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        Most of the procurement audit work being done by GAO is
being done prior to procurement. Congress wants to know whether
the procurements are competitive, necessary, and cost effective
when systems are in the conceptual stage or as far in advance of
the procurement process as is possible. Audit criteria involve
agency compliance with Federal directives and the agency's own
implementing criteria. A 1977 report on problems found with
Government acquisition and use of computers in procurement
audits identified general problem areas: not adequately
determining the scope of work to be performed; no cost-benefit
analysis of alternative ways to meet needs; inaccurate
assessment of current utilization; acquiring equipment sooner
than necessary; procurement without competition; avoidance of
authority to delegate procurement responsibility; communications
applications not identified; and security requirements not
considered. Areas being emphasized in procurement involve:
competition, need, expected benefits, costs, privacy protection,
and meeting agency needs. (RRS)

WHAT GAO LOOKS FOR

We were originally asked to talk about post procurement audits. While this used to be the standard fare of auditors, including GAO, we haven't done much of this in the past few years so I have shifted the emphasis. Most of the work we have been doing is at the request of Congressmen or congressional committees and most is pre-procurement. However, the audit objectives are essentially the same for both timeframes.

The primary concerns of the Congress, as we perceive them, are: Is the procurement competitive, is the new system needed, is it cost effective, can it protect personal privacy and does it meet the agencies needs. So that prerogatives can be exercised, the Congressmen want to know these things early--when the systems are in the conceptual stage, or at least as far in advance of the procurement action as they become aware of it. In some case, unfortunately, this has been after the RFP has been released or even after the benchmark has been completed.

Actually, our approach is straightforward. Being auditors, we examine the manner of agency compliance with FMC 74-5, those other directives you have discussed during the past few days, pertinent parts of FPMR 101 and the agency's own implementing directives. These are the audit criteria.

On occasion, we have questioned or taken exception to the criteria. For example, we are presently examining into the reasonableness of the 24.7 percent cost of Federal employee retirement benefits, directed for use in OMB Circular A-76 cost comparisons. As another example, we found at one agency that charges for computer time provided on a reimbursable basis to other agencies did not include depreciation or overhead, and we recommended that its policy be changed. 1/

For the most part, though, we rely on the Government-wide guidance issued by Executive agencies having central ADP management responsibilities and the implementing directives of the agencies. These are the criteria we audit against.

In March 1977, GAO issued a report on "Problems Found With Government Acquisition and Use of Computers from November 1965 to December 1976" (FGMS-77-14). This document contained a complete list of the 175 GAO reports issued during that period, classified into 14 general problem areas, with numerous subsets. Examples of some of the topics related to ADP procurement were:

1/ REF: (1) GAO Report "Designation of Lawrence Berkeley
         Laboratory Computer Facility as a Federal
         Scientific Data Processing Center Could Save
         Millions" (LCD-76-112), 12/30/76
     (2) CG Decision B-136318, 1/21/77

. Not adequately determining the scope of work
to be performed

. No cost/benefit analysis of alternative ways
to meet needs

. Inaccurate assessment of current utilization

. Acquiring equipment sooner than necessary

. Procurement without competition

. Avoidance of GSA authority to delegate procurement
responsibility

. Communications applications not identified

. Security requirements not considered

Let me comment on a few of the areas that we are presently
emphasizing.

COMPETITION - You are all aware of an extremely difficult
problem in pursuing full and free competition--how
to handle conversion costs in the procurement process.

Attempts by agencies to avoid conversion costs has
resulted in a large number of so-called interim upgrades--
sole source or limited competition procurements--which have
been of considerable concern to the Congress. The Chairman
of the House Committee on Government Operations elaborated
on a recommendation, in its October 1976 report, 1/ in a
December 1976 letter to the Administrator, GSA. It said that
until an agency's software has been converted to standardized

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1/ HR 94-1746

higher level languages, no conversion costs should be considered in evaluating hardware bids. After conversion to higher level languages, incidental out-of-pocket costs may be considered.

In attempting to satisfy this requirement, GAO worked with the Department of Agriculture with GSA's concurrence, to develop a new procurement technique and test it in two pending procurements. It is a two step process. Some of the key elements in this case are:

- Conversion will be a mandatory option in the RFP i.e., mandatory for the vendor to quote a separate price and optional that the Government accept it. Only the dollar amount proposed by the vendor will be considered in the evaluation of the conversion aspects of the proposals.

- Equipment vendors will be required, under a mandatory option, to offer two persons as conversion monitors, regardless of who receives the conversion award.

- After the equipment is selected, a second solicitation will be made to software firms. At this time, the successful equipment vendor will be given the opportunity to give his best and final offer for the conversion task.

- Programs considered must be in standard Fortran or Cobal. Where there is a Federal standard, it will apply. Programs must be running on existing equipment when the DPA is released.

- Vendor unique extensions will be permitted provided that the benefits are established by trade-off analysis. Approved extensions will be fully documented.

- Redesign and resystemization must be considered in preference to conversion, such as programs originally prepared for first and second generation equipment.

Admittedly, this means more work for the Government. We believe, however, that the benefits of more thorough planning and redesign considerations, standardization and economies will compensate.

GAO presently has a draft report out for comment by affected agencies which discusses reasons for the high conversion costs and ways in which such costs can be reduced.

I have spent a disproportionate amount of time on this concept because it is new and, I think, of interest to this assembly. 1/ GAO expects to be involved in this question with other agencies, whose ADP procurements we are asked to review.

NEED - We evaluate the composition of the projected workloads. We review the revalidation of workloads, anticipated growth and estimates for new applications by examining the nature of studies made and documentation down to the user level. We have found regression analysis useful in a variety of situations, both for validation of expected workload growth and for sizing the proposed hardware buy. GAO is on the INFONET, and we use its standard regression analysis software package. Probably other TS services provide the same feature. We have found projected workloads overstated,

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1/ This process is explained in detail in Department of of Agriculture RFP No.   dated   .

using this technique. Also, disk, core and CPU resources can often be extended. We have found instances where system enhancements, some identified by the agency itself, that would expand these capacities and improve the performance of the existing computer had not been made before initiating a new procurement. While recognizing that technology continues to change, GAO, in 1974 issued a report describing ways to improve computer operations in six areas. 1/

EXPECTED BENEFITS - We look at these closely. We have rejected, from an audit standpoint, broad estimates of increased productivity not supported by detailed justifications. We have accepted other estimates, when broken down to specific functions and the rationale is adequately described. However, time and motion studies and pilot or protype tests are the best demonstration of benefits. These are particularly useful where terminals and networks are being planned.

COSTS - We examine the estimates of the costs of alternative solutions that were considered and, sometimes, other alternatives that we consider feasible. Believe it or not, 12 years after the Brooks Bill, we are still examining the lease/purchase financing alternative. In some cases, where the

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1/ Tools and Techniques for Improving the Efficiency of Federal Automatic Data Processing Operations (B-115369) June 3, 1974

purchase alternative proved advantageous, we found that GSA had sufficient capital in its ADP Fund and were able to direct the agency toward this alternative.

PRIVACY PROTECTION - The best way we have found so far to evaluate compliance with this requirement is to examine the existing computer security environment, generally in accordance with the principles of FIPS PUB. 41. We have found instances where available protections such as personnel and terminal profiles and even passwords have not been implemented in the existing system nor specifically provided for in planning the new system.

MEETING AGENCIES NEEDS - We observe and discuss the existing and proposed applications on site, at the user level. We look for key indicators of user dissatisfaction--such as the number and nature of unique applications being employed to meet management needs, the existence of supplemental manual or automated systems, reports on backlogs and error corrections and the number and significance of software changes being made

Time constraints have permitted only the broadest commentary on these audit objectives. We should recognize that GAO's approaches vary considerably according to the scope and character of the particular operation, and the time available for our review.