measuring systems performances. Yet, even taking into account the deficiencies of these three agencies, prudent management would dictate that user agencies themselves should strive to optimize their ADP utilization in order to achieve a high level of economies and efficiencies in their programs. Their failure to do so is another example of their lack of interest in supporting the objectives of the Brooks Act or in making the best use of the taxpayers' dollars.

LACK OF USE OF FUNCTIONAL SPECIFICATIONS

Finally, another step that can be taken to increase competitive systems procurements in the short run is the use of functional specifications. At present, virtually all ADP procurements are made on the basis of restrictive specifications. Earlier, functional specifications were discussed in terms of their use in conjunction with long-range systems plans. However, even in the absence of long-range plans, agencies should be required to use functional specifications when acquiring a new system. Clearly, the promulgation of OMB Circular A-109 and GSA's pending Federal Procurement Regulation both call for the use of functional specifications in ADP systems procurements and are, therefore, consistent with this proposal.