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AUG 0 8 1975

Mr. Walter C. DeVaughn
Assistant Public Printer
(Management and Administration)
U.S. Government Printing Office
Washington, D.C. 20401

Dear Mr. DeVaughn:

In November 1973 the Public Printer requested GAO to evaluate the Publications Receipt and Control System (PRCS). As a result of that evaluation, several points were noted which are summarized in Exhibit A. In general, GAO's recommendations focused upon improvements in systems planning and design.

In April 1974 GAO returned for a followup evaluation of PRCS. Little had changed since the November 1973 review. As a result, GAO recommended that one of the following development strategies be pursued.

(1) Terminate the present PRCS development effort altogether and restart the effort using a classical approach to planning and systems design.

(2) Modify the present approach. Invoke a temporary moratorium to develop a realistic plan and approach to implementation.

(3) Continue as is. Narrow and define the systems objectives and document the requirements accordingly.

In April 1975 the PRCS Coordinator and the Director of Audits requested us to evaluate the adequacy of the audit trail within PRCS. Accordingly, we confined the scope of our review to the clerical and automated procedures which comprise PRCS. However, we did note a few areas of concern which were beyond the limited scope of our work. Briefly, they are as follows:

(1) Little change has taken place since our last review of PRCS in April 1974. There is no evidence that the development strategy has changed. The system plan, concepts, and requirements have not been documented.

(2) The scheduled completion date of March 1974 is more than a year past. We have been informed that development is not yet complete.

(3) The cost to develop PRCS has exceeded the initial estimates by approximately $1.1 million.

Our review was not wholly successful. We are not able to comment upon the adequacy of the audit trail in PRCS because we were unable to locate sufficient documentation describing the operation of the system. We could not base our evaluation on the existing procedures because PRCS is not yet operational and many of the computer programs are presently being revised.

While we cannot make a definite statement regarding the audit trail in PRCS, we are offering some suggestions as a result of the understanding we acquired during the course of our review. These suggestions are summarized in Exhibit B. We shall be pleased to discuss them with you at your convenience. Included also as Exhibit C is a summary of several of the most important system documentation standards for your consideration.

If we can be of further assistance in this matter, please don't hesitate to call on us.

Sincerely yours,

H. L. Krieger
Regional Manager

Enclosures

EXHIBIT A

NOVEMBER 1973 REVIEW OF PRCS

GAO'S COMMENTS TO THE PUBLIC PRINTER

1. Define PRCS requirements in writing (i.e., start with PRCS and follow with a definition of the total system requirements).

2. Clearly define the contractor's responsibilities in writing.

   - who is responsible for establishing standards, etc.
   - who does system design
   - who writes system/program specifications
   - who provides functional guidance
   - who prepares plans for conversion, training, and testing
   - who ensures quality of end product

3. Put system design responsibility in writing to ensure the systematic development, testing and implementation of PRCS (include realistic and achievable time frames).

4. Ensure that all personnel involved (GPO, NARS, ORI) understand their responsibilities and are committed to, and capable of, delivering what is required of them.

5. Ensure that the general schedule for conversion of Disk Operating System to Operating System is formulated into a plan including detailed procedures and standards and that capable personnel have adequate authority to implement it.

6. Develop an overall plan, policy and guidelines for the systems task force.

7. Ensure that a cost/benefit study is performed so that future measurement of actual versus estimated benefits can be accomplished.

8. Ensure strict monitoring (e.g., frequent reporting and periodic auditing) of ORI and NARS work effort to measure actual value received.

AUDIT TRAIL WITHIN PRCS

We believe an audit trail would be maintained if either of the following procedures were adopted.

Procedure 1

All data entered by using the commands REVREQ, ADD, SHIP, LOC ADJ, DAMAGE, DISPOSE, and SPECIAL should be captured on a log. This log should be periodically (daily or weekly) compared and balanced to source documents by an individual in the user department who is not responsible for originally entering the data. The source documents can be discarded after they are agreed to the log. The log of data entered using the above commands should be maintained until a physical count of the stock items is taken and reconciled with it.

Procedure 2

Whenever publications are received at the warehouses the appropriate source documents (Contractor's Shipping Ticket/Form 2010 and Form 195 or Interwarehouse Transfer Card Shipping Manifest) should be retained. Also, the stock number, jacket number, date received, quantity received, cost requisition number, and warehouse identification should be captured on a log whenever the two receipt commands, REVREQ and ADD, are executed.

Whenever publications are removed from the warehouse, the appropriate source documents (Bulk Order Request Form, Shipping Manifest, Picking Ticket, Disposal Picking Ticket, Damage Picking Ticket) should be retained. The stock number, date removed, quantity removed, cost of books removed and warehouse identification should be captured on a log whenever the removal commands, SHIP, LOC ADJ, DAMAGE, DISPOSE and SPECIAL, are executed.

Both the source documents and the logs should be retained until a physical count of the stock item is taken and reconciled with the logs.

ADP DOCUMENTATION STANDARDS

A comprehensive treatment of ADP documentation standards is presently in draft form--"Guidelines for Documentation of Computer Programs and Automated Data Systems." It should be published later this year as a Federal Information Processing Standards Publication by the National Bureau of Standards.

The following documentation requirements are summarized from various GAO review guides for evaluating computer-based accounting systems. Such documentation would be needed by us to properly evaluate the audit trail and system of internal control within PRCS.

System Documentation

1. Description of the overall ADP system concept.

2. Description of the systems interface with other systems or subsystems.

3. Description of the system which should include an explanation of the functions of each segment.

4. System flow chart showing the general flow of information through the system. The flow chart should tie in with the overall narrative description, depict all segments of the system and show their interrelationships, including the major categories of inputs and outputs.

5. Description of the hardware configuration and the software used. The description should include capabilities and limitations of the hardware and software and the programing languages used.

Program Documentation

6. Documentation for each program within the system:

   a. Narrative description
   b. Logic flow chart
   c. File layouts
   d. Input document and output report formats
   e. Processing details--frequency, etc.
   f. Source program listing
   g. Record of program modifications
   h. Program test plan and results

Control Procedures

7. Description of input control procedures:

   a. Submission of source documents
   b. Data communications, i.e., accuracy and completeness of transmission
   c. Access to remote input devices
   d. Preparation or transcription of machine-readable media
   e. Editing and validation
   f. Identification and recording of detail transaction data

8. Description of control procedures over processing rejects:

   a. Maintenance of error suspense files
   b. Research and correction of errors
   c. Reentry of corrected transactions
   d. Approval of transactions corrected and reentered
   e. Aging and purging of error suspense file
   f. Management notices of errors/rejects and follow-up procedures

9. Description of processing control procedures:

   a. Control techniques to ensure accuracy and completeness of processing, e.g., use of control totals, record counts, self-checking numbers
   b. Transcription of data from one media to another
   c. Testing and acceptance of application programs
   d. Interrelationship of user-developed software and manufacturer software
   e. Restart, recovery and reconstruction in case of processing interruption
   f. Manual intervention in processing operations

10. Description of organizational and security controls:

   a. Separation of duties and functional responsibilities of ADP personnel
   b. Access to computer, data files and program documentation
   c. Backup plan and offsite storage of essential data and programs

11. Description of procedures regarding the authorization and approval of computer programs and modifications.