CARE Audit Methodology

To Review And Evaluate Agency Accounting And Financial Management Systems

GAO
United States General Accounting Office

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WASHINGTON, D.C. 20548

ACCOUNTING AND FINANCIAL
MANAGEMENT DIVISION

FOREWORD

GAO has developed an audit approach entitled "Controls and Risk Evaluation (CARE) Audit Methodology to Review and Evaluate Agency Accounting and Financial Management Systems" to

--identify and evaluate the adequacy of controls in the accounting systems of the agency, and

--determine the degree of conformance of these systems with the Comptroller General's accounting principles, standards, and other requirements.

The GAO staff who perform these audits will develop a body of specialized knowledge about the agency's financial mangement systems, which, along with the workpaper files, will be of significant benefit in similar future reviews.

It is important to note that the work steps and procedures in this audit approach should not be applied rigidly or arbitrarily. The auditor must not only exercise professional judgment and assess the relevance and appropriateness of program steps to the specific situation but also add, modify, or delete steps as necessary.

The publication is comprised of an executive summary, a work program, and a series of eight appendixes. The executive

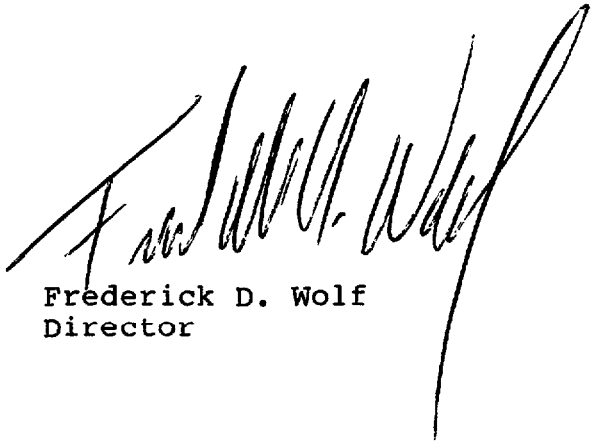
summary is for top financial management and audit executives who want an overview of the methodology. The work program is for operational financial management and audit staffs who manage the reviews and evaluations of systems. The appendixes provide detailed guidance to financial management and audit staff who review and evaluate systems.

Most accounting systems are automated. To assist in evaluating the general and application controls in these systems, evaluation questionnaires and checklists are included in the appendixes. They are drawn from the 1981 GAO audit guide "Evaluating Internal Controls in Computer-Based Systems." When users of the CARE methodology have questions about how to use these appendixes, they should consult the 1981 guide.

Currently, GAO is testing and refining a methodology for auditing computer-based systems in order to revise and update the 1981 guide. When this work is completed, GAO will seek the comments of the audit community. The revised guide will complement the CARE approach and may be incorporated in the CARE manual.

The CARE methodology is complex, reflecting the increasing complexity of contemporary federal accounting systems. Therefore, GAO believes auditors and ADP specialists should be trained in the CARE methodology in order to apply it effectively. GAO's Office of Organization and Human Development offers a basic CARE course on a regular basis. Additional CARE-related courses are being developed.

We are grateful to the government officials, professional organizations, public accounting officials, and other members of academic and financial communities who provided us valuable assistance through their comments on our exposure draft. We welcome the additional comments that experience in using the manual will generate. Please direct your correspondence to Mrs. Virginia Robinson, Associate Director, Accounting and Financial Management Division, Room 6015, General Accounting Office, 441 G Street NW, Washington DC, 20548.



Frederick D. Wolf
Director

CARE AUDIT METHODOLOGY TO REVIEW AND EVALUATE AGENCY ACCOUNTING AND FINANCIAL MANAGEMENT SYSTEMS

O V E R V I E W

Public policy of our country, expressed in law, requires the internal control and accounting systems of the executive branch agencies to be effective and of high quality. The General Accounting Office (GAO) has developed this audit methodology for determining conformance with this policy.

LEGAL REQUIREMENTS

Public policy on internal control and accounting systems is embodied in the provisions of the Accounting and Auditing Act of 1950 and the Federal Managers' Financial Integrity Act of 1982. The 1950 act requires the head of each executive agency to establish and maintain accounting and internal control systems which provide

- --full disclosure of financial activities;
- --adequate financial information for agency management;

--effective internal controls over all funds, property, and other assets; and

--reliable financial information for development and support of budget requests, for budget execution, and for Treasury central accounting.

The 1950 act further requires that the accounting systems conform to the accounting principles and standards prescribed by the Comptroller General, and directs GAO to review the systems periodically.

The Federal Managers' Financial Integrity Act of 1982 added significant provisions to the 1950 act. The provisions strengthen the requirement for effective internal controls. The act requires that the Comptroller General develop standards for agency internal controls and that agency controls conform to the standards. The act further requires that controls must meet the following objectives:

--obligations and costs comply with applicable law;

--all assets are safeguarded against waste, loss, unauthorized use, and misappropriation; and

--revenues and expenditures are recorded and

accounted for properly so that accounts and reliable financial and statistical reports may be prepared and accountability of the assets may be maintained.

The act requires agencies to perform reviews to determine compliance with these requirements and directs the Office of Management and Budget (OMB), in consultation with the Comptroller General, to develop guidelines for the reviews. Further, agency heads are to report to the President annually as to whether or not their internal control systems comply with the requirements, and whether or not their accounting systems conform to the Comptroller General's principles and standards.

GAO AND OMB REQUIREMENTS

The Comptroller General's standards for internal control and the principles and standards for accounting systems are contained in title 2 of the GAO Policy and Procdures Manual for Guidance of Federal Agencies. Additional requirements are in other titles of the manual. The Comptroller General's standards are consistent with and support the objectives of internal control and accounting

set forth in the law. OMB guidance for agency reviews of their internal control systems is in OMB Circular A-123, Internal Control Systems, and OMB's Guidelines for the Evaluation and Improvement of and Reporting on Internal Control Systems in the Federal Government. The guidelines, developed in consultation with GAO, support and are consistent with the Comptroller General's standards and the objectives of the law. Additional OMB guidance is contained in OMB Circular A-127, Financial Management Systems.

GAO AND AGENCY AUDITS

GAO, under its general mandate to review the operations of the executive branch, as well as its specific mandate to review accounting systems, plans to audit the internal control and accounting systems of the executive agencies. The objectives of the audits are to determine

--whether internal controls conform to the Comptroller General's standards and OMB policy and guidelines for internal controls and meet the objectives of the law,

--whether accounting systems conform to the Comptroller General's accounting principles and standards and meet the objectives of the law, and

--whether accounting systems effectively and efficiently provide management--both internal and external (the Congress, OMB, and Treasury)--useful, timely, reliable, comparable, and complete financial information needed for effective and efficient management of public financial resources and public programs.

A GAO audit methodology has been designed to meet these audit objectives. Further, GAO believes the methodology is readily adaptable to the agencies' own required internal control and accounting systems reviews. Therefore, the methodology is available to the federal community to be used at its discretion.

GAO'S AUDIT METHODOLOGY--CARE

GAO calls this audit methodology "Controls and Risk Evaluation (CARE)." It is adaptable to any organizational level--an entire agency, a major compo-

nent of the organization, an operational unit, or an individual system. A key feature of the methodology is its emphasis on risk assessment, which greatly optimizes audit staff effectiveness. The methodology is organized into four segments: (1) general risk analysis, (2) transaction flow review, (3) compliance testing, and (4) substantive testing. The work performed in each succeeding segment is based on the results of the preceding one.

GAO emphasizes that effective use of the methodology requires a large measure of knowledge, training, and professional judgment in both accounting and ADP. The methodology is not to be viewed as a rigid or arbitrary checklist approach.

The results of the auditor's efforts and the knowledge gained about an agency and its systems will remain a valuable source of information for similar jobs in the future.

GENERAL RISK ANALYSIS

In the general risk analysis segment of CARE, the auditor acquires an overview of the unit's activity to include such items as its mission and opera-

tions, its organization, and its funding. Also, the auditor will gain an understanding of the general control environment, including general controls over computer operations. Further, the auditor acquires a general understanding of the overall financial management process, including the role of the accounting system in support of budgeting and other financial management activities, and identifies the component systems comprising the complete accounting system.

The auditor then applies a number of risk-ranking factors to each system in order to identify the systems of greatest risk--that is, vulnerability to fraud, abuse, and mismanagement. This ensures that scarce audit resources are focused on areas where they can make the greatest contribution. Factors considered include magnitude of funds involved, potential impact of ineffective operation, sources of input, degree of automation, known problems, and recency of prior audits. The systems with the highest risk rankings will be subjected to further review.

Finally, for the systems selected for further review, the auditor determines the relevant principles and standards and internal control objectives.

TRANSACTION FLOW REVIEW

In the second segment of CARE, transaction flow review and analysis, the auditor indentifies each selected system's major types of transactions and refines the internal control objectives. The auditor then determines and documents, for each major type of transaction, the flow of information through the system. By analyzing the flow, the auditor identifies the control techniques used and determines whether they meet the system's control objectives, including conformance with all relevant accounting standards. Further, the auditor is alert for any inefficiencies in the automated data processing system.

This study provides the auditor an understanding of the internal control strengths and weaknesses of the systems. This, in turn, gives the auditor a basis for further ranking the systems in terms of the reliance that can be placed on them. Based on this ranking, the auditor selects systems for compliance testing, the third segment of CARE.

COMPLIANCE TESTING

In the third segment of CARE, compliance tests and analysis, the auditor determines whether the processes and controls identified in transaction flow review actually operate and function as understood and intended.

For each automated system to be tested, the auditor designs a set of test transactions. The test transactions are of two broad types--valid and invalid or improper. The valid transactions contain no errors. They are entered into the system to determine whether valid transactions will process through to completion of the cycle. Invalid or improper transactions are designed to contain errors. The auditor enters these transactions to determine whether the system actually identifies and rejects them.

For a manual system or for any manual part of an automated system, the auditor "walks" actual transactions through the manual processes. This involves interviewing the individuals who handle

transactions, observing the procedures followed, and examining applicable records. Through this exercise, the auditor systematically verifies that the control techniques, identified in the transaction flow review segment, actually operate and function as understood and intended.

Based on the results of compliance testing, in combination with the results of transaction flow review, the auditor will form an overall opinion of the system and its internal controls and recommend, where appropriate, corrective action. In addition, after considering the potential impact of any deviations from these requirements, as well as the agency's planned corrective actions, the auditor may decide to perform substantive testing, the fourth segment of CARE.

SUBSTANTIVE TESTING

In the fourth segment of CARE, substantive tests and analysis, the auditor determines the practical impact of deviations from standards and other requirements. This involves determination of, for example, the extent of any dollar losses or the

extent to which reports are unreliable. The tests can provide additional support for the recommendations resulting from compliance testing, or a basis for withdrawal or revision of the recommendation.

For this segment, audit steps must be tailored to the specific situation. As a generalization, however, this segment tests actual agency transactions and examines related records, files, and reports. Also, computer assisted audit techniques are an invaluable tool for this segment. As a result of this segment, GAO will, as a general rule, report the deviations and their impact to the agency head, together with GAO's recommendations for correction.

ORGANIZATION OF THE MANUAL

GAO's CARE manual consists of a main body, containing eight sections, and a set of eight appendixes.

The main body is organized as follows:

--Section 1 - Introduction.

--Section 2 - Federal agency financial management and federal agency accounting systems--what they are and how they relate to a CARE audit.

--Section 3 - Interrelationship of control objectives, accounting principles and standards, and internal controls.

--Section 4 - General risk analysis segment--objectives, scope, work steps, and work products.

--Section 5 - Risk ranking of systems.

--Sections 6, 7, and 8 - Transaction flow review, compliance testing, and substantive testing segments, respectively.

The appendixes are organized as follows:

--Appendixes I through IV - Key policy issuances--OMB's Circular A-123, the Comptroller General's internal control standards, the Financial Integrity Act, and a bibliography of requirements.

--Appendix V - Quick reference guide to the work steps.

--Appendix VI - Documentation of a CARE audit.

--Appendix VII - Control objectives and techniques.

--Appendix VIII - Examples of control objectives and related control techniques.

Presenting the work steps, documentation, and control objectives materials as appendixes facilitates the auditor's extracting and reproducing them for inclusion in individual audit workpapers.

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ABBREVIATIONS

ADP	Automated Data Processing
AFMD	Accounting and Financial Management Division
CAATS	Computer Assisted Audit Techniques System
CAN	Common Account Number
CARE	Controls and Risk Evaluation
CAS	Central Accounting System
CTA	Control Test and Analysis
DFAFS	Departmental Federal Assistance Financing System
FPAO	Fraud Prevention and Audit Oversight
GAO	General Accounting Office
GRA	General Risk Analysis
IG	Inspector General
IMPAC	Information Management for Planning and Coordination
NIH	National Institutes of Health
OMB	Office of Management and Budget
STA	Substantive Test and Analysis
T&A	Time and Attendance
TFRA	Transaction Flow Review and Analysis

SECTION 1

INTRODUCTION

The requirements for effective agency internal controls and accounting systems are promulgated in both law and government-wide policy statements. Key laws and policy statements are the Budget and Accounting Procedures Act of 1950 (31 U.S.C. 3500), the Federal Managers' Financial Integrity Act of 1982 (Public Law 97-255)(see appendix II), GAO's Policy and Procedures Manual for Guidance of Federal Agencies, and Office of Management and Budget (OMB) Circular A-123, Internal Control Systems. (See appendix I.)

The Budget and Accounting Procedures Act of 1950 makes each agency head responsible for establishing and maintaining adequate systems of accounting and internal control. The systems are required to conform to the accounting principles, standards, and other requirements prescribed by the Comptroller General. The principles and standards are set forth in title 2 of the GAO manual. Other titles of the manual contain additional requirements.

In October 1981, OMB issued Circular A-123, which requires each executive agency to develop and maintain adequate systems of internal control. A-123 prescribes several actions agencies must take to evaluate and strengthen their internal controls. The Federal Managers' Financial Integrity Act of 1982 amended the 1950 act. The Integrity Act requires each agency to make

periodic evaluations of its internal control systems and report annually to the President and the Congress. The report is to state:

--whether or not its internal accounting and administrative controls meet the Comptroller General's standards and the objectives set forth in the act, and

--whether or not its accounting system conforms to the Comptroller General's principles, standards, and related requirements.

In addition, where the internal controls or the accounting system do not meet the above criteria, the statement is to describe planned corrective actions.

The Comptroller General's internal control standards are set forth in title 2 of the GAO manual. (See appendix III.) OMB, in consultation with the Comptroller General, developed guidelines for agencies to use in evaluating their systems of internal accounting and administrative control. These are set forth in OMB's December 1982 Guidelines for the Evaluation and Improvement of and Reporting on Internal Control Systems in the Federal Government.

CONTROL STRUCTURE OF THE FEDERAL GOVERNMENT

Control over the federal government and its program, administrative, and financial operations is carried out on both a

governmentwide level and an individual agency level. In order to control federal operations effectively, the control techniques implemented at each level must complement one another.

EFFECTIVE SYSTEMS--KEY TO GOVERNMENTWIDE AND AGENCY-LEVEL CONTROL

Governmentwide controls are based on the separation of powers between the legislative and executive branches of the federal government. As shown in figure 1 on the next page, the legislative and executive branches establish goals and objectives to control governmentwide planning and programming.

The Congress sets federal program and administrative goals and provides the resources needed to achieve these goals to the executive branch agencies through (1) laws authorizing specific programs and administrative responsibilities for the agencies, and (2) appropriation acts to provide them with needed resources.

The Congress obtains information on the results of operations and the use of resources through information supplied by the agencies, other organizations, and individuals at oversight and appropriation hearings. Based on this information, the Congress can judge whether the agencies stayed within authorized goals and resource constraints.

The executive branch can only conduct operations the Congress authorizes and must stay within resource limits the Congress sets in appropriation acts. The executive branch central management agencies ensure that all agencies stay within these limits. These control agencies are the Office of Management and

Federal Information Requirements Planning Chart

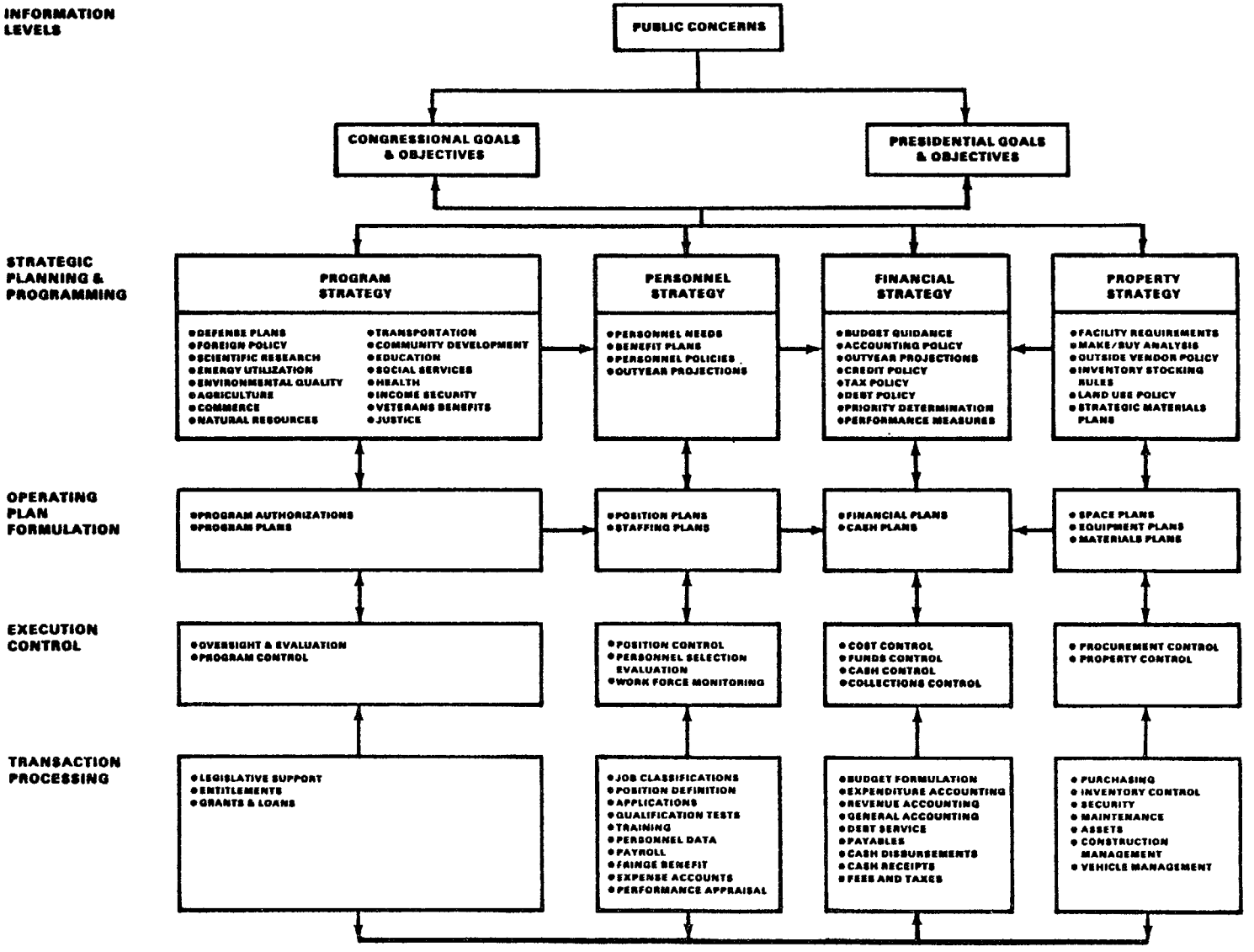


FIGURE 1

Budget, the Office of Personnel Management, Department of the Treasury, and the General Services Adminstration.

The central management agencies promulgate policy, procedures, and regulations and allocate resources to guide and control executive agency operations. This guidance is based on laws, including appropriation acts, passed by the Congress and signed by the President. The central management agencies also receive routine reports from the agencies on the results of operations, which they use to ensure that the agencies comply with central direction and stay within resource allocations. The central management agencies report to the President and the Congress.

The governmentwide controls will work effectively only if the Congress and the central management agencies receive current, complete, and accurate information on prior program and administrative accomplishments. The Congress also needs to know the financial results of operations to support the appropriation process and to carry out its oversight responsibilities. Similarly, the central management agencies must also receive reliable information to carry out effectively their central management functions.

The primary source of the information needed by the Congress and the central management agencies is from the agencies that carry out authorized programs. Consequently, controls at the individual agency level should focus on ensuring that reliable, timely, and accurate information is recorded and reported. This includes information on program accomplishments as well as financial results of operations.

Additional governmentwide controls are provided through federal audit agencies. Specifically, GAO in the legislative branch and the inspectors general in the executive branch help provide assurance that federal operations and related use of resources conform to national goals and objectives. However, their audits are no substitute for reliable, timely, and accurate information, which is needed for effective control over operations and resources by agency level management.

Reliable and timely historical financial information is the key to effective control at both the governmentwide and agency level. The basic sources of this information are the agencies' budget, accounting, and other financial management information systems. To be successful, these systems must include effective manual and/or automated procedures--control techniques--over the capturing, recording, summarizing, and reporting of information. The controls of these systems are the focus of our efforts to improve control over government operations.

OVERVIEW OF GAO'S CARE AUDIT METHODOLOGY

GAO has developed an audit methodology entitled CARE, an acronym for "Controls and Risk Evaluation (CARE) Audit Methodology to Review and Evaluate Agency Accounting and Financial Management Systems" to (1) evaluate the effectiveness of controls in agency-level accounting systems and the reliability of the information they produce, and (2) determine conformance

with the Comptroller General's accounting principles, standards, and related requirements.

The CARE audit methodology is designed to guide the auditor in evaluating the effectiveness of the control environment of an individual agency, a major organizational component, an operational unit, or a system. Once the scope of audit has been decided--an entire agency, component operational unit, or individual system--CARE guides the auditor in viewing the control environment and management control system as they relate to all aspects of the selected entity's operations. This is in accord with OMB's Circular A-123 and the requirements of the Federal Managers' Financial Integrity Act. For example, both CARE and OMB require vulnerability (risk) assessments and internal control reviews for all aspects of program and administrative operations.

STRUCTURE OF GAO's CARE AUDIT METHODOLOGY

The CARE audit methodology provides a four segment approach to the review and evaluation of an agency's accounting systems and related control environment. The CARE audit segments are

(1) general risk analysis,

(2) transaction flow review and analysis,

(3) compliance tests and analysis, and

(4) substantive tests and analysis.

Figure 2

Care Audit Approach

(1) General Risk Analysis

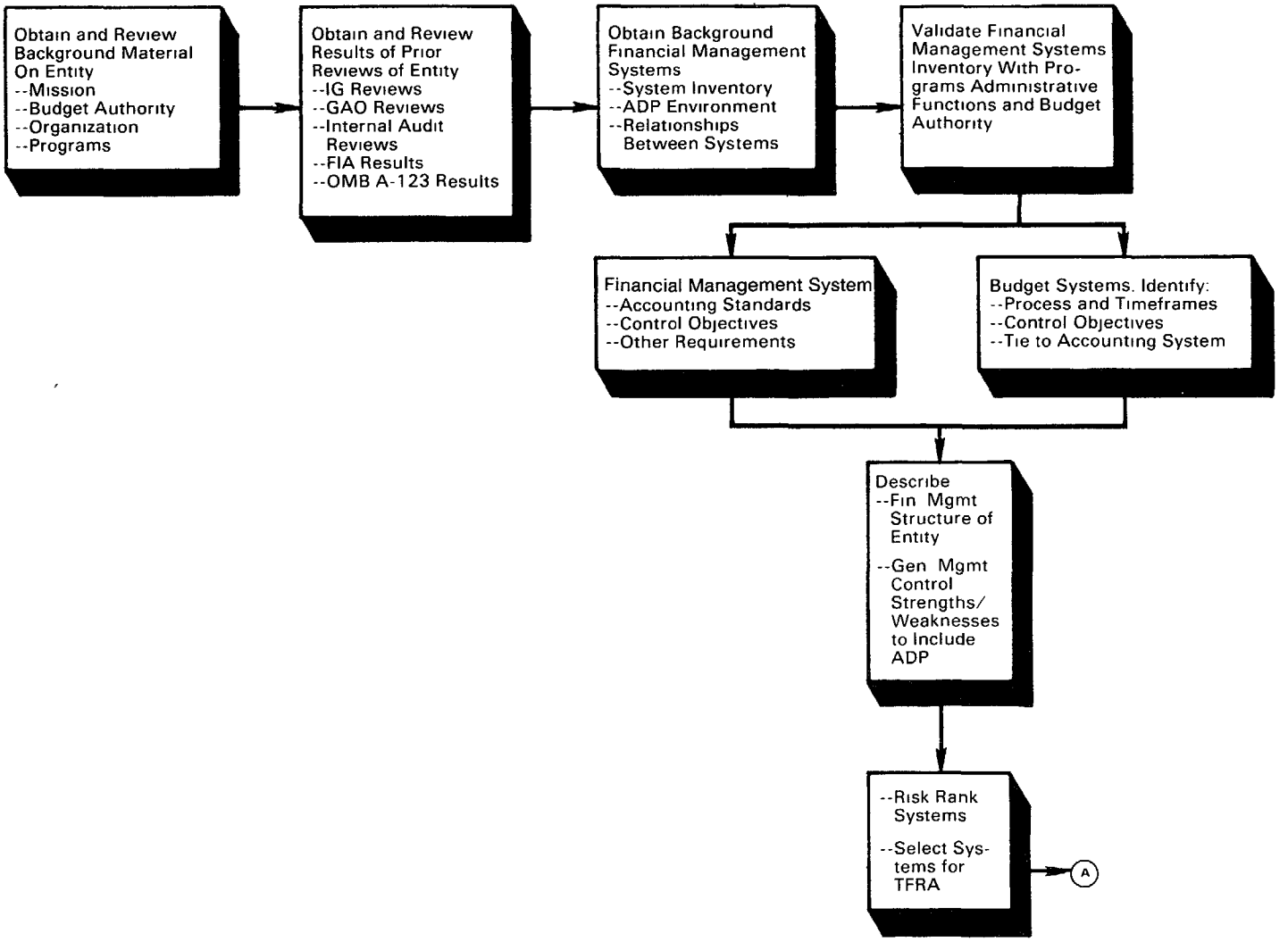


Figure 2 (cont'd)

Care Audit Approach

(2) Transaction Flow Review And Analysis

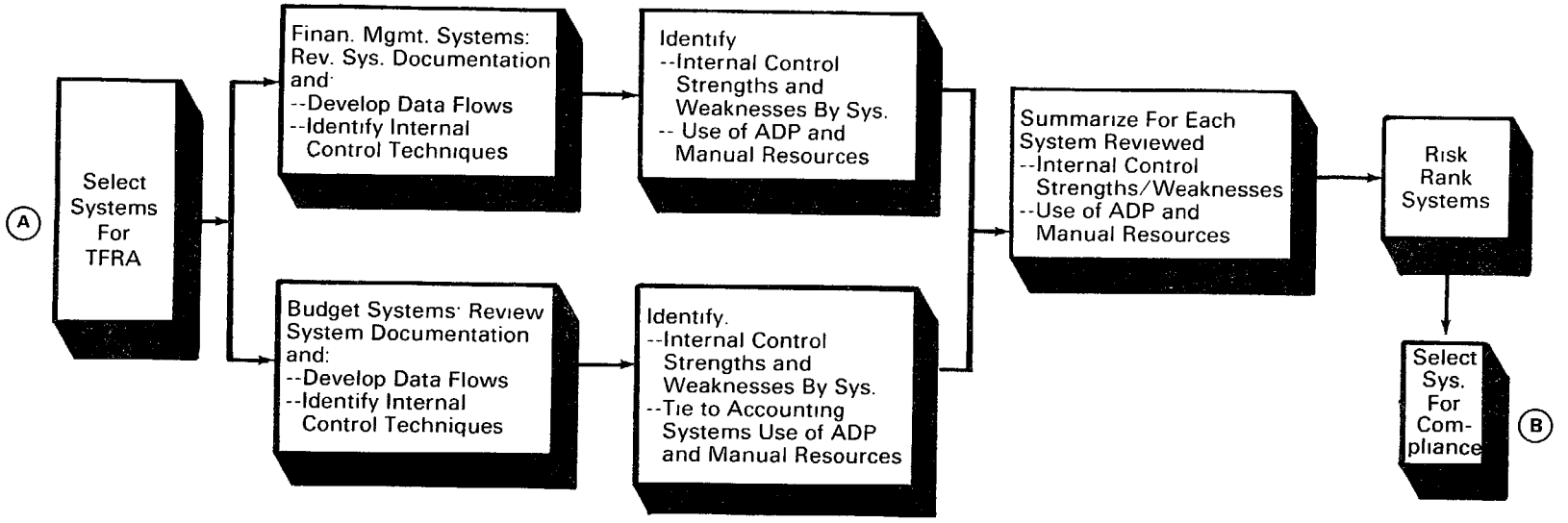
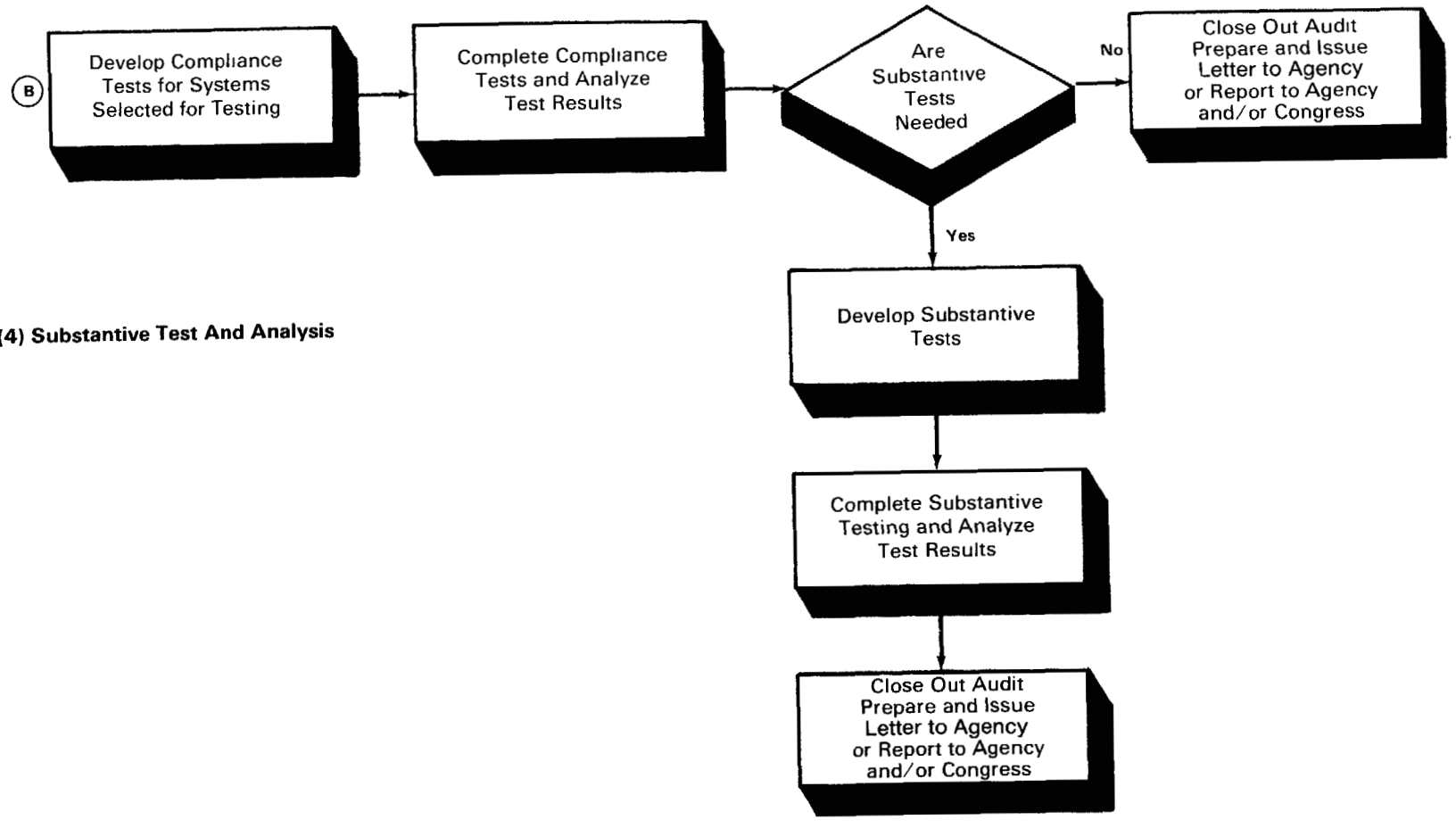


Figure 2 (CONT'D)

Care Audit Approach

(3)Compliance Tests And Analysis



(4) Substantive Test And Analysis

Figure 2 portrays graphically the overall structure and interrelationships of the four segments.

The work done in each succeeding segment builds on the results of the work done in the preceding one. Upon completion of all four work segments, CARE will result in (1) a permanent file on the agency (or part of an agency selected for review) that describes its financial management structure and its internal control strengths and weaknesses, (2) a risk ranking of the systems in the structure, (3) a determination as to whether the accounting systems comply with GAO principles and standards, and/or (4) a report to the agency or the Congress on major weaknesses in the financial management systems.

General risk analysis

The overall objectives of the general risk analysis (GRA) segment are to (1) identify the strengths and weaknesses in the agency's general control environment and assess its overall adequacy, (2) identify the individual systems that comprise the financial management structure, and (3) select systems for further review.

The general risk analysis segment of CARE focuses on several steps:

--Understanding and documenting the overall mission; specific program, administrative, and financial responsibilities; authorized resources; and organizational structure of the agency.

--Understanding and documenting the general control environment of the agency to include general controls over supporting computer operations.

--Identifying and documenting the financial management structure of the agency including its supporting accounting and budgeting systems.

--Initial risk ranking of the systems to aid in selecting those to be reviewed in the next segment.

--Identifying the accounting standards, internal control objectives, and other requirements that the selected systems must satisfy.

Upon completion of the general risk analysis segment, an initial financial management systems profile of the agency is developed and a validated inventory of systems for the transaction flow review and analysis segment are determined.

Transaction flow review and analysis

The overall objectives of the transaction flow review and analysis (TFRA) segment are to (1) identify the internal control strengths and weaknesses in the systems selected for review, (2) identify major inefficiencies in systems' use of ADP resources, and (3) complete a final risk ranking of selected systems based on the internal control strengths and weaknesses identified. The transaction flow review and analysis segment focuses on

--identifying and documenting the flow of transaction information through the systems by using flowcharting techniques,

--identifying and documenting the internal control techniques included in the systems,

--evaluating the effectiveness of the internal control techniques in satisfying the accounting principles and standards, internal control objectives, and other requirements established for the systems in the general risk analysis segment,

--identifying and documenting the systems' internal control strengths and weaknesses, and

--identifying and documenting any major inefficiencies noted in the use or management of ADP and other resources used by the systems.

Upon completion of the transaction flow review and analysis segment, the auditor should have

--a preliminary assessment as to whether system design and procedures and control techniques identified in agency documentation satisfy accounting principles and standards;

--a summary for each system reviewed describing its purpose, inputs, files and outputs, ADP equipment used, costs, internal control strengths and weaknesses, and flow of information through the system;

--the final risk ranking of the systems based on assessment of the strengths and weaknesses;

--recommendations, if appropriate, for separate jobs to review any major inefficiencies noted in the use or management of ADP and other resources; and

--selection of systems for compliance tests and analysis.

Compliance tests and analysis

The overall objective of the compliance tests and analysis segment is to determine whether each selected system captures, records, processes, and reports financial transactions in conformance with the Comptroller General's accounting principles, standards, and other requirements, and whether the system meets its internal control objectives. The results will provide the basis for GAO to plan further systems work at the agency.

Compliance tests involve processing through a system test transactions covering the full range of manual and automated transactions that the system is designed to process. This involves processing test transactions containing both valid and invalid information.

The compliance tests and analysis segment focuses on

--verifying that the internal control techniques, identified in the transaction flow review and analysis segment, actually are present and function as designed, and

--determining the extent to which the systems will process erroneous information, based on the internal control weaknesses identified for each system during the transaction flow review and analysis segment.

Upon completion of the segment, a decision is made whether to proceed with substantive testing. The decision is based on the results of the compliance tests and the willingness of the agency to implement our recommendations.

If the compliance tests indicate the system conforms in all material respects to GAO's principles, standards, and other requirements, and meets internal control objectives, the audit is closed out with a letter to the agency head.

If the results of the compliance tests and analysis indicate the system deviates from these requirements and the agency agrees with our findings and recommendations, the audit is normally closed out with a report to the agency and/or the Congress showing our recommendations for improvements.

If the agency does not agree with our findings and recommendations, the auditor proceeds with substantive testing.

Substantive tests and analysis

The overall objectives of the substantive tests and analysis (STA) segment are to (1) determine whether erroneous transactions have occurred, along with financial loss or other adverse effects, which resulted from inadequate controls, (2) provide additional support for the corrective recommendations resulting from compliance tests and analysis, or (3) provide the basis to revise or withdraw the recommendation.

Upon completion of the segment, we will report to the agency head and/or the Congress (1) the material deviations from requirements, (2) the adverse effect on financial operations, and (3) our recommendations for corrective action.

SECTION 2

FEDERAL AGENCY FINANCIAL MANAGEMENT AND FEDERAL AGENCY ACCOUNTING SYSTEMS-- WHAT THEY ARE AND HOW THEY RELATE TO A CARE AUDIT

The Budget and Accounting Procedures Act of 1950 defines federal agency financial management as including the functions of budgeting, accounting, financial reporting, and auditing. The 1956 amendment to the 1950 act requires that agency accounting systems support agency management control systems. Consequently, accounting is considered an integral part of financial management and accounting systems must support the management control systems for the budgeting, accounting, financial reporting, and auditing functions.

Building on the concepts in the 1950 act, GAO and the CARE audit approach consider an agency's financial management function to encompass four interrelated activities[1]:

--planning and program development,

--budget formulation and presentation,

--budget execution and accounting, and

--audit and evaluations,

The financial management function, and its four component activities, in a federal agency are depicted graphically in figure 3.

[1]Managing the Cost of Government - Building an Effective Management Structure (GAO/AFMD-85-35 and 35-A, February 1985).

Figure 3
The Financial Management Process

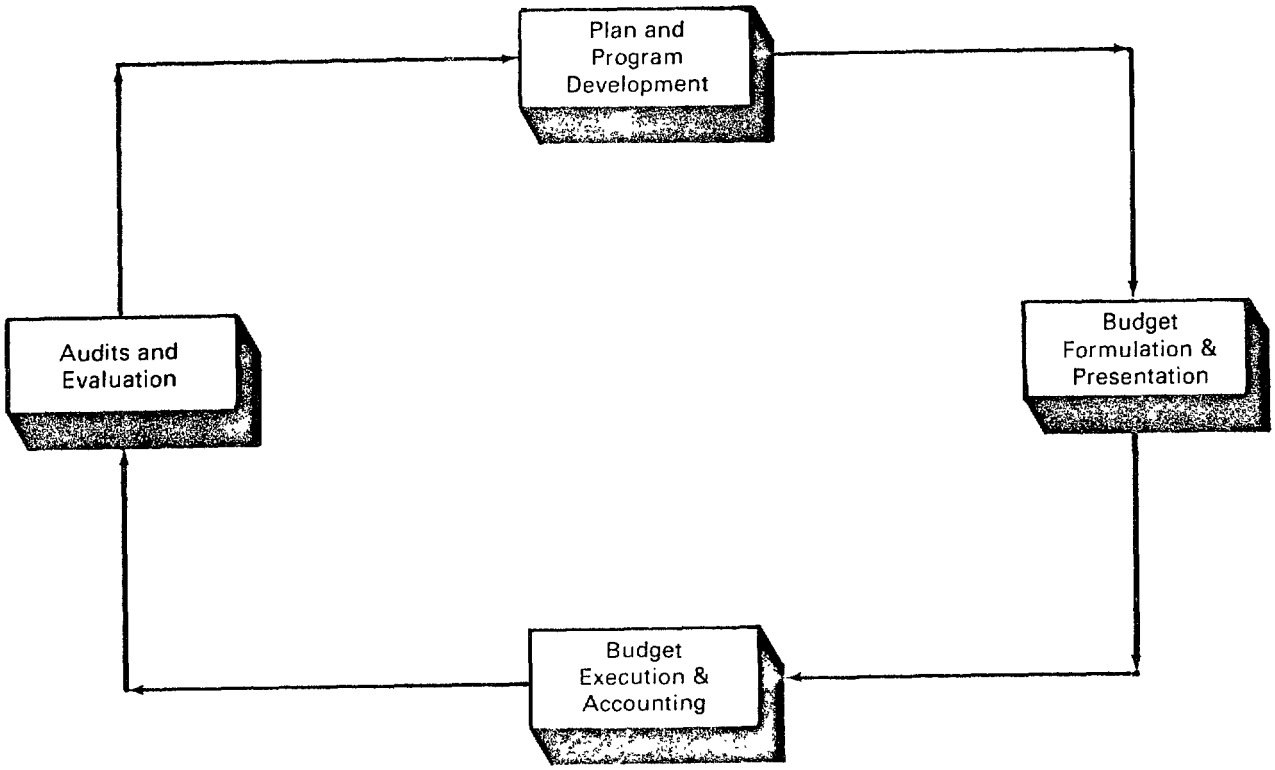


Figure 3 illustrates the iterative aspects of the financial management function. Each activity is to some extent driven by the activity preceding it in the cycle. The results of audits and evaluation affect plan and program development, which in turn drives budget formulation and presentation. Budget execution and accounting is, in turn, affected by budget formulation and presentation. The cycle is completed as audits and evaluations are performed of the effectiveness and results of budget execution and accounting.

The accounting system, under the budget execution and accounting activity, is critical to the entire financial manage-

ment function. It provides the information needed by the entire function.

The key role of an agency's accounting system was highlighted in the Comptroller General's April 18, 1983, definition of a complete agency accounting system enclosed in his letter to Heads of Departments and Agencies. This definition stated:

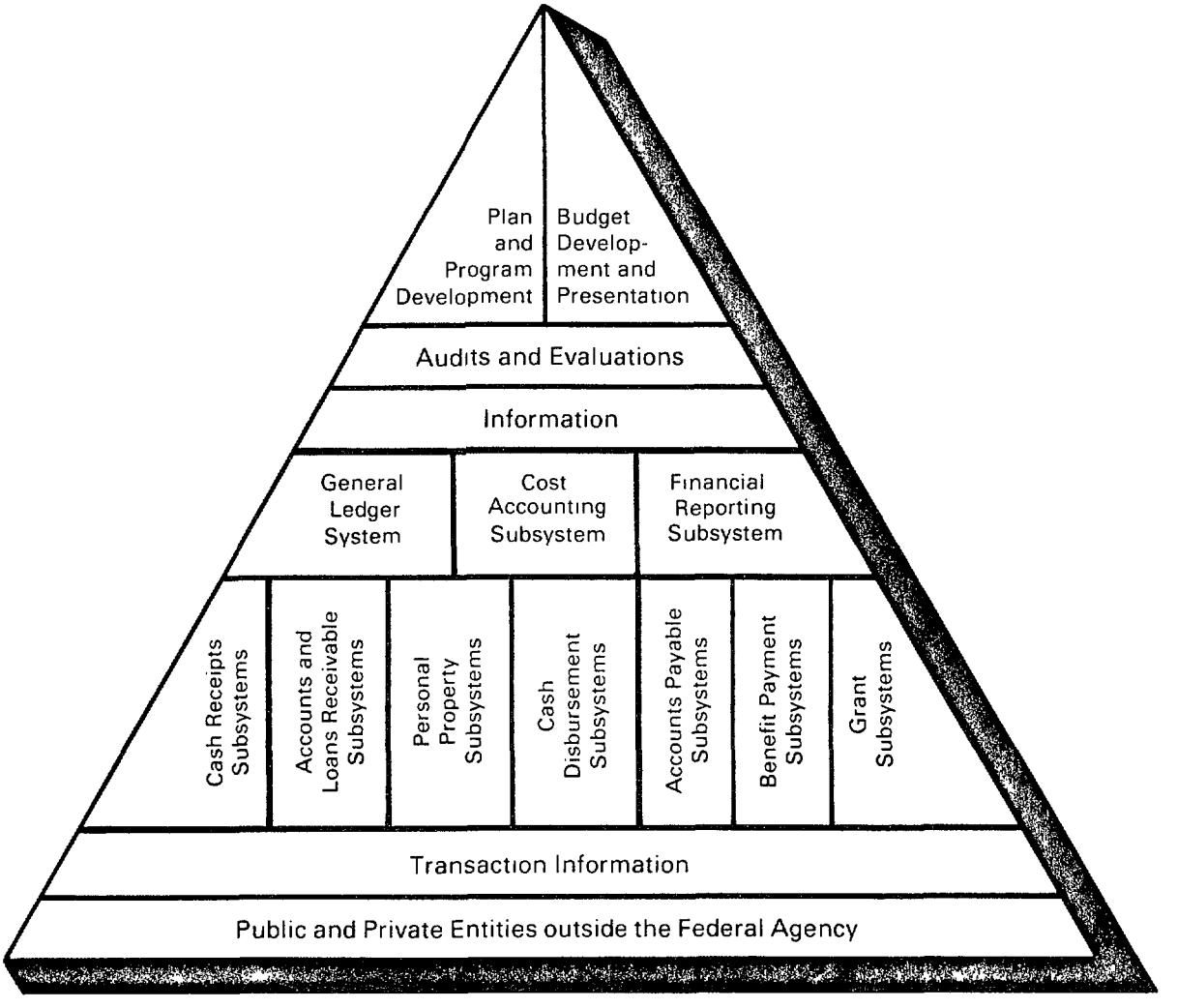
> "A complete accounting system...is one established to assist in the financial management functions of budget formulation and execution, proprietary accounting, and financial reporting. It is the total structure of methods and procedures used to record, classify, and report information on the financial position and operations of a governmental unit or any of its funds, balanced account groups, and organizational components. Accounting systems shall be comprised of the various operations involving the authorizing, recording, classifying, and reporting of financial data related to revenues, expenses, assets, liabilities, and equity."

In most agencies, the complete accounting system is comprised of a number of interrelated component subsystems. These include (1) a general ledger/administrative control of funds subsystem, (2) financial reporting subsystems, and (3) a number of subsystems that account for and control specific assets and liabilities and authorize the use of, account for, and control the agencies' funds and other resources. When taken together, these component systems authorize, record, classify, and report financial data related to revenues, expenses, assets, liabilities and equity, and, in so doing, support the financial management process.

Figure 4 illustrates this key role of an agency's accounting system.

Figure 4

The Role Of The Budget Execution And Accounting Systems In The Financial Management Function



In recognition of the importance of the accounting system to the financial management function, CARE provides guidance for identifying the component systems comprising the accounting system, determining their interrelationships, and evaluating their effectiveness in support of the four activities.

Specifically, the CARE methodology requires the audit staff to include in the work scope systems that

--support development of budget requests,

--develop costs of program and administrative operations,

--prepare financial reports,

--maintain general ledger accounts and administratively control funds, and

--support summary information in general ledger accounts, including systems that:

  --account for and control specific assets and liabilities such as cash, loans receivable, personal property, and accounts payable;

  --account for and control revenue and other cash receipts.

  --authorize, account for, and control application of agency resources to payrolls, grants, loans, and other purposes.

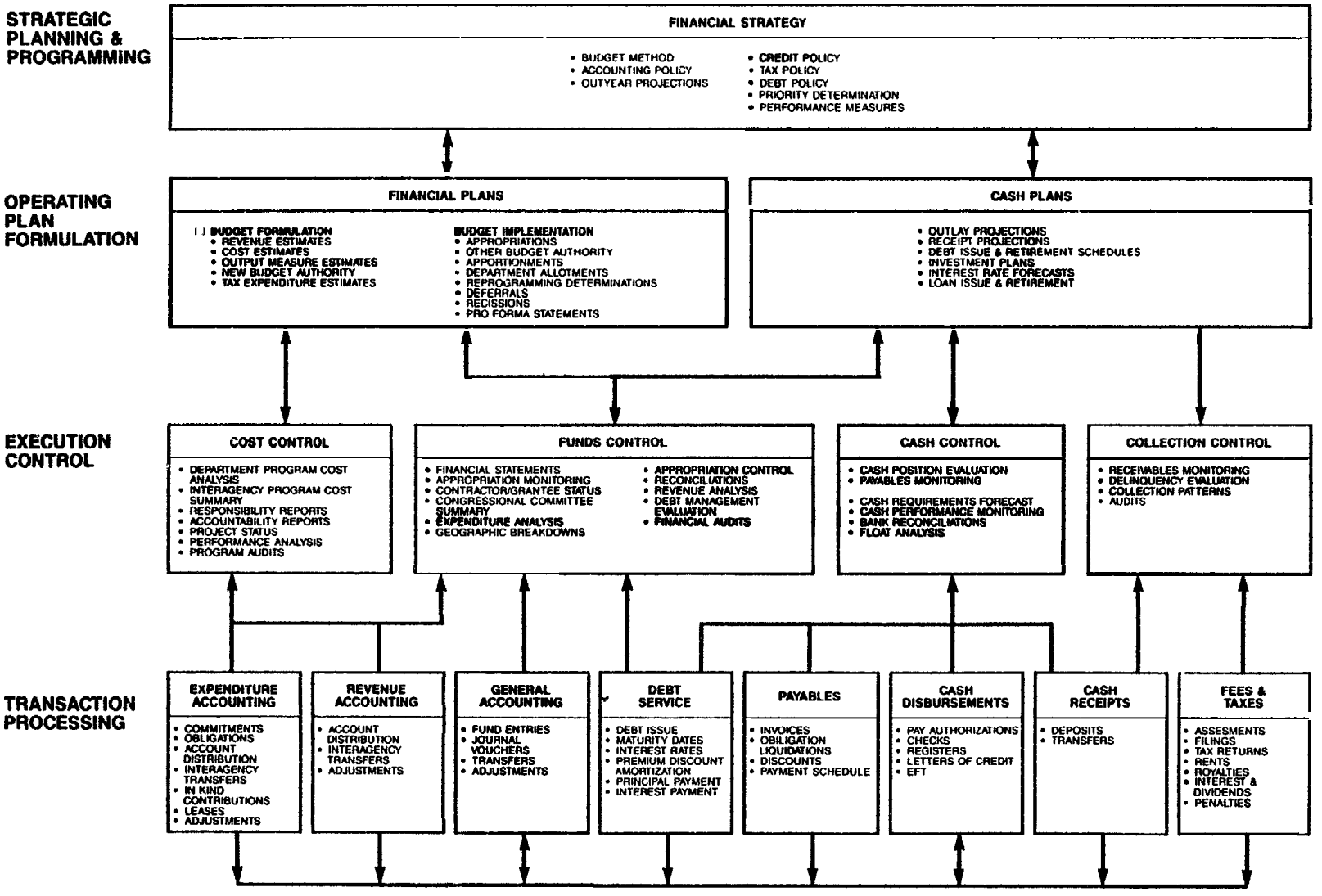
  --manage liabilities.

  --account for and control appropriated funds.

Additionally, for governmentwide financial controls (discussed in section 1) to be effective, the executive branch central management agencies must receive reliable information from agencies' accounting systems. Figure 5, on the next page, shows the relationship between governmentwide and agency

Figure 5

Federal Financial Management Information Requirements Planning Chart



level financial management requirements and controls. CARE includes in its scope, evaluation of the reliability of the information developed for the central management agencies.

In summary, CARE is designed to encompass the agency's accounting system and its manual and/or automated subsystems that capture, record, summarize, and report financial information needed to support the financial management process. A CARE audit

--identifies the component systems (subsystems) comprising an agency's accounting system,

--determines their interrelationship--that is, the information exchanges among them, and

--determines the flow of information within the subsystems, together with the internal controls and their effectiveness.

Further, CARE guides auditors in determining whether the accounting system and its component subsystems provide managers with the relevant, timely, complete and accurate financial information needed to effectively carry out their financial management responsibilities under the four activities comprising the financial management process.

KEY POINTS:

--A complete accounting system, under the budget execution and accounting activity, encompasses the total system structure to record, classify, and report an agency's financial information.

--The financial management process, to be reliable, must use the accounting system information for planning and program development, budget development and presentation, budget execution and accountability, and audit and evaluation.

--Agency-level financial controls must be effective for governmentwide financial controls to work.

--CARE is a systems audit approach to determine the adequacy of an agency's complete accounting system, in both its manual and automated aspects.

SECTION 3

INTERRELATIONSHIP OF CONTROL OBJECTIVES, ACCOUNTING PRINCIPLES AND STANDARDS, AND INTERNAL CONTROLS

The CARE audit methodology is structured to (1) identify the financial transactions initiated and processed by an agency based on its budget authority and program and administrative functions, (2) group similar transactions into transaction cycles, (3) identify the agency accounting systems that process transactions in the identified cycles, and (4) identify the internal control objectives for agency systems and evaluate the system's control techniques in achieving control objectives.

An agency's financial transactions are determined by its authorized program and administrative functions and by its budget authority. The identified financial transactions can be grouped into transaction cycles to facilitate further analysis.

An individual agency's accounting system should be designed to process, control, and report on the financial transaction cycles determined by its program and administrative functions. An agency, for example, that administers grant programs will generate many transactions related to the funding of grants. These transactions could be grouped into a grant cycle. Another agency resonsible for enforcing federal regulations may primarily generate procurement and salary transactions. These transactions could be grouped into an expenditure cycle.

Each accounting system will be made up of different subsystems designed to process, control, and report on the different types of financial transactions in the transaction cycles identified for that agency.

Most agencies perform certain common administrative functions and, therefore, to a great extent generate and process the same kind of financial transactions. As a result, several transaction cycles are common to most federal agency accounting systems.

Practically all agencies operate systems to process, control, and report on the transaction cycles listed below.

TRANSACTION CYCLES	EXAMPLES OF TRANSACTIONS
Expenditure	Receipt of goods and services for application to program and administrative operations.
Personnel /Payroll	Hiring, promotion, termination, and payment of employees.
Receivable	Issuance of advances. Delivery of reimbursable goods and services.
Cash	Disbursement. Collection and deposit of cash receipts.
Asset	Acquisition, storage, and use of supplies. Acquisition, use, and disposition of equipment.

TRANSACTION CYCLES	EXAMPLES OF TRANSACTIONS
Liability	Receipt of goods and services (not yet paid for).
Administrative control of funds	Commitment and obligation of funds
Budget formulation	Preparation of the budget request
Reporting	Preparation, distribution, and use of reports for agency financial management

Since agency accounting systems are either partially or fully automated, the CARE audit methodology includes an agencywide automatic data processing (ADP) cycle. For ADP operations, general control features are needed and are implemented to control overall computer operations. These controls affect all the agency's automated accounting systems. Therefore, the CARE audit methodology includes guidance to help the auditor identify and evaluate general control objectives and techniques for the ADP cycle.

IDENTIFY TRANSACTIONS, TRANSACTION CYCLES, ACCOUNTING SYSTEMS AND RELATED BUDGET AUTHORITY

An agency's detailed budget request is included in the President's annual budget request sent to the Congress and includes the amount of funding requested for each of the agency's authorized programs and administrative functions. The specific

transactions, transaction cycles, and accounting systems for a particular agency must be related to the line items in the detailed budget authority resulting from the request. The reconciliation of transactions, cycles, and systems to budget line items should ensure that all types of agency transactions are identified.

Relating agency transactions, cycles, and systems to budget authority is done by

- --listing all the transactions--economic events--an agency must initiate to execute its budget authority,
- --relating the transactions to the transaction documents that must be initiated to evidence their occurrence,
- --grouping related transactions into cycles, and
- --relating the cycles to the systems comprising an agency's overall accounting system that captures, records, processes, and reports on the transactions.

The following table presents an example of this analysis.

ECONOMIC EVENT	TRANSACTION DOCUMENT	CYCLE	ACCOUNTING SYSTEM(S)
Hiring an employee	SF 50; Notice of personnel action	Personnel/ Payroll	Personnel/ Payroll
Accrual of an employee's earnings	Time and attendance record	Personnel/ Payroll	Personnel/ Payroll

ECONOMIC EVENT	TRANSACTION DOCUMENT	CYCLE	ACCOUNTING SYSTEM(S)
Obligation of grant funds	Notification of grant award	Grant	Grant Management/ Administrative Control of Funds

After all economic events cycles, and agency accounting systems have been related to the agency's detailed budget authority, the audit staff develops the list of component systems comprising the agency's complete accounting system. The auditor will identify control objectives for selected systems and the control techniques for ensuring that the control objectives are met.

IDENTIFY CONTROL OBJECTIVES FOR THE AGENCY'S ACCOUNTING SYSTEM

The Comptroller General has issued federal accounting standards and other requirements in GAO's Policy and Procedures Manual for Guidance of Federal Agencies. In the context of a CARE audit, these requirements are control objectives which must be met. Appendix VII outlines some of these requirements.

Control objectives are also set forth in laws that establish specific programs--primarily entitlement, benefit payments, and grant programs. The audit staff must, based on the programs assigned a particular agency, identify the specific laws that created the programs in order to identify control objectives

included or implicit in these laws. Appendix VIII presents as an example, the unique control objectives for the Veterans Administration's Compensation and Pension Programs.

Once the control objectives for an agency's accounting system have been identified and documented, they become the criteria against which the operations of the accounting system will be evaluated.

IDENTIFY AND EVALUATE CONTROL TECHNIQUES IN AN AGENCY'S ACCOUNTING SYSTEM

The control objectives provide the criteria under which an agency's accounting system must operate to meet standards and other requirements. An agency's accounting system must include control techniques--internal control procedures which operate to ensure that control objectives are met.

Internal control procedures are those procedures in an accounting system used to provide reasonable assurance that the identified internal control objectives are met. Not all procedures are internal control procedures. Many procedures are for the purpose of accomplishing a system's required processing, i.e., capturing, recording, and reporting financial transactions. CARE requires the auditor to trace a transaction through its complete set of procedures, in order to understand how the internal control procedures fit in and serve their control purpose.

The primary objective of a CARE audit is to determine if internal control procedures provide reasonable assurance that system control objectives are being met. Upon completion of the audit, the auditor should be able to conclude whether or not the systems reviewed satisfy, in all material respects, GAO's accounting standards, as well as the systems unique requirements.

Key points

--The CARE audit approach depends on analyses of types of transactions and related controls to evaluate the adequacy of a system to meet the system's control objectives.

--Each agency's overall accounting system is unique and includes a different combination of cycles and subsystems to accomplish the overall system control objectives, including conformance with GAO's standards and other requirements.

SECTION 4

GENERAL RISK ANALYSIS SEGMENT-- OBJECTIVES, SCOPE, WORK STEPS, AND WORK PRODUCTS

The objectives of the general risk analysis segment are to (1) identify the strengths and weaknesses in the agency's general control environment and assess the overall adequacy of the agency's general controls over financial operations, (2) identify the individual accounting systems that support agency financial management,(3) risk-rank the inventory of systems and select systems for further review, and (4) determine internal control objectives for the systems selected for further review.

The specific task objectives to be met in the general risk analysis segment are

Task I --Understand and document the overall mission, specific program and administrative responsibilities, authorized resources, organizational structure, and financial reporting needs.

Task II - Understand and document the general control environment including general controls over operations.

Task III --Identify and describe the agency's accounting systems that support the four financial management activities discussed in section 2, and their interrelationships.

Task IV --Risk-rank the validated inventory of agency accounting systems.

Task V --Identify and document internal control objectives for accounting systems selected for further review.

The objectives, tasks, and steps in this segment are geared to an agency-wide review. Mature judgment is required in adapting the procedures to audits of lesser scope. In audits of lesser scope, it's crucial to keep in mind significant basic ideas, namely the importance of understanding how the entity under review fits into the overall agency structure, and understanding the agency's general controls as they relate to the entity. If the audit from the start is limited to a specific system, Task III and IV are not applicable.

WORK PRODUCTS FOR THE GENERAL RISK ANALYSIS SEGMENT

At the completion of work called for in the general risk analysis segment, the audit staff will have completed three products:

- --a financial management profile of the agency,
- --a validated inventory with risk ratings of the agency's accounting systems, and
- --sets of internal control objectives for the systems selected for further review.

TASK I - MISSION, SPECIFIC RESPONSIBILITIES, AUTHORIZED RESOURCES, AND ORGANIZATIONAL STRUCTURE OF THE AGENCY

In documenting the mission, specific program and administrative responsibilities, authorized resources (budget authority), and organizational structure of the agency, the audit staff should develop a thorough body of knowledge on

- --the specific program and administrative functions assigned the agency and the specific organizational components and key management officials in the agency that are responsible for carrying out each assigned function;
- --the budget resources allocated to each specific program, administrative, and financial function and the key management officials responsible for ensuring that the agency budget authority is properly executed;
- --the reports needed by the components and officials on (1) the financial results of program and administrative operations, and (2) the status of appropriated funds and other financial resources; and
- --the organizational components and key management officials in the agency that are responsible for providing required reports to the Congress and the executive branch central control agencies.

The end product of this part of the general risk analysis segment is a workpaper summarizing this information.

Detailed work steps

1. Obtain the organization chart and mission statements for the agency and for each of its major organizational components.
2. For each organizational component, determine all of the program and administrative functions it performs.
3. Determine the current budget authority for the agency and relate the budget authority to each organizational component and to each program and administrative function.
4. Identify the key management officials responsibile for each program and administrative function, as well as officials responsible for the related Financial Integrity Act and OMB Circular A-123 Reviews, and determine their specific responsibilities and the key internal and external financial reports they require or are responsible for.
5. Prepare a workpaper summarizing the results of these steps. (See appendix VI-GRA 1 for sample format.)

TASK II - GENERAL CONTROL ENVIRONMENT OF THE AGENCY

In documenting the general control environment of the agency, including supporting computer operations, the audit staff should develop a thorough body of knowledge on:

--how the agency is organized to respond to the requirements of the Federal Managers' Financial Integrity Act of 1982 and Office of Management and Budget (OMB) Circular A-123;

--how the agency's office of the inspector general (IG) is organized;

--the number and type of IG reviews of the agency's financial operations and financial management systems;

--known internal control weaknesses based on issued IG, internal audit, GAO, special system study group reports and the agency's self-evaluation of internal controls under the Federal Managers' Financial Integrity Act and OMB Circular A-123; and

--planned changes in systems or equipment.

The end product of this part of the general risk analysis segment is a workpaper summary on the agency's general approach to internal control and the key unresolved internal control issues and weaknesses.

OMB Circular A-123 and Financial Integrity Act

The requirements of OMB Circular A-123 and the Financial Integrity Act are important parts of an agency's systems of accounting and internal control. The following work steps are designed to guide the auditor in looking at an agency's compliance with the A-123 circular and the Financial Integrity Act's requirements.

Detailed work steps

1. Obtain agency statements and reports submitted to satisfy requirements of the Federal Managers' Financial Integrity Act of 1982 and documentation of agency actions to satisfy OMB Circular A-123.
2. Determine how the agency identified those areas for which internal control reviews were or will be performed.
3. Determine whether internal control reviews will be performed for all high-risk critical areas on a timely basis. Also, ascertain if internal control reviews will be performed for other areas.
4. Determine what actions the agency has planned or has taken to ensure that the degree of internal control testing and analysis will consider the risks and potential benefits (such as how much it will cost to test a control versus how critical the control is or how much risk is being taken by not testing the control).
5. Determine who performs internal control reviews (managers, internal review staffs, inspector general, management analysts, or outside contractors) and consider whether their level of knowledge and expertise are adequate.
6. Determine to what extent the inspector general or internal audit staffs are involved in the internal control review process and evaluate whether they have provided adequate guidance and assistance to the agency.

7. Determine if the agency has established adequate formal follow-up systems to (1) develop plans, including target dates, to implement corrective actions, (2) log and track corrective actions, and (3) monitor whether actions are implemented in an effective and timely manner.
8. Determine how the agency's follow-up system is notified of weaknesses and related corrective actions identified by (1) vulnerability assessments and (2) internal control reviews.
9. Determine how the follow-up system ensures that (1) vulnerability assessments are scheduled and completed in a timely manner, (2) internal control reviews are scheduled and completed in a timely manner, and (3) corrective actions resulting from vulnerability assessments and internal control revuews are implemented in an effective and timely manner.
10. Determine inspector general and/or internal audit involvement in ensuring corrective actions are implemented effectively and prommptly and what, if any, plans exist for subsequent audits. In addition, determine how the follow-up system will be used to support the agency's annual reports to the President and the Congress.

Audit reports

Reports issued by inspectors general, internal auditors, special system study groups, and GAO can provide (1) assessments of an agency's internal controls and accounting systems that an

agency may or may not address in its self-assessment, and (2) information on unresolved internal control and accounting system deficiencies. The following work steps will guide the audit staff in reviewing issued audit and special system study reports. GAO staff must coordinate with the Accounting and Financial Management Division's Fraud Prevention and Audit Oversight Group before initiating any work in an inspector general or internal audit organization. This is to avoid duplication of any work the group has completed or has underway. Also, the group maintains a library of information on audit organizations, including report listings, information on budget and staffing, and the inspector general semiannual reports. Further, work step 18 below requires coordination with the group for any relevant information in the hotline files. The group maintains these files on an automated data base with a variety of data-sorting methods.

In addition to the retrieval aids available in the Accounting and Financial Management Division, the GAO library and distribution services have other efficient report retrieval packages which the auditor can use to extract pertinent reports quickly. Also, the agency IGs maintain follow-up information on their reports. The auditor should become familiar with all available labor-saving resources.

Detailed work steps

11. Determine and document agency internal audit and inspector general coverage of agency's financial operations. In doing

this work, obtain internal audit and IG (1) reports that deal with financial and ADP operations for the past 3 years, and (2) plans for review of financial and ADP operations for the next 2 years.

12. Prepare summary schedules (see appendix VI-GRA 2 and 3 for sample formats) of findings. Indicate corrective actions taken.
13. Obtain the semiannual inspector general's report to the Congress for the past 3 years.
14. Obtain any pertinent reports issued by external study groups during the past 3 years.
15. Prepare schedules (see appendix VI-GRA 6 for a sample format) summarizing findings in the semiannual and study-group reports.
16. Obtain any pertinent GAO reports issued during the past 3 years.
17. Prepare schedules (see appendix VI-GRA 7 for a sample format) summarizing the findings.
18. GAO auditors obtain any hotline files GAO's Fraud Prevention and Audit Oversight Group has on the agency, its major organizational components, or any of its systems and summarize this information on a schedule. (See appendix VI-GRA 8 for a sample format.)

Planned changes

Financial systems need constant maintenance, regular upgrading, and occasional redesign to respond to new regulatory require-

ments, to benefit from improvements in technology and advances in software design, and to correct weaknesses in internal controls. Sound management practices require that such projects be anticipated and performed according to proper planning.

Detailed work steps

19. Obtain any written plans for the development and upgrading of accounting systems and develop a schedule summarizing them. (See appendix VI-GRA 4 for an example.)
20. Obtain any written plans, including cost estimates, for the development of new, or upgrade of existing, ADP capability. Develop a schedule summarizing them. (See appendix VI-GRA 5 for a sample format.)

TASK III - FINANCIAL MANAGEMENT SYSTEMS OF THE AGENCY

Identifying the agency's accounting systems which support the financial management function is the most important part of the survey. If this work is not done carefully, the review will not include all systems that account for, control, and report on all financial transactions of the agency. Usually, an agency's accounting systems are only a part--albeit a vital one--of the agency's total inventory of information processing systems.

As discussed in section 2, an agency's financial management function includes four activities: (1) plan and program development, (2) budget development and presentation, (3) budget execution and accounting, and (4) audits and evaluations. Accordingly, the goal is to identify the accounting systems which support these four activities. Such systems will include

--financial reporting systems,
--cost accounting systems,
--general ledger systems, and
--systems supporting summary accounts in the general ledger system, including:
  --systems that account for and control specific assets, liabilities, receipts, and disbursements, such as accounts and loans receivable, personal property, supply inventories, accounts payable, repayments of loans, and advances to contractors and grantees;
  --disbursement systems for pay and benefits, contracts, grants, and administrative payments systems; and
  --administrative control of funds systems.

A systems inventory which includes these systems will comprise the data base for providing agency managers with the financial information needed to carry out the four activities of the financial management function.

To respond effectively to the requirements of OMB Circular A-123 and the Financial Integrity Act, many federal agencies have

developed inventories of their accounting systems. OMB Circular A-127, Financial Management Systems, specifically requires such inventories. GAO has found, in its implementation reviews of the circular and the act, that completeness and reliability of the inventories varies widely. Consequently, CARE requires the auditor to verify the inventory.

Virtually all federal accounting systems are to a great extent automated, and the automated processes interact with manual processes that, for example, (1) prepare transaction information for processing, (2) utilize computer reports, and (3) check the completeness and accuracy of computer processing. By focusing on the automated systems, the audit staff will be led to the interfacing manual processes.

Detailed work steps

1. Obtain the inventory of accounting systems developed by the agency as required by OMB Circular A-127 determine which of the four financial management activities are covered by the agency inventory. Note in the workpapers which activities are not covered and which activities are only partially covered.
2. Obtain or develop an inventory of the agency's automated systems, with brief descriptions which include a description of their interrelationships.
3. From the automated systems descriptions, develop a list of those that appear to be accounting systems.

4. Compare the work step 1 and work step 3 inventories and, through discussions with appropriate agency officials, reconcile any differences.

5. Compare the reconciled inventory with the workpaper summary developed in task II in this section. Note any organizational components, specific program or administrative functions, or specific line items of budget authority which do not appear to be covered by the systems.

6. Resolve, through discussion with cognizant officials, any inconsistencies identified by the comparison. Make any needed adjustments to the inventory.

7. Develop a validated inventory (see appendix VI-GRA 9 for a sample format) of the agency's accounting systems based on the results of work steps 5 and 6. For each system in the inventory, prepare a schedule with the following information:

--system name,
--brief description of processing,
--responsible systems analyst,
--systems analyst's phone number,
--computer centers at which system is run,
--annual system operating costs,
--organizational components supported,
--program or administrative functions supported,
--amount of budget authority, assets, liabilities, receipts, or disbursements accounted for and controlled,

--main inputs (including inputs from other systems),

--main outputs (including outputs to other systems),

--main users of the outputs, and

--known internal control and other weaknesses.

As previously discussed, virtually all agency accounting systems are to a great extent automated. Task V of the general risk analysis segment provides guidance to the audit staff to help them identify the internal control objectives to which the systems must be responsive. In addition to the objectives, the audit staff must identify and evaluate the general ADP management controls in place at the agency's computer center(s). The following work step provides guidance for this assessment.

8. At each of the agency's computer centers that support accounting systems, identified in step 7 above, complete checklist 2 in appendix VI and complete the following questionnaires and profile in appendix VI:

    Questionnaire 1 - Executive ADP Management Committee (see appendix VI-GRA 11),

    Questionnaire 2 - Internal Audit or Inspector General (see appendix VI-GRA 12),

    Questionnaire 3 - External Audit and Studies (see appendix VI-GRA 13),

    Profile 1 - Top Management Control Profile, (see appendix VI-GRA 14),

    Questionnaire 4 - ADP Organizational Controls (see appendix VI-GRA 15),

Questionnaire 5 - System Design, Development, and Modification Controls (see appendix VI-GRA 16),

Questionnaire 6 - Data Center Management Controls (see appendix VI-GRA 17),

Questionnaire 7 - Data Center Protection Controls (see appendix VI-GRA 18),

Questionnaire 8 - System Software Controls (see appendix VI-GRA 19),

Questionnaire 9 - Hardware Controls (see appendix VI-GRA 20), and

Profile 2 - General Controls Profile (see appendix VI-GRA 21).

For large departments or agencies with numerous and widely dispersed offices, time and audit resource limitations may, as a practical matter, preclude performing this work step for each center; it may be necessary to limit this step to selected locations (such as regional offices, field offices, and installations) believed to be representative.

TASK IV--RISK RATING AND RANKING OF SYSTEMS

The agency's systems should be rated and ranked based on the risk factors in section 5. Each system is assigned a risk rating

of high, medium, or low for each factor. A composite reliability score is then computed for each system. Section 5 discusses this methodology in detail.

Detailed work steps

1. For each system, based on the guidance in section 5, Risk Ranking of Systems, assign a risk rating of high, medium, or low for each of the risk factors.
2. Compute a composite reliability score for each system based on the risk ratings assigned and the weighting system discussed in section 5.
3. Prepare a schedule (see appendix VI-TRFA 14 for an example) of the risk ratings and composite reliability score assigned each system.
4. Prepare a schedule of the systems, listed in the order of their composite reliability scores. Group the systems into three categories: high, medium, and low risk. (See section 5, Risk Ranking of Systems, for guidance in preparing this schedule.)
5. Select the systems for further review.

TASK V - ACCOUNTING PRINCIPLES, STANDARDS, AND REQUIREMENTS -- INTERNAL CONTROL OBJECTIVES FOR AGENCY SYSTEMS

The focus of this task is to establish internal control objectives for each of the accounting systems selected for further review. Internal control objectives are the goals an agency's accounting systems must achieve in processing and reporting financial transactions.

The basic sources of internal control objectives are the requirements imposed by GAO, the executive branch central management agencies, and the laws establishing or authorizing programs and functions, together with internal management needs for financial information.

The law charges GAO with developing and promulgating accounting principles, standards, and related requirements, as well as internal control standards, for the executive branch. These requirements are published in GAO's Policy and Procedures Manual for Guidance of Federal Agencies. Title 2 of the manual contains the accounting principles and standards, and the internal control standards; title 6 contains important requirements for payroll accounting; and title 7 contains requirements for fiscal accounting. GAO requirements are fully oriented to promotion of accounting systems which support the four activities (identified in section 2) which comprise the financial management function.

It's very important that all of the GAO requirements relevant to the systems being reviewed are identified and incorporated into the internal control objectives. This is necessary to meet a major goal of the audit -- determination of conformance with Comptroller General requirements. For many of the requirements, conformance can be objectively determined and expressed in absolute yes/no terms. This is in contrast to determining achievement of other types of control objectives, such as those requiring reliability, completeness, prevention of fraud, et al. In these cases, the determination is often very subjective; the auditor must apply the concept of reasonable assurance in arriving at a determination. This requires a large measure of mature professional judgment.

The central management agencies promulgate numerous requirements related to their areas of responsibility. The central management agencies are the Office of Management and Budget (OMB), the Treasury Department, the Office of Personnel Management (OPM), and the General Sevices Administration (GSA).

OMB, in response to the Financial Integrity Act, has issued Circular A-123, Internal Control Systems, and Guidelines for the Evaluation and Improvement of and Reporting on Internal Control Systems in the Federal Government. The latter was developed in coordination with GAO. The guidelines contain basic internal control objectives for various "common event cycles." The objectives are at a level intended for general applicability; they are not intended to be all-inclusive.

The Guidelines' objectives do not include specific requirements levied by the central management agencies or requirements for specific programs. Further, they do not include GAO's accounting principles and standards which prescribe, in substantial detail, the bases for measurement of the elements of federal accounting (assets, liabilities, equity, expenses and losses, et al), as well as the structure and content of the basic financial reports. Accordingly, a complete set of internal control objectives for an accounting system must include objectives based on the requirements of all the sources discussed herein, including the objectives contained in the OMB guidelines.

Federal agencies, in many cases, have developed their own sets of internal control objectives within the framework of OMB's Guidelines. The GAO auditor should use the agency's objectives listings as a focal or starting point and adjust or add to these objectives to develop independent listings based a knowledge and understanding of the systems' requirements.

OMB also issues extensive and detailed requirements for development and presentation of agencies' annual budget requests. It is especially important that these requirements be incorporated in accounting system internal control objectives. This is necessary to help ensure that accounting systems are effectively integrated with budget systems and, accordingly, effectively support budgeting, one of the four financial management activities discussed in section 2.

OMB circulars on the budget process are

--A-10, Responsibilities for disclosure with respect to the budget,

--A-11, Preparation and submission of budget estimates,

--A-12, Object classification,

--A-31, Distribution of appropriations and other budget authority made to the President.

OMB and other central management agencies issue extensive and, in many instances, detailed requirements for budget execution and accounting. OMB has, for example, issued circulars on budget execution (A-34), grant requirements and other agreements with institutions of higher education, hospitals, and other nonprofit organizations (A-110), prompt payment of bills (A-125), and administrative requirements for grants-in-aid to state and local governments (A-102).

The Treasury Department promulgates, in the Treasury Financial Manual, numerous requirements, largely for disbursements and collections processing and reporting. For example, the manual contains detailed requirements on the amount, timing, and methods of advancing cash to federal contractors and grantees.

OPM, through its Federal Personnel Manual, issues requirements which impact heavily influence personnel management and pay, benefits, and leave accounting.

GSA, in its Federal Property Management Regulations, Federal Information Resources Management Regulation, and Federal Information Acquisition Regulation, issues requirements which affect managing and accounting for property, ADP, and contracting. Indexes to pertinent OMB, Treasury, OPM, GSA, and GAO publications are presented in appendix IV.

It is important that these central management agency requirements be incorporated in accounting system internal control objectives to ensure that the systems effectively support the budget execution and accounting, another of the four financial management activities identified in section 2.

Other important internal control objectives are those available from examination of the laws establishing or authorizing programs or functions, as well as the agencies' implementing regulations. These laws typically impose criteria and conditions to be applied in carrying out the programs. The implementing regulations are normally published in the Code of Federal Regulations. These requirements must also be incorporated in internal control objectives to help ensure that the systems effectively support the budget execution and accounting activity. Appendix VIII is an example, using the Veterans Administration's (VA) compensation and pension program, of a set of internal control objectives derived from a program's laws and implementing regulations.

Following, as an illustrative summary, is a comprehensive list of sources for a set of internal control objectives for the accounting systems supporting financial management of a major program, again using the VA program as an example.

--GAO's accounting principles, standards, and related requirements, and internal control standards, contained in GAO's Policy and Procedures Manual for Guidance of Federal Agencies;

--OMB's Circular A-123, Internal Control Systems and Guidelines, et al;

OMB's Circular A-127, Financial Management Systems and Guidelines, et al;

--OMB's circulars on budgeting;

--other directly pertinent OMB circulars, e.g.,

  --A-34, Instructions on budget execution,

  --A-108, Responsibilities for the maintenance of records about individuals by federal agencies,

  --A-112, Monitoring federal outlays;

--the Treasury Financial Manual for disbursement processing and reporting requirements;

--the laws establishing the program and VA's implementing regulations, published in the United States Code and the Code of Federal Regulations, respectively; and

--the internal financial information needs (determined in task I) of agency officials charged with carrying out budgeting and the other activities comprising the financial management function.

Detailed work steps

1. Determine and examine, for each system selected for further review, the GAO and central management agencies' requirements which appear to be pertinent, as well as requirements stated or implied in the laws establishing the covered programs, and the agency's implementing regulations.
2. Examine also internal needs (identified in task I) for financial information in support of budgeting and the other activities comprising the financial management function.
3. Acquire a copy, for each system selected, of the agency's listing of internal control objectives developed in response to the Financial Integrity Act and OMB Circular A-123.
4. Develop, for each system selected, a comprehensive list of internal control objectives (see appendix VI-GRA 22 for sample format), using the agency's listing as a starting point, and make needed additions/changes based on the understanding of requirements gained in work steps 1 and 2.
5. Where the agency hasn't developed its own listings of internal control objectives, develop listings based completely on the understanding gained in work steps 1 and 2.

KEY POINTS

--General risk analysis should result in a financial management profile of the agency, a validated inventory of accounting systems, a risk rating of the systems, and lists of internal control objectives for those selected for further review.

--The profile should include an overview of:

(1) the agency structure,
(2) the mission and financial functions performed,
(3) the budget organization and process,
(4) agency implementation of A-123 and the Financial Integrity Act,
(5) accounting systems and known problems, and
(6) general controls, including those over both ADP and manual operations.

SECTION 5

RISK RANKING OF SYSTEMS

In the general risk assessment (GRA) segment, the auditor makes a decision on which systems to review and on the order of their review. In small agencies with only a few systems, these decisions should not be difficult. In large agencies with numerous systems, however, a technique is needed to rank the systems in terms of their relative vulnerability to fraud, abuse, mismanagement, and failure to meet internal control objectives. A ranking process is especially useful for optimizing the use of audit resources in large agencies where it would be impractical to review all systems concurrently.

A ranking procedure cannot be absolutely precise because of the dependence that is necessarily placed on the auditor's judgment in both developing the ranking and in ultimately selecting systems for review. Nonetheless, the procedure prescribed below provides a systematic three-step approach to risk ranking.

--Evaluate each system in terms of certain risk factors (characteristics) and assign a numeric risk value for each of the factors: 3-high, 2-medium, 1-low.

--Assign an importance weight to each factor and compute a composite numerical score for each system.

--Rank the systems in order of vulnerability based on the composite scores.

Details on each of these steps follows.

EVALUATING SYSTEMS IN TERMS OF RISK FACTORS

Numerous factors could be considered in determining a given system's vulnerability. Based on past audit experience, however, the 12 factors listed in the following pages should be considered by GAO auditors in developing the ranking. The list is not meant to be all-inclusive but rather provides a reasonable means for accomplishing the ranking objective while expediting the review work.

Other lists can be developed with different factors or combinations of factors, each with their relative merits; the important thing is that the factors be easily and quickly applied, with as much objectivity as possible, to obtain a ranking of the systems and that the ranking can be repeated.

It is not practical to develop exact criteria for assigning numeric risk values for each risk factor for every agency system and situation. However, broad guidelines can be provided. The guidelines discussed below require the use of professional judgment in assessing the risk associated with each factor.

The reasons for assigning high, medium, or low risk should be documented (see Figure 5-1) to permit verification and allow

another auditor to reach basically the same conclusions. The guidance, as well as the risk factor may periodically be revised as opportunities for improvement develop. The risk factors are not listed in order of importance.

A. Purpose of system. This risk factor considers the potential effect of a system not operating properly and failing to perform its intended function. Systems crucial to controlling the use of funds and other resources or operating the organization will generally be considered high risk because of the exposure to loss or disruption of operations. Systems accounting for other assets and liabilities may be ranked medium. Systems that only record and report summary financial data and are not crucial to operations may be ranked low.

B. System documentation. Complete and current system documentation, including a general system description, functional requirements, and data requirements, is needed to ensure proper system maintenance and operation. If little or no documenation is available, or evidence indicates that system changes have not been documented, the system should normally be ranked high. A system may be ranked low if it appears that

appropriate emphasis has been given to fully documenting the system during its development and subsequent changes. A system may be ranked medium if the documentation is complete except for recent changes. However, if the recent undocumented changes were major system changes, a high-risk ranking would generally be warranted.

C. Dollar volume controlled by the system. The greater the dollar volume of assets or transactions controlled by a system, the greater the risk. However, the dollar value thresholds for determining high, medium, or low risk for a given system must be determined on a system-by-system basis, considering each agency's total authority. For example, at one agency with $280 billion in budget authority, systems controlling $5 billion or more were ranked high, those controlling less than $150 million were ranked low.

D. Amount of system maintenance. Systems that have become outmoded or consistently fail to meet requirements frequently require a high degree of maintenance (such as system changes and modification) simply to keep them operational. Through discussion with agency systems personnel and examination of system mainte-

nance logs, some assessment can be made to determine if the system should be ranked high due to a relatively large amount of maintenance. A system may be ranked low if the maintenance efforts expended appear minor or routine. As with dollar volume, exact risk thresholds cannot be specified and should be assessed for each system, considering the total maintenance effort the organization expends.

E. Verification of input. The risk associated with this factor decreases as the ability of a system to verify the accuracy of input data increases. For example, a system may be considered

--high risk if the input data is received only from sources outside the agency and its accuracy cannot be verified with agency-generated data,

--medium risk if the system receives input data from sources outside the agency but the system can independently verify the accuracy of the input with agency-generated data, or

--low risk if the input data is received from sources within the agency and the system can verify its accuracy with other agency-generated data.

F. Degree of automation. Completely manual systems are often considered highly vulnerable to fraud, abuse, and mismanagement because data may not be processed as consistently as in an automated system and because control built into a manual system can be more easily overridden than in a well-designed and implemented automated system. On the other hand, fully automated, on-line systems may be very difficult to control because of the speed with which files are changed and the lack of documents showing the results of processing.

Completely manual systems or systems combining manual and automated processes in which the automated processes cannot fully verify the results of manual processing may be ranked high because individuals could randomly circumvent processing procedures and manual controls. Often, in such cases, transactions go through several manual processes before being entered into the computer. For example, collections often undergo manual processing in the mail room and several accounting branches. Systems combining manual and automated processes in which automated processes can fully verify the results of manual processing may be ranked medium because the automated processes act as a check on the results of manual processing and can

detect random circumvention of manual controls and inconsistent processing of information. Fully automated systems, for which the results of processing can be verified by other automated systems, may be ranked low.

G. Number of other dependent systems. The operation of a given system may be essential to the successful operation of others. As such, a system may be ranked high if it has several dependent systems and/or if the quality of communication among them is deficient, medium if it has only one dependent system with an effective interface, or low if its operation has no bearing on the operation of other systems.

H. Security of data, software, and hardware. This factor will not be applicable if all systems are being centrally processed under a uniformally applied set of security rules.

Management's attitude toward internal controls plays an important role in the effectiveness of the security program. Although this evaluation is subjective, the auditors can use the following criteria to help them rank this factor.

Decentralized operations and extensive use of microcomputers make systems vulnerable to potential threats. If these conditions exist in conjunction with ineffective back-up and recovery procedures, the risk is rated high. If the auditor finds there are strict access controls, up-to-date and tested contingency plans, active fire prevention awareness, the risk can be rated low. Any different combination of conditions would be rated medium.

I. Known system problems. By considering unresolved audit findings and the results of consultant studies, internal management reports, and Financial Integrity Act work reviewed in the general risk assessment, the auditor can determine the existence of any previously identified significant system problems--those that preclude the system from meeting its stated goals--that warrant a high-ranking. The system may be ranked medium if the known problems would not prevent the system from meeting its goals or low if no problems have been previously identified.

J. Recency of audit. Systems that have not been audited over many years should be ranked high, while those that have had comprehensive or full-scope audits within the past 2 years generally may be ranked low.

(Consideration might be given to ranking an old system high, independent of any other factors, if the system was never audited. This would ensure that all systems get reviewed sooner or later.) Systems with limited scope audits or audits that were performed between 2 and 5 years ago should be ranked medium. An additional consideration in assessing vulnerability under this factor is whether the system is known to have been changed significantly since the most recent audit was completed. If so, the system may be ranked high.

K. Statutory requirements met. Some systems' basic purpose may be to allow an organization to meet certain statutory requirements, such as provisions of the Prompt Payment Act or the Anti-Deficiency Act. If the system does not operate properly, the organization may be in violation of law. Only two levels of risk are associated with this factor: high, if the system is relied on for compliance with statutes, or low, if no connection to such statutory requirements exists.

L. Involvement of users and auditors in systems design. Assurance is generally greater that a system is properly designed and adequate internal controls are incorporated if the system users and independent audi-

tors actively participated in the system's design and implementation. A system for which such participation took place would be ranked low. If only the users or the auditors participated, the system would be ranked medium. A high-risk ranking would be given for this factor if neither the users nor the auditors participated.

ASSIGNING WEIGHTS TO RISK FACTORS AND COMPUTING COMPOSITE SCORES

Weights are assigned to each ranking factor based on their relative importance in assessing risk. The weights shown below were developed by rating each factor in order of importance on a scale of 1 to 5, based on prior experience in reviewing accounting systems and internal controls.

	Factor	Weight
A.	Purpose of system	4.4
B.	System documentation	4.3
C.	Dollar volume controlled by the system	4.4
D.	Amount of system maintenance	3.9
E.	Verificatin of input	4.4
F.	Degree of automation	3.8
G.	Number of other dependent systems	4.5
H.	Security of data, software, and hardware	3.2
I.	Known system problems	3.7
J.	Recency of audit	3.8
K.	Statutory requirements met	4.5
L.	Involvement of users and auditors in system design	4.0

Different weights could be developed for a specific organization, provided the weights are used consistently in ranking all systems in the agency.

To develop a composite score for each system, the weights are multiplied by the risk ranking values and the products totaled, as shown in the following example.

Risk factor	Numeric risk value	Weight	Composite score
A	3	4.4	13.2
B	2	4.3	8.6
D	1	3.9	3.9
E	3	4.4	13.2
F	3	3.8	11.4
G	2	4.5	9.0
H	1	3.2	3.2
I	3	3.7	11.1
J	2	3.8	7.6
K	1	4.5	4.5
L	2	4.0	8.0
		TOTAL:	102.5

RANKING SYSTEMS IN ORDER OF RISK

Using the composite scores, the systems are listed in descending order so that they may be categorized according to their relative vulnerability to fraud, abuse, and mismanagement. The ranking factors are primarily geared to automated systems. For completely or partially manual systems, some of

the factors may not be applicable. To make the composite scores for those systems comparable to the scores for which all factors are applicable, the following procedure may be used:

--Divide the system's composite score by the number of factors on which the system was assessed to develop an average for each factor. For example, if the composite score is 110 and only 10 of the 12 factors were applicable to the system, the average for each factor would be 11.

--Multiply the average for each factor computed above by 12 (the total number of factors prescribed for the ranking system). The resulting revised composite score could then be used for that system in ranking it with the other systems.

KEY POINTS

The ranking technique provides a systematic approach to estimating the relative vulnerability of an organization's financial management systems. Once the process is complete, two products can be developed:
a report advising management of the systems considered high risk, and an audit plan for reviewing the sytsems in order of priority. The final audit plan should consider any special circumstances that would justify not reviewing a high-risk system, such as if the system will be replaced or otherwise discontinued in the near future. The rationale for not reviewing any high-risk system should be fully documented in the audit plan.
A more conclusive statement on each system's vulnerability can be made after performing the transaction flow review and analysis described in the following section.

Figure 5-1

WORKSHEET FOR PREPARING SYSTEMS
RISK RANKING SCORES

Factor	Risk (3-high 2-med 1-low)	X	Weight	=	Composite score	Explanation for risk assigned: (use sufficient space to fully describe)
A. Purpose of system	____		4.4		____	
B. System documentation	____		4.3		____	
C Dollar volume controlled by the system	____		4.4		____	
D. Amount of system maintenance	____		3.9		____	
E. Verification of input	____		4.4		____	
F. Degree of automation	____		3.8		____	
G. Number of dependent systems	____		4.5		____	
H. Security of data, software, and hardware	____		3.2		____	
I. Known system problems	____		3.7		____	
J. Recency of audit	____		3.8		____	
K. Statutory requirements met	____		4.5		____	
L. Involvement of users and auditors in system design	____		4.0		____	
TOTAL					====	

SECTION 6

TRANSACTION FLOW REVIEW AND ANALYSIS SEGMENT--OBJECTIVES, SCOPE, WORK STEPS, AND WORK PRODUCT

The objectives of the transaction flow review and analysis segment are to review selected accounting systems to (1) document how the systems process transactions, (2) document the systems' control techniques, (3) evaluate the effectiveness of the internal control techniques in meeting internal control objectives, and (4) complete a final risk ranking of the systems as a basis for selecting systems for review in the next segment.

Achieving the objectives for this segment will require the audit staff to

TASK I Determine and document how information flows through each system from initial input of transaction information through final output of reports.

TASK II Determine whether the outputs produced meet users' needs for information in support of the financial management function.

TASK III Identify and document each system's internal control techniques.

TASK IV Evaluate the adequacy of the control techniques in implementing the system's control objectives. Document any material internal control weaknesses.

TASK V Complete a final risk ranking of the systems based on any additional insights gained from the transaction flow review and analysis segment, and select systems for compliance testing based on the revised risk ranking.

TASK I - SYSTEM INFORMATION FLOWS

The purpose of determining and documenting how transaction information flows through a system is to develop a thorough understanding of how a system captures, records, processes, and reports transaction information. The documentation of data flows through a system is the basic method for identifying the system's control techniques.

For each of its systems, the agency should routinely maintain current documentation that describes in detail system operations and data flows. This kind of documentation is needed to facilitate and support

--designing, implementing, and testing needed system modifications and upgrades;
--training new staff in system operations; and
--performing internal control evaluations required by the Federal Managers' Financial Integrity Act.

The audit staff should expect the agency to have available much of the documentation needed to support the GAO system data flow analysis. Many federal agencies, however, do not emphasize the need for maintaining current, complete, and comprehensive system documentation. Still, some documentation should be available to support the Financial Integrity Act requirements. The audit staff should consider the following sources of information available in the agency:

--working papers generated in completing the vulnerability assessments and internal control reviews required under the Federal Managers' Financial Integrity Act and OMB Circular A-123,
--system users manuals,
--system documentation maintained by the computer system analysts,
--computer center system instructions for computer operators, and
--discussions with system users and cognizant computer system analysts.

Detailed work steps

1. Obtain or prepare for each system a detailed written description of what the system is supposed to do and how

it is designed to operate. This written description should include a detailed discussion of all manual or automated edit and validation checks of the input data.

2. Obtain data record layouts for all inputs, machine-media records, and outputs--both hard-copy reports and machine-media files.

3. Identify all recipients of system outputs including hard-copy reports and machine-media files. Recipients of system outputs include agency personnel for hard-copy reports and other agency systems for machine-media files.

4. For each of the agency's systems selected for review, complete the following checklist, questionnaires, and profile, if applicable, in appendix VI:

Checklist 3	- Background Information on Computer Application (appendix VI-TFRA 1)
Questionnaire 10	- Data Origination Controls (appendix VI-TFRA 2)
Questionnaire 11	- Data Input Controls (appendix VI-TFRA 3)
Questionnaire 12	- Data Processing Controls (appendix VI-TFRA 4)
Questionnaire 13	- Data Output Controls (appendix VI-TFRA 5)

5. Flowchart how information is processed and reported into and out of the selected systems to include both hard-copy reports and machine media files. Three flow-charts are to be prepared.

   --A flowchart for each system reviewed depicting the data flows through the sytem. (See appendix VI-TFRA 7 for an example.)

   --A flowchart depicting information flows between the systems. (See appendix VI-TFRA 8 for an example.)

   --Detailed flowcharts identifying control techniques (See appendix VI-TFRA 9 for an example.)

6. Obtain or prepare a detailed written description of how each system uses the ADP resources in the computer center--computer terminals, magnetic tape drives, magnetic disk packs, card reader/punches, printers, and computer central processing units.

7. Prepare a written summary (see appendix VI-TFRA 10) for each system that includes the following sections:

--purpose of the system;

--discussion of how the system uses available computer resources;

--description of system control techniques, inputs, files, processing steps, outputs, computer equipment used, and identification of the computer center;

--edits and validation checks of input data;

--the flowchart developed in step 5, and

--complete list of users of system hard-copy reports.

TASK II - USEFULNESS OF SYSTEM OUTPUTS

This part of the transaction flow review and analysis segment focuses on determining whether or not the selected systems produce reliable and useful information from the users' perspective. It is important to note that determination of reliability and usefulness of reports relates to the basic goal of the audit--determination of the accounting systems' effectiveness in support of the financial mangement function. This specific task, however, is limited to determining users' perceptions. To assess users' beliefs as to the reliability and usefulness of the information produced by an accounting system, GAO has developed a "User Satisfaction Questionnaire." (See appendix VI-TFRA 11.)

Detailed work steps

1. Obtain a completed "User Satisfaction Questionnaire" from users of reports generated by the systems selected for review.
2. For each system, summarize the responses to the questionnaire and develop an overall conclusion, based on this summarization, as to users' perceptions of the reliability and usefulness of the reports and information.

TASK III - CONTROL TECHNIQUES IN EACH SYSTEM

Part of the work called for in the general risk analysis segment involved developing internal control objectives for the selected accounting systems. In completing task I of the transaction flow review and analysis segment, work steps 1 through 7 (systems information flows), the audit staff documented the systems operations in detail. The work called for in the following part of the segment requires the audit staff to match identified control objectives to control techniques. For example;

Control objective	Control technique
Paychecks should be issued to entitled persons only.	Comparison of personnel and payroll files prior to computing and issuing a paycheck.

Grants should only be awarded for purposes authorized by statute.	Management panel review of proposed grant awards before they are issued to grantees.

Detailed work steps

1. For each system selected for review, prepare a work-paper schedule (see appendix VI-TFRA 13 for a sample format) showing
   --control objectives (based on the information developed in the general risk analysis segment), and
   --control techniques (based on the information developed in task I).
2. Compare the internal control techniques in the schedule with any techniques identified by the agency in its Financial Integrity Act work.
3. Adjust the schedule to show any additional techniques identified by the work step 2 comparison.

TASK IV - EVALUATE EFFECTIVENESS OF CONTROL TECHNIQUES IN MEETING CONTROL OBJECTIVES

Based on the information developed and scheduled, the audit staff must (1) evaluate the adequacy of the internal control techniques in meeting the internal control objectives, and (2) identify internal control strengths and weaknesses of each system. To accomplish this, consider

--internal control strengths and weaknesses identified in the general risk analysis segment,

--the general controls over computer operations, identified in the general risk analysis segment,

--the responses to the "User Satisfaction Questionnaire,"

--the control techniques identified in task I and scheduled in task III.

This will be a very time-consuming task, and the auditor must use judgment in identifying material internal control strengths and weaknesses. Internal control techniques should provide reasonable assurance that the control objectives of the systems will be achieved. The costs/benefits of controls are often subjective and likely to require cost estimates of factors such as additional personnel and ADP measures. The auditor should also consider whether a savings could be achieved by eliminating an existing ineffective control.

Detailed work step

Annotate the schedule prepared in task III with material internal controls strengths and weaknesses.

TASK V - FINAL RISK RANKING AND SELECTION OF THE SYSTEMS FOR COMPLIANCE TESTS

The initial risk ranking of the agency's systems completed in the general risk analysis segment should be revised based on any additional insight gained in this segment which affects any of the 12 risk factors. Each system should be evaluated in terms of the 12 risk factors and rated as having high, medium, or low risk for each factor. Each system should be given a revised composite reliability (risk) score based on the individual scores for the risk factors. This revised rating will be one of the key factors in selecting systems for the compliance tests and analysis segment.

Detailed work steps

1. Based on the guidance in section 5, Risk Ranking of Systems, reevaluate the assigned risk rating of low, medium, and high for each of the risk ranking factors for each system reviewed.
2. Compute a revised composite reliability score for each system reviewed based on the risk ratings assigned for each system and the weighting system discussed in section 5.

3. Prepare a workpaper schedule of the revised risk rankings and composite reliability score assigned each system reviewed. (See appendix VI-TFRA 14 for an example of this workpaper schedule.)
4. Prepare a schedule of the systems in descending order of their revised composite reliability scores. These systems should be grouped into three categories: high, medium, and low risk.
5. Update the financial management profile of the agency. (See appendix VI-TFRA 15 for the format of the financial management profile.)
6. Based on the revised risk rankings of the systems reviewed in the transaction flow review and analysis segment, select systems for the next phase, compliance tests and analysis.

KEY POINTS:

--The transaction flow review and analysis segment documents the information flows, evaluates the systems' controls, and revises risk rankings of the systems reviewed.

--Evaluation of system controls is highly subjective and time-consuming.

--Risk ranking of systems is a method to quantify the degree of risk based on specific factors.

--Selection of systems for compliance testing is based on the revised risk ranking.

SECTION 7

COMPLIANCE TESTS AND ANALYSIS SEGMENT

Compliance tests and analysis is used to determine whether valid transactions are processed in accordance with the system design and whether the system reacts appropriately to invalid or improper transactions. These determinations, along with those made during the transaction flow and analysis work, will be the basis for the auditors' conclusions as to whether a system, as it operates, meets its internal control objectives, identified earlier in the review.

A basic concept of this methodology is that the compliance testing covers the full life cycle of the transaction. This would include, for example, initiation of a transaction, its processing through the system, and its ultimate posting to the accounts or inclusion in output reports. This life cycle will often involve both manual and automated procedures and controls.

Compliance tests can be extremely complex and time-consuming depending on how many types of transactions are processed, the number of conditions to be tested, and the complexity of the application. Compliance tests and analysis only identify inoperative procedures and controls; they do not evaluate production data for the actual effect. This is done, if believed necessary, in the succeeding segment--substantive tests and analysis.

Recall that general controls--controls that are common to all systems--were evaluated earlier. Compliance tests and analysis, which focus on procedures and controls in specific applications (systems), build upon the assessments made during the preceding segments. By including each type of transaction and by testing for both valid and invalid or improper transactions, the auditor ensures that the scope of the work covers all applicable procedures and controls.

The auditor, however, will need to exercise judgment to ensure that reasonable balance is obtained between the need for coverage of all types of transactions and the increased audit cost of more inclusive testing. To the extent that compliance testing involves fully automated processing of transactions, only one valid transaction of each type needs testing to ensure that valid transactions process properly because all such transactions will be processed identically by the system. Where manual procedures are involved, a risk occurs that even transactions of the same type may be processed differently, requiring testing of more than one transaction of each type.

PREPARING A TEST PLAN

A detailed plan should be developed for compliance testing. The plan should include:

--a description of test objectives, scope of testing, and impact on normal operations;

--a list of transaction types;

--a list of error conditions to be tested;

--input procedures to be tested and the input media to be used; and

--master files to be created and used.

The plan serves also as a frame of reference for arranging with agency personnel for needed data processing and related services, such as data entry.

TESTING TRANSACTIONS IN MANUAL PROCESSES

For a manual system or for any manual part of an automated system, the auditor should first "walk actual transactions through" the manual processes. This involves interviewing the individuals who handle the transactions, observing the procedures followed, and examining applicable records. Through this exercise, the auditor should systematically verify that the required manual control techniques, as determined in the preceding segment, are actually being utilized on a consistent basis. In certain high-risk situations, such as in payroll or other disbursement operations, the auditor should also consider preparing "dummy" transactions and submitting them through normal channels without prior knowledge of the personnel who pro-

cess the transactions. Such transactions could be devised to include improper authorizing signatures and other improper or incomplete data. If such testing is deemed advisable, the GAO Office of the General Counsel and top-level management of the agency under review should be consulted, particularly in tests which may result in erroneous payments being generated.

DESIGN OF TEST TRANSACTIONS FOR AUTOMATED SYSTEMS

Testing of transactions in an automated system will normally require use of specially devised test transactions based on information obtained in the previous segments.
The auditor will have identified in the preceding segment the control techniques--including edits and other automated controls--for meeting the internal control objectives. Also, the auditor will have become knowledgeable in system operating procedures and input/output formats and media from studying the flowcharts, operating instructions, and other documentation acquired earlier. The auditor must now use this knowledge to develop transactions that will test the system's ability to process valid data accurately and reject invalid data consistently.

Test data can be prepared in a number of ways. One way is to create both master records and transactions from manual source documents. This approach can be modified by copying existing master records onto a test master and then preparing the desired test transactions. This modified approach precludes the need to create new master records for use in testing. Manually prepared test data has several advantages. For example, functions can be tested with known variables, test results can be easily predetermined since only one test transaction is processed against each master record, and test volumes can be kept to manageable levels. This approach requires, however, a considerable time investment and introduces the likelihood of human error in preparing test data.

Another approach to the preparation of test data is to use selected "live" transactions as test data. This approach is less time-consuming but, even though there may be a large universe of transactions to pick from, transactions to test specific computer or logic routines may not be available. This is especially true for testing invalid conditions because most live transactions will include only valid data.

The auditor should not overlook using test data developed by agency operating personnel. These test transactions, often used for "debugging" programs during the development of computer systems, may fulfill the auditor's objectives,

requiring only minor alteration. Before using the agency's test data, however, the auditor should determine whether it includes samples for all conditions which should be tested, including those involving invalid or improper data. If it does not, the auditor should add transactions designed to test those conditions.

An auditor may devise tests causing invalid data to be rejected or "flagged" in several ways.

--Entering alphabetic characters when numeric characters are expected, and vice versa.

--Using invalid account or identification numbers.

--Using incomplete or extraneous data in a specific data field, or omitting the field entirely.

--Entering illogical conditions in data fields which logically should be related.

--Entering a transaction code or amount that does not match the code or amount established by operating procedures or controlling tables. For example, if the valid codes for employee status in a payroll system are a, b, and c, the code to be entered would be something other than a, b, or c. Another example is entering a salary amount which is incompatible with a controlling salary table.

--Entering transactions or conditions that will violate limits established by law or by standard operating procedures. An example, in a payroll system, is the entry of x+2 dollars as an employee's gross pay when x dollars is the maximum gross pay allowed by law for the highest grade.

Before processing test data transactions through the computer, the auditor must predetermine the correct results for subsequent comparison with actual results.

PROCESSING TEST TRANSACTIONS THROUGH AN AUTOMATED SYSTEM

Several approaches are available to test computer programs which update records. Some approaches will be suitable for batch processing, while others will be more practical for on-line or interactive processing. If the auditors do not possess the required ADP expertise, they should have an ADP specialist assigned to work with them. In any case, cooperation of the system's users and ADP personnel is essential to the expedient and successful completion of this segment of the review. Arrangements must be made for access to user data. Computer time must be scheduled for creation of test files and processing test transactions. It may also be practical to use microcomputers in certain situations.

Following are some alternative approaches to testing:

--In a batch-processing system, files against which test transactions will be processed can be set up with copies of actual records, with fictitious records created by the auditor, or with a combination of both actual and fictitious records.

--Using another approach, special audit records, kept in the agency's current file, are used. This method would be appropriate in either batch or on-line environments.

--A possible third approach, which uses agency records, is to process test transactions against actual records in the agency's current file. In this approach, the auditor merges test data with the "live" transactions and processes them against actual records during a regular processing run.

Although situations may exist where the third approach is the only test method available, the auditor must be aware that its use presents complications. Test transactions processed against actual records must be carefully controlled to prevent undesired changes or results, and test data used to update actual records must later be reversed. This method entails substantial risk of inadvertent changes and distortions in agency records and reports.

--Another approach, which should not be overlooked, is the possibility of working around the computer to achieve all or part of the test objectives. Using this technique, the auditor compares the actual data entered into the system during normal operations with actual results as shown by edit listings and output reports.

Using copies and/or fictitious records to set up a separate test file

In the batch processing approach described above, the auditor must have a part of the agency's file copied to create a test file. From a printout of this file, the auditor selects records suitable for the test. The auditor then updates the test file with both valid and invalid data, using the agency's programs to process the test transactions.

In some situations, it may be desirable to create fictitious records by preparing source documents and processing them with the computer program(s) the agency uses to add new records to its file. Procedures for testing these records are the same as those for copied records.

An advantage of using fictitious records is that they can be tailored for particular conditions and they eliminate the need to locate and copy suitable agency records. This advantage is usually offset, however, when many records are needed because their creation can be complex and time-consuming when

compared to the relatively simple procedure of copying a part of the agency's file.

Often, the most practical approach is to use a test file which is a combination of actual and fictitious records. In this approach, copied records are used whenever possible and fictitious records are used when necessary to test conditions not found in the copied records.

By using either copied or fictitious records or a combination of both in a separate test run, the auditor avoids the complications and dangers of running test data in a regular processing run against an agency's current file. After test data has been prepared, a special "run" of the computer program or application should be scheduled. If the auditor plans to test processing flow as well, data conversion and data entry must also be scheduled. Test data should be processed against the latest production version of computer programs. All test transactions and test files must be segregated from regular production processing so that test data is not accidentally introduced into the live production system. To ensure integrity of the testing, the auditor should observe the entire test data processing operation--from conversion of source documents to the creation of output reports and files. Disadvantages of making a separate test run are that computer programs must be loaded and equipment set up and operated for audit purposes only, thus involving additional cost.

Using special audit records maintained in the current agency file

Special test records are often kept by agencies in their current file for their own testing purposes. Using this approach, the auditor includes test data with "live" transactions. The test data then update the files' special records during a regular processing cycle. The special test records are easy to identify because they are given references which show they are fictitious. For example, the records may contain references to nonexistent cost centers. During normal processing, these records remain inactive because "live" activity does not affect fictitious cost centers.

This approach makes it unnecessary to load programs and perform other setup work solely to process test data. Since a system can be tested under normal operating conditions, test transactions can be processed faster and at less cost than when the auditor uses copied or fictitious records in a separate test run.

The auditor should recognize, however, that processing test transactions concurrently with "live" transactions may inadvertently change or distort the agency's records. Also, data processing personnel conceivably could activate these records (for example, by changing fictitious cost centers or employees to real ones). This approach may also necessitate

clerical adjustments to correct the reports for the presence of test data. Finally, data owners may object to having these audit records "clutter" their file. The auditor must weigh the risk of using actual records or special audit records in the current file against the cost of having additional runs of computer programs being tested. Processing test data concurrently with "live" data to update current records must be approached with great care. When test transactions are to be processed, the use of copied and/or fictitious records in a separate test file is preferred whenever possible.

ANALYZING COMPLIANCE TESTS

The results of the compliance test are compared against the predetermined results. A difference between actual and predetermined results should be thoroughly analyzed to determine the cause and the corrective action needed. When differences occur between actual and predetermined results, indicating control weaknesses, the auditor should document these findings and determine whether manual or automated compensating controls exist. If compensating controls do not exist, the auditor should assess the effect of the control weakness on the accuracy and reliability of computer-produced data. Even if an alternate manual control compensates for a control weakness, the auditor should consider recommending

replacement of the manual control with an automated control. Generally, automating a manual operation will increase processing speed, avoid some personnel costs, and reduce human errors. However, controls should always be cost-effective.

COST BENEFIT CONSIDERATIONS

Internal controls are expected to provide reasonable assurance that the control objectives for a given system will be achieved. The standard of reasonable assurance recognizes that the cost of a control technique should not exceed the benefit to be derived. Placing a dollar value on some benefits, such as more accurate reporting, will often be highly subjective. Where sufficient testing has been done, however, the auditors may have convincing evidence that additional controls would reduce losses or otherwise provide measurable benefits. Cost determinations are likely to require estimates of such factors as additional personnel and ADP costs. In evaluating costs, consideration should also be given to whether a savings could be achieved by eliminating an existing ineffective control.

Persuasive evidence in proposing new cost-beneficial controls will improve the chances for accepting the auditor's recommendations and reduce the need for substantive testing.

Detailed work steps

In order to carry out some of the following ADP related work steps, it will be necessary for the auditor to obtain appropriate cooperation and assistance from agency ADP staff and system users. In a batch processing environment, arrangements will be needed for obtaining copies of master files, creating the desired job streams, scheduling needed computer time, and listing output products. In an on-line environment, the auditor will need to become familiar with terminal access and data-entry conventions or obtain assistance from ADP specialists.

The audit staff should complete the following work steps for each system selected for testing:

1. Based on the analysis of the system's procedures and controls made in earlier segments of the review, determine the types of transactions and conditions to be tested.
2. For any manual aspects of transaction processing, determine compliance with the applicable procedures and control techniques that were previously identified in TFRA task III, work step 1. Walk actual transactions through the manual portions of the system.

3. Determine the types of records to be included in the testing, based on the data flows for each system identified in TFRA Task I, work steps 1 through 7.
4. Obtain copies of master records and/or prepare fictitious records for processing with the test transactions.
5. Using a printout of the records, predetermine the end result for each test transaction for comparison with actual processing results. Appendix VI-CTA-1 presents an example of tests and predetermined test results for a federal civilian payroll system.
6. In batch-processing systems, verify that the programs used for processing the test transactions are the same as those used for normal system processing.
7. Ascertain that any changes to programs during the review have been documented and that the changes have been tested and approved by the agency.
8. Print the after-test contents of all agency records and compare with the predetermined results (see step 5) to ascertain whether the programs performed as expected.
9. Summarize and evaluate the impact of any instances of noncompliance with prescribed procedures and controls; develop recommendations for needed corrective actions, with due regard to cost-benefit considerations.

10. Discuss results of compliance tests with appropriate agency officials and ascertain their willingness to take corrective actions.

11. Based on results of step 10, determine the nature of formal reporting and decide whether substantive testing is warranted.

KEY POINTS:

--Compliance testing consists of limited tests that cover the full range of manual and automated transactions, including both valid and invalid conditions, to evaluate whether internal control techniques operate as intended to meet internal control objectives.

--Several methods are available for processing test transactions through an automated system. Consideration of the environment--batch or on-line--and potential risks--such as the destruction of agency files--will influence which method to use.

--During compliance testing, results are predetermined for comparison to actual results. The results are thoroughly analyzed and cost-effective recommendations are made whenever applicable.

SECTION 8

SUBSTANTIVE TESTS AND ANALYSIS SEGMENT

The objectives of substantive tests and analysis are to (1) determine the extent to which the potential erroneous transactions disclosed through compliance testing may have occurred and (2) estimate the effect of the erroneous transactions, which can normally be measured in dollar amounts.

As discussed in the previous section, if the audit staff believes the agency will take corrective action based on the results of the compliance tests, substantive testing may not be necessary even though compliance tests disclose that agency systems fail to meet established control objectives in material respects. On the other hand, substantive tests should be performed if the audit staff believes that the agency will not take corrective action based on the results of the compliance tests, or possibly if fraud or abuse is suspected. In the latter case, the auditor must determine whether sufficient evidence exists for referral to the agency inspector general and other appropriate authorities. Chapter 2 of GAO's General Policy Manual contains policy and guidance on such referrals. Substantive testing focuses on specific inoperative controls previously identified and measures the extent of the problem caused by the system's faulure to meet established internal control objectives. This involves selecting and testing actual

transactions and records. The auditor develops a plan specifically tailored to documenting the adverse effects.

In a payroll system, for example, the results of the transaction flow review and analysis segment could show that the system (1) retains payroll records for separated employees on the active payroll file until annual W-2 Forms are prepared, (2) accepts payroll transactions to be posted to separated employees' payroll records after separation, and (3) issues paychecks to all employees with active records on the payroll file unless time and attendance records are processed showing that employees were on leave without pay. In this case, the results of the compliance tests and analysis segment could show that payroll transactions might be routinely processed to activate separated employees' payroll records, issue paychecks to the separated employees, and deactivate the separated employees' payroll records. Substantive tests, in this case, could be designed to compare the amount of pay that these employees should have received up to their separation date with the total paid according to the current payroll record.

Control weaknesses disclosed by compliance tests show the potential for errors or problems. The auditor can determine the extent or significance of these potential errors by using computerized data retrieval and analysis routines. Computerized data retrieval and analysis is performed with general audit software packages. These packages use very powerful and

flexibile programming languages. They permit an auditor to read, manipulate, and sort data, as well as print reports. The retrieval program can be easily coded on preprinted parameter forms and debugged much more quickly than would be the case using common programming languages such as COBOL or BASIC.

GAO currently uses two such data retrieval and analysis packages. They are DYL-280 and DYL-AUDIT. Both were developed by DYLAKOR Software Systems, Inc., Granada Hills, California. DYL-280 is an easy to use extended utility, data management system with flexible report writing capabilities. DYL-AUDIT is an audit package that provides a wide range of functions, such as sampling, aging analysis, frequency distribution reporting, and confirmation-letter writing. Both packages are ideal for auditing computerized data in GAO's environment, where quick response and one-time analysis and reporting are normal.

TYPES OF AUDIT FUNCTIONS PERFORMED

Many audit functions can be performed through use of computerized data retrieval and analysis. Those functions most frequently used in GAO audits are discussed below.

Reading and evaluating data

DYL-280 can read just about any form of computer data (cards, tapes, disks, etc.), and just about any file organization (sequential, random, undefined, etc.). Hundreds of records can be read quickly and efficiently in a fraction of the time it would take to read the same number of records manually. On the basis of various auditor-selected criteria, records can be searched for errors and identified for detailed evaluation. These errors can then be traced back into the computer system to identify specific problems.

Selecting sample

A useful tool in substantive testing is statistical sampling which may be utilized to project the total adverse effect of the whole universe based on a representative smaller sample. Statistical sampling guidance for GAO staff is included in chapter 11 of the GAO Project Manual.

DYL-280 and DYL-AUDIT can both be used to select statistically valid samples if the data is in computerized format or if the report being used came from a computerized data base. Several different types of sampling techniques have been developed in-house for use with DYL 280. These techniques are described in detail in GAO's CAATS Manual. DYLAKOR has

also developed many sampling techniques for the DYL-AUDIT package. These techniques are described in detail in a separate DYL-AUDIT Reference Manual.

Performing calculations

Calculations can be performed quickly and efficiently using DYL-280. A full range of mathematical operations are available with the package. Any number of calculations can be performed in a matter of seconds. These calculations can be performed in any combination or sequence. They can be used to recompute and verify amounts computed by applications programs.

Matching data

DYL-280 can be used to match data included in several different data bases. DYL-280 has an automatic update feature that matches two different data bases and identifies records that match or mismatch. DYL-280 also permits the auditor to write code that matches up to a total of eight different data bases. These techniques permit the auditor to compare or verify agency data with those from outside sources and to verify the accuracy of interfaces between different data bases to make sure that data were exchanged correctly. The auditor can also use these techniques to match or compare object codes in computer programs.

Summarizing data

DYL-280 can be easily used to summarize or aggregate data in a variety of ways. Through use of control breaks, data can be totaled at different levels.

Aging data

DYL-AUDIT has an automatic aging analysis function. Up to 9 different aging analyses can be performed with 10 different date ranges or groups (i.e., 1 to 30 days, 31 to 60 days, etc.). Reports, either summary or detail, can be produced automatically by DYL-AUDIT.

Sorting data

DYL-280 has a function which sorts records in any sequence desired. This function can be imbedded in any DYL-280 application. This technique permits sorting to be included along with other processing and precludes the need for an intermediate sort application. Sorting permits the auditor to rearrange the sequence of data to meet audit needs.

Frequency distribution reporting

DYL-AUDIT has an automatic frequency distribution reporting function that permits the auditor to arrange numerical data in graduated categories, or groupings, called intervals. The auditor can specify up to 147 simple arithmetic or logarithmic intervals. DYL-AUDIT automatically accumulates totals for each interval and provides statistically important values, including mean and standard deviation, in either a table or a graphic format.

Writing reports or letters.

DYL-280 has a full range of report-writing capabilities. An automatic feature is available that permits quick and easy report composition. In addition, the auditor can also prepare detailed reports using DYL-280's extended report-writing capabilities. DYL-AUDIT contains a letter-writing function which produces form letters that can have variable information, such as names, addresses, dates, and amounts, inserted into the body of the letter. This letter-writing function is of particular value when preparing confirmation letters.

PROCESSING A DATA RETRIEVAL AND ANALYSIS APPLICATION

Normally, the auditor does not have to arrange for a separate run of DYL-280 or DYL-AUDIT software. In a normal multiprogramming environment, the auditor should be able to run both DYL-280 and DYL-AUDIT with other programs, provided adequate computer resources are available. Steps followed in processing an application include the following:

- --Process data retrieval programs on the computer (observe and control processing of the data retrieval application if possible).
- --Review processing results for reasonableness and accuracy.
- --Update documentation to reflect actual processing (flowcharts should be annotated with actual job names, data set names and volume serial numbers, input/output counts, and output product titles).
- --Obtain technical review of documentation and output products and document supervisor acceptance.

EVALUATING DATA RETRIEVAL AND ANALYSIS RESULTS

On completion of data retrieval processing and technical review, the auditor should analyze in detail the results of

each data retrieval application. Each potentially erroneous condition should be traced back to the point or origin so that cause and effect can be identified. The total number or amount of errors can be determined by reprocessing corrected data. This is done by using either data retrieval programs prepared by the auditor or agency programs processed under the auditor's control.

Detailed work steps

Before the following work steps can be executed, the auditor may need to make arrangements with agency ADP personnel and system users to obtain necessary computer resources and back-up files.

The audit staff should perform the following work steps for each agency system selected for substantive testing:

1. Design and carry out substantive tests to document and measure the extent of adverse impact on agency operations that occurs because of the previously identified inoperative internal controls. The selection of transactions for testing should be statistically sound to permit valid estiates of the actual impact.
2. Summarize and evaluate test results.
3. Develop findings and recommendations for discussion with agency management and for formal reporting.

KEY POINTS:

--During substantive testing, actual transactions and records are selected and tested to document and measure the extent of adverse impact on agency operations due to previously identified inoperative internal controls.

--In testing automated systems, GAO uses computerized data retrieval packages, such as DYL280, to assist the auditor.

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CARE-Audit Methodology

To Review And Evaluate Agency Accounting And Financial Management Systems

APPENDIXES

GAO
United States General Accounting Office

APPENDIX I

Office of Management and Budget (OMB) Circular A-123 (Revised)

APPENDIX I

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

AUG 16 1983

CIRCULAR No. A-123
Revised

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

SUBJECT: Internal Control Systems

1. Purpose. This Circular prescribes policies and standards to be followed by executive departments and agencies in establishing, maintaining, evaluating, improving, and reporting on internal controls in their program and administrative activities.

2. Rescission. This revision replaces Circular No. A-123, "Internal Control Systems," dated October 28, 1981.

3. Background. The Accounting and Auditing Act of 1950 requires the head of each department and agency to establish and maintain adequate systems of internal control. Office of Management and Budget (OMB) Circular A-123, issued in October 1981, promulgated internal control standards and a system of agency responsibilities and requirements to address the numerous instances of fraud, waste, and abuse of Government resources and mismanagement of Government programs resulting from weaknesses in internal controls or breakdowns in compliance with internal controls.

The Federal Managers' Financial Integrity Act, P.L. 97-255, (hereafter referred to as the Act), amended the Accounting and Auditing Act of 1950. The Act's requirements and objectives are basically the same as the original Circular's, except that the internal accounting and administrative control standards are to be prescribed by the Comptroller General; annual evaluations are to be conducted by each executive agency of its system of internal accounting and administrative control, in accordance with guidelines established for such evaluations by the Director of the Office of Management and Budget; and an annual statement is to be submitted by the head of each executive agency to the President and the Congress on the status of the agency's system of internal control. The guidelines, entitled "Guidelines for the Evaluation and Improvement of and Reporting on Internal Control Systems in the Federal Government" were issued in December 1982.

In addition to the requirements of the Act, 31 U.S.C. 1514 requires that agency systems for the control of funds be approved by the Director of OMB. These requirements are prescribed by Circular A-34, "Budget Execution."

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4. Policy. Agencies shall maintain effective systems of accounting and administrative control. All levels of management shall involve themselves in assuring the adequacy of controls. New programs shall incorporate effective systems of internal control. All systems shall be evaluated on an ongoing basis, and weaknesses, when detected, shall be promptly corrected. Reports shall be issued, as required, on internal control activities and the results of evaluations.

5. Definitions. For the purpose of this Circular, the following terms are defined:

a. Agency -- any department or independent establishment in the executive branch.

b. Agency Component -- a major organization, program or functional subdivision of an agency having one or more separate systems of internal control.

c. Control Objective -- a desired goal or condition for a specific event cycle that reflects the application of the overall objectives of internal control to that specific cycle. /1

d. Internal Control -- the plan of organization and methods and procedures adopted by management to provide reasonable assurance that obligations and costs are in compliance with applicable law; funds, property, and other assets are safeguarded against waste, loss, unauthorized use, or misappropriation; and revenues and expenditures applicable to agency operations are properly recorded and accounted for to permit the preparation of accounts and reliable financial and statistical reports and to maintain accountability over the assets.

/1 Control objectives are not absolutes. Since the achievement of control objectives can be and is affected by such factors as budget constraints, statutory and regulatory restrictions, staff limitations, and cost-benefit considerations, the lack of achievement of control objectives does not necessarily represent a defect or deficiency in internal control requiring correction. Such limiting factors need to be considered in determining whether there is reasonable assurance the control objectives are being achieved.

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e. Internal Control Documentation -- written policies, organization charts, procedural write-ups, manuals, memoranda, flow charts, decision tables, completed questionnaires, software, and related written materials used to describe the internal control methods and measures, to communicate responsibilities and authorities for operating such methods and measures, and to serve as a reference for persons reviewing the internal controls and their functioning.

f. Internal Control Guidelines -- the guidelines issued by OMB in December 1982, entitled "Guidelines for the Evaluation and Improvement of and Reporting on Internal Control Systems in the Federal Government".

g. Internal Control Review -- a detailed examination of a system of internal control to determine whether adequate control measures exist and are implemented to prevent or detect the occurrence of potential risks in a cost effective manner.

h. Internal Control Standards -- the standards issued by the Comptroller General on June 1, 1983, for use in establishing and maintaining systems of internal control. These are applicable to all operations and administrative functions but are not intended to limit or interfere with duly granted authority related to development of legislation, rulemaking, or other discretionary policymaking in an agency.

i. Internal Control System -- the sum of the organization's methods and measures used to achieve the objectives of internal control.

j. Internal Control Technique -- processes and documents that are being relied on to efficiently and effectively accomplish an internal control objective and thus help safeguard an activity from waste, loss, unauthorized use, or misappropriation.

k. Material Weakness -- a situation in which the designed procedures or degree of operational compliance therewith does not provide reasonable assurance that the objectives of internal control specified in the Act are being accomplished.

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1. Vulnerability Assessment -- a review of the susceptibility of a program or function to waste, loss, unauthorized use, or misappropriation.

6. Responsibility. The head of each agency is responsible for ensuring that the design, installation, evaluation, and improvement of internal controls, and issuance of reports on the agency's internal control systems are in accordance with the requirements of the Act and the guidance contained in the Internal Control Guidelines. Designated internal control officials and heads of organizational units within agencies have responsibilities for ensuring the performance of necessary internal control evaluations and providing assurances to the agency head. These responsibilities are described in paragraphs 6b and c. The Inspector General, or equivalent in agencies without an Inspector General, has a limited responsibility in regard to internal controls, as explained in paragraph 6d.

a. Agency heads are responsible for establishing and maintaining the system of internal control within their agencies. This includes determining that the system is established in accordance with the standards prescribed by the Comptroller General and that it provides reasonable assurance that the objectives of internal control, as described in paragraph 7, are met. It also includes determining that the system is functioning as prescribed and is modified, as appropriate, for changes in conditions.

b. A designated senior official shall be responsible for coordinating the overall agency-wide effort of evaluating, improving and reporting on internal control systems in accordance with the Internal Control Guidelines. This responsibility includes providing assurance to the agency head that those processes were conducted in a thorough and conscientious manner.

c. Heads of organizational units are responsible for the system of internal control in their units. This responsibility includes providing to the agency head assurance that he or she is cognizant of the importance of internal controls; has performed the evaluation process in accordance with the Internal Control Guidelines and in a conscientious manner; and believes the objectives of internal control are being complied with in his or her area of responsibility within prescribed limits.

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d. The Inspector General (IG), or the senior audit official where there is no Inspector General, is encouraged to provide technical assistance in the agency effort to evaluate and improve internal controls. This would be in addition to the reviews of internal control documentation and systems, undertaken at the IG's initiative or at the request of the agency head, and the reports issued as a result of these reviews.

e. In addition, the IG may advise the agency head whether the agency's internal control evaluation process has been conducted in accordance with the Internal Control Guidelines. Performing the limited review required to provide such advice should not be interpreted to preclude the IG from providing technical assistance in the agency effort to evaluate and improve internal controls, or otherwise limit the authority of the IG. The extent of IG involvement in the agency's internal control evaluation, improvement and reporting process should be coordinated among the agency head, IG, and the designated internal control official.

7. Objectives of Internal Control. The objectives of internal control, as specified in the Act, are to provide management with reasonable assurance that:

a. Obligations and costs comply with applicable law.

b. Assets are safeguarded against waste, loss, unauthorized use, and misappropriation.

c. Revenues and expenditures applicable to agency operations are recorded and accounted for properly so that accounts and reliable financial and statistical reports may be prepared and accountability of the assets may be maintained.

The objectives of internal control apply to all program and administrative activities.

8. Internal Control Standards. An agency's or agency component's system of internal control shall be established and maintained in accordance with the standards prescribed by the Comptroller General as presented below. OMB commentary on selected standards is contained in the bracketed paragraphs.

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a. General Standards

1. Reasonable Assurance. Internal control systems are to provide reasonable assurance that the objectives of the systems will be accomplished.

[This standard recognizes that the cost of internal control should not exceed the benefits derived therefrom and that the benefits consist of reductions in the risks of failing to achieve the stated control objectives.]

2. Supportive Attitude. Managers and employees are to maintain and demonstrate a positive and supportive attitude toward internal controls at all times.

3. Competent Personnel. Managers and employees are to have personal and professional integrity and are to maintain a level of competence that allows them to accomplish their assigned duties, as well as understand the importance of developing and implementing good internal controls.

4. Control Objectives. Internal control objectives are to be identified or developed for each agency activity and are to be logical, applicable, and reasonably complete.

5. Control Techniques. Internal control techniques are to be effective and efficient in accomplishing their internal control objectives.

[Internal control techniques are to be designed for and operated in all agency programs and administrative activities in order to accomplish the control objectives consistently.]

b. Specific Standards

1. Documentation. Internal control systems and all transactions and other significant events are to be clearly documented, and the documentation is to be readily available for examination.

2. Recording of Transactions and Events. Transactions and other significant events are to be promptly recorded and properly classified.

3. Execution of Transactions and Events. Transactions and other significant events are to be authorized and executed only by persons acting within the scope of their authority.

[Independent evidence is to be maintained that authorizations are issued by persons acting within the scope of their authority and that the transactions conform with the terms of the authorizations.]

4. Separation of Duties. Key duties and responsibilities in authorizing, processing, recording, and reviewing transactions should be separated among individuals.

[Key duties such as authorizing, approving, and recording transactions, issuing or receiving assets, making payments, and reviewing or auditing are to be assigned to separate individuals to minimize the risk of loss to the government. Internal control depends largely on the reduced opportunities to make and conceal errors or to engage in or conceal irregularities. This, in turn depends on the assignment of work so that no one individual controls all phases of an activity or transaction, thereby creating a situation that permits errors or irregularities to go undetected.]

5. Supervision. Qualified and continuous supervision is to be provided to ensure that internal control objectives are achieved.

[Qualified and continuous supervision also is to ensure that approved procedures are followed. Lines of personal responsibility and accountability are to be clearly established.]

6. Access to and Accountability for Resources. Access to resources and records is to be limited to authorized individuals, and accountability for the custody and use of resources is to be assigned and maintained. Periodic comparison shall be made of the resources with the recorded accountability to determine whether the two agree. The frequency of the comparison shall be a function of the vulnerability of the asset.

c. Audit Resolution Standard

1. Prompt Resolution of Audit Findings. Managers are to (1) promptly evaluate findings and recommendations reported by auditors, (2) determine proper actions in response to audit findings and recommendations, and (3) complete, within established time frames, all actions that correct or otherwise resolve the matters brought to management's attention.

9. Requirements for Agency Internal Control Directive. Each agency shall update its internal control directive which will, at a minimum:

a. Establish specific responsibilities for seeing that agency internal control systems are developed (where they do not exist), maintained, evaluated, improved as necessary, and reported upon in accordance with the Internal Control Guidelines.

b. Provide for coordination among the designated internal control official, heads of organizational units, program managers, and technical staffs, including the Office of Inspector General or its equivalent in agencies without an Inspector General, in matters concerning internal control.

c. Assign responsibility for internal control to appropriate levels of management in each agency component and establish administrative procedures to enforce the intended functioning of internal controls. These procedures should require performance agreements for each Senior Executive Service and Merit Pay or equivalent employee with significant management responsibility to include fulfillment of assigned internal (i.e., management) control responsibilities; notations in performance appraisals for positive accomplishments related to internal controls; appropriate disciplinary action for violations of internal controls; and timely correction of internal control weaknesses, however identified.

d. Require each internal control system to meet the standards of internal control described in paragraph 8.

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e. Provide for an ongoing program of vulnerability assessments covering all agency components and assessable units. Assessments shall be accomplished as frequently as circumstances warrant. Agencies shall assure the evaluation of each assessable unit at least once every two years.

f. Provide for internal control reviews, audits, increased or improved monitoring procedures or other processes on an ongoing basis to determine whether the controls are operating as intended and are effective. These reviews or other actions should identify internal controls that need to be strengthened or streamlined. The timing of the reviews or other actions shall be determined based upon the results of the vulnerability assessments, management priorities, resource availability, and other management initiatives planned or underway.

10. Follow-up Actions. The recommendations resulting from vulnerability assessments and internal control reviews should be considered by management on a timely basis and appropriate corrective actions should be taken as promptly as possible. A formal follow-up system should be established that records and tracks recommendations and projected action dates, and monitors whether the changes are made as scheduled. The existing audit follow-up system maintained by the designated agency follow-up official could be used for this purpose.

11. Specific Internal Control Guides. Models and other guidelines for internal controls for specialized aspects of agency operations will be developed from time to time and issued separately to aid agencies in designing specific internal control systems.

12. Reporting. By December 31, 1983, and by each succeeding December 31, the head of each executive agency subject to P.L. 97-255 (31 U.S.C. 3512) shall submit a statement to the President and to the Congress stating whether the evaluation of internal controls was conducted in accordance with the Internal Control Guidelines, stating whether the agency's system of internal accounting and administrative control complies with the Comptroller General's standards and provides reasonable assurance

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that obligations and costs are in accordance with applicable law; funds, property, and other assets are safeguarded; and revenues and expenditures are properly recorded and permit the preparation of reliable financial and statistical reports; reporting the material weaknesses, if any, in the agency's system of internal control, however identified; and containing a plan for correcting any weaknesses. Procedures to be followed in preparing this report are contained in the Internal Control Guidelines.

Agencies are also required to submit information to OMB on the progress made in evaluating and improving internal controls as part of the Reform '88 Tracking System.

13. Effective Date. This Circular is effective on publication.

14. Inquiries. All questions or inquiries should be addressed to the Finance and Accounting Division, Office of Management and Budget, telephone number 202/395-3122.

15. Sunset Review Date. This Circular shall have an independent policy review to ascertain its effectiveness three years from the date of issuance.

David A. Stockman
Director

APPENDIX II

Federal Managers' Financial Integrity Act of 1982

APPENDIX II

FEDERAL MANAGERS' FINANCIAL INTEGRITY ACT OF 1982

Public Law 97-255
97th Congress

An Act

Sept 8, 1982
[H.R 1526]

To amend the Accounting and Auditing Act of 1950 to require ongoing evaluations and reports on the adequacy of the systems of internal accounting and administrative control of each executive agency, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Federal Managers' Financial Integrity Act of 1982.

SECTION 1. This Act may be cited as the "Federal Managers' Financial Integrity Act of 1982".

31 USC 65 note.

SEC. 2. Section 113 of the Accounting and Auditing Act of 1950 (31 U.S.C. 66a) is amended by adding at the end thereof the following new subsection:

Internal Accounting and administrative controls. Establishment.

"(d)(1)(A) To ensure compliance with the requirements of subsection (a)(3) of this section, internal accounting and administrative controls of each executive agency shall be established in accordance with standards prescribed by the Comptroller General, and shall provide reasonable assurances that—

"(i) obligations and costs are in compliance with applicable law;

"(ii) funds, property, and other assets are safeguarded against waste, loss, unauthorized use, or misappropriation; and

"(iii) revenues and expenditures applicable to agency operations are properly recorded and accounted for to permit the preparation of accounts and reliable financial and statistical reports and to maintain accountability over the assets.

"(B) The standards prescribed by the Comptroller General under this paragraph shall include standards to ensure the prompt resolution of all audit findings.

Evaluation guidelines.

"(2) By December 31, 1982, the Director of the Office of Management and Budget, in consultation with the Comptroller General, shall establish guidelines for the evaluation by agencies of their systems of internal accounting and administrative control to determine such systems' compliance with the requirements of paragraph (1) of this subsection. The Director, in consultation with the Comptroller General, may modify such guidelines from time to time as deemed necessary.

Modification.

Compliance. statement.

"(3) By December 31, 1983, and by December 31 of each succeeding year, the head of each executive agency shall, on the basis of an evaluation conducted in accordance with guidelines prescribed under paragraph (2) of this subsection, prepare a statement—

"(A) that the agency's systems of internal accounting and administrative control fully comply with the requirements of paragraph (1); or

"(B) that such systems do not fully comply with such requirements.

Report.

"(4) In the event that the head of an agency prepares a statement described in paragraph (3)(B), the head of such agency shall include with such statement a report in which any material weaknesses in the agency's systems of internal accounting and administrative

control are identified and the plans and schedule for correcting any such weakness are described.

"(5) The statements and reports required by this subsection shall be signed by the head of each executive agency and transmitted to the President and the Congress. Such statements and reports shall also be made available to the public, except that, in the case of any such statement or report containing information which is— Statements and reports, transmittal to President and Congress; availability to public.

"(A) specifically prohibited from disclosure by any provision of law; or

"(B) specifically required by Executive order to be kept secret in the interest of national defense or the conduct of foreign affairs,

such information shall be deleted prior to the report or statement being made available to the public.".

SEC. 3. Section 201 of the Budget and Accounting Act, 1921 (31 U.S.C. 11), is amended by adding at the end thereof the following new subsection:

"(k)(1) The President shall include in the supporting detail accompanying each Budget submitted on or after January 1, 1983, a separate statement, with respect to each department and establishment, of the amounts of appropriations requested by the President for the Office of Inspector General, if any, of each such establishment or department. Appropriations.

"(2) At the request of a committee of the Congress, additional information concerning the amount of appropriations originally requested by any office of Inspector General, shall be submitted to such committee.".

SEC. 4. Section 113(b) of the Accounting and Auditing Act of 1950 (31 U.S.C. 66a(b)), is amended by adding at the end thereof the following new sentence: "Each annual statement prepared pursuant to subsection (d) of this section shall include a separate report on whether the agency's accounting system conforms to the principles, standards, and related requirements prescribed by the Comptroller General under section 112 of this Act.". Agency's accounting system.

31 USC 66a.

Approved September 8, 1982.

LEGISLATIVE HISTORY—H.R. 1526 (S. 864):

HOUSE REPORT No. 97-38 (Comm. on Government Operations).
CONGRESSIONAL RECORD:
Vol. 127 (1981): May 18, considered and passed House.
Vol. 128 (1982): Aug. 4, considered and passed Senate, amended.
Aug. 19, House concurred in Senate amendment.

APPENDIX III

Standards For Internal Controls In The Federal Government
U.S. General Accounting Office - 1984

APPENDIX III

STANDARDS FOR

INTERNAL CONTROLS

IN THE FEDERAL GOVERNMENT

INTRODUCTION

This document contains the Comptroller General's internal control standards to be followed by executive agencies in establishing and maintaining systems of internal control as required by the Federal Managers' Financial Integrity Act of 1982 (31 U.S.C. 3512(b)). Internal control systems are to reasonably ensure that the following objectives are achieved:

--Obligations and costs comply with applicable law.

--All assets are safeguarded against waste, loss, unauthorized use, and misappropriation.

--Revenues and expenditures applicable to agency operations are recorded and accounted for properly so that accounts and reliable financial and statistical reports may be prepared and accountability of the assets may be maintained.

The act directs the heads of executive agencies to:

--Make an annual evaluation of their internal controls using guidelines established by the Office of Management and Budget.

--Provide annual reports to the President and Congress that state whether agency systems of internal control comply with the objectives of internal controls set forth in the act and with the standards prescribed by the Comptroller General. Where systems do not comply, agency reports must identify the weaknesses involved and describe the plans for corrective action.

The following concept of internal controls is useful in understanding and applying the internal control standards set forth and discussed on succeeding pages.

The plan of organization and methods and procedures adopted by management to ensure that resource use is consistent with laws, regulations, and policies; that resources are safeguarded against waste, loss, and misuse; and that reliable data are obtained, maintained, and fairly disclosed in reports.

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The ultimate responsibility for good internal controls rests with management. Internal controls should not be looked upon as separate, specialized systems within an agency. Rather, they should be recognized as an integral part of each system that management uses to regulate and guide its operations. In this sense, internal controls are management controls. Good internal controls are essential to achieving the proper conduct of Government business with full accountability for the resources made available. They also facilitate the achievement of management objectives by serving as checks and balances against undesired actions. In preventing negative consequences from occurring, internal controls help achieve the positive aims of program managers.

INTERNAL CONTROL STANDARDS

The internal control standards define the minimum level of quality acceptable for internal control systems in operation and constitute the criteria against which systems are to be evaluated. These internal control standards apply to all operations and administrative functions but are not intended to limit or interfere with duly granted authority related to development of legislation, rulemaking, or other discretionary policymaking in an agency.

GENERAL STANDARDS

1. Reasonable Assurance. Internal control systems are to provide reasonable assurance that the objectives of the systems will be accomplished.

2. Supportive Attitude. Managers and employees are to maintain and demonstrate a positive and supportive attitude toward internal controls at all times.

3. Competent Personnel. Managers and employees are to have personal and professional integrity and are to maintain a level of competence that allows them to accomplish their assigned duties, as well as understand the importance of developing and implementing good internal controls.

4. Control Objectives. Internal control objectives are to be identified or developed for each agency activity and are to be logical, applicable, and reasonably complete.

5. Control Techniques. Internal control techniques are to be effective and efficient in accomplishing their internal control objectives.

SPECIFIC STANDARDS

1. Documentation. Internal control systems and all transactions and other significant events are to be clearly documented, and the documentation is to be readily available for examination.

2. Recording of Transactions and Events. Transactions and other significant events are to be promptly recorded and properly classified.

   Execution of Transactions and Events. Transactions and other significant events are to be authorized and executed only by persons acting within the scope of their authority.

4. Separation of Duties. Key duties and responsibilities in authorizing, processing, recording, and reviewing transactions should be separated among individuals.

5. Supervision. Qualified and continuous supervision is to be provided to ensure that internal control objectives are achieved.

6. Access to and Accountability for Resources. Access to resources and records is to be limited to authorized individuals, and accountability for the custody and use of resources is to be assigned and maintained. Periodic comparison shall be made of the resources with the recorded accountability to determine whether the two agree. The frequency of the comparison shall be a function of the vulnerability of the asset.

AUDIT RESOLUTION STANDARD

Prompt Resolution of Audit Findings. Managers are to (1) promptly evaluate findings and recommendations reported by auditors, (2) determine proper actions in response to audit findings and recommendations, and (3) complete, within established time frames, all actions that correct or otherwise resolve the matters brought to management's attention.

EXPLANATION OF GENERAL STANDARDS

General internal control standards apply to all aspects of internal controls.

REASONABLE ASSURANCE

Internal control systems are to provide reasonable assurance that the objectives of the systems will be accomplished.

The standard of reasonable assurance recognizes that the cost of internal control should not exceed the benefit derived. Reasonable assurance equates to a satisfactory level of confidence under given considerations of costs, benefits, and risks. The required determinations call for judgment to be exercised.

In exercising that judgment, agencies should:

--Identify (1) risks inherent in agency operations, (2) criteria for determining low, medium, and high risks, and (3) acceptable levels of risk under varying circumstances.

--Assess risks both quantitatively and qualitatively.

Cost refers to the financial measure of resources consumed in accomplishing a specified purpose. Cost can also represent a lost opportunity, such as a delay in operations, a decline in service levels or productivity, or low employee morale. A benefit is measured by the degree to which the risk of failing to achieve a stated objective is reduced. Examples include increasing the probability of detecting fraud, waste, abuse, or error; preventing an improper activity; or enhancing regulatory compliance.

SUPPORTIVE ATTITUDE

Managers and employees are to maintain and demonstrate a positive and supportive attitude toward internal controls at all times.

This standard requires agency managers and employees to be attentive to internal control matters and to take steps to promote the effectiveness of the controls. Attitude affects the quality of

performance and, as a result, the quality of internal controls. A positive and supportive attitude is initiated and fostered by management and is ensured when internal controls are a consistently high management priority.

Attitude is not reflected in any one particular aspect of managers' actions but rather is fostered by managers' commitment to achieving strong controls through actions concerning agency organization, personnel practices, communication, protection and use of resources through systematic accountability, monitoring and systems of reporting, and general leadership. However, one important way for management to demonstrate its support for good internal controls is its emphasis on the value of internal auditing and its responsiveness to information developed through internal audits.

The organization of an agency provides its management with the overall framework for planning, directing, and controlling its operations. Good internal control requires clear lines of authority and responsibility; appropriate reporting relationships; and appropriate separation of authority.

In the final analysis, general leadership is critical to maintaining a positive and supportive attitude toward internal controls. Adequate supervision, training, and motivation of employees in the area of internal controls is important.

COMPETENT PERSONNEL

Managers and employees are to have personal and professional integrity and are to maintain a level of competence that allows them to accomplish their assigned duties, as well as understand the importance of developing and implementing good internal controls.

This standard requires managers and their staff to maintain and demonstrate (1) personal and professional integrity, (2) a level of skill necessary to help ensure effective performance, and (3) an understanding of internal controls sufficient to effectively discharge their responsibilities.

Many elements influence the integrity of managers and their staff. For example, personnel should periodically be reminded of their obligations under an operative code of conduct.

In addition, hiring and staffing decisions should include pertinent verification of education and experience and, once on the job, the individual should be given the necessary formal and on-the-job training. Managers who possess a good understanding of internal controls are vital to effective control systems.

Counseling and performance appraisals are also important. Overall performance appraisals should be based on an assessment of many critical factors, one of which should be the implementation and maintenance of effective internal controls.

CONTROL OBJECTIVES

Internal control objectives are to be identified or developed for each agency activity and are to be logical, applicable, and reasonably complete.

This standard requires that objectives be tailored to an agency's operations. All operations of an agency can generally be grouped into one or more categories called cycles. Cycles comprise all specific activities (such as identifying, classifying, recording, and reporting information) required to process a particular transaction or event. Cycles should be compatible with an agency's organization and division of responsibilities.

Cycles can be categorized in various ways. For example:

--Agency management.

--Financial.

--Program (operational).

--Administrative.

Agency management cycles cover the overall policy and planning, organization, data processing, and audit functions. Financial cycles cover the traditional control areas concerned with the flow of funds (revenues and expenditures), related assets, and financial information. Program (operational) cycles are those agency activities that relate to the mission(s) of the agency and which are peculiar to a specific agency. Administrative cycles are those agency activities providing support to the agency's primary mission, such as library services, mail processing and delivery, and

printing. The four types of cycles obviously interact, and controls over this interaction must be established. For example, a typical grant cycle would be concerned with eligibility and, if awarded, administration of the grant. At the time of award, the grant (program) and disbursement (financial) cycles would interface to control and record the payment authorization.

Complying with this standard calls for identifying the cycles of agency operations and analyzing each in detail to develop the cycle control objectives. These are the internal control goals or targets to be achieved in each cycle. The objectives should be tailored to fit the specific operations in each agency and be consistent with the overall objectives of internal controls as set forth in the Federal Managers' Financial Integrity Act.

In appendix B of its "Guidelines for the Evaluation and Improvement of and Reporting on Internal Control Systems in the Federal Government," OMB has provided a suggested list of agency cycles and cycle control objectives. Agencies should consider this and other sources when identifying their cycles and cycle control objectives.

CONTROL TECHNIQUES

Internal control techniques are to be effective and efficient in accomplishing their internal control objectives.

Internal control techniques are the mechanisms by which control objectives are achieved. Techniques include, but are not limited to, such things as specific policies, procedures, plans of organization (including separation of duties), and physical arrangements (such as locks and fire alarms). This standard requires that internal control techniques continually provide a high degree of assurance that the internal control objectives are being achieved. To do so they must be effective and efficient.

To be effective, techniques should fulfill their intended purpose in actual application. They should provide the coverage they are supposed to and operate when intended. As for efficiency, techniques should be designed to derive maximum benefit with minimal effort. Techniques tested for effectiveness and efficiency should be those in actual operation and should be evaluated over a period of time.

EXPLANATION OF SPECIFIC STANDARDS

A number of techniques are essential to providing the greatest assurance that the internal control objectives will be achieved. These critical techniques are the specific standards discussed below.

DOCUMENTATION

Internal control systems and all transactions and other significant events are to be clearly documented, and the documentation is to be readily available for examination.

This standard requires written evidence of (1) an agency's internal control objectives and techniques and accountability systems and (2) all pertinent aspects of transactions and other significant events of an agency. Also, the documentation must be available as well as easily accessible for examination.

Documentation of internal control systems should include identification of the cycles and related objectives and techniques, and should appear in management directives, administrative policy, and accounting manuals. Documentation of transactions or other significant events should be complete and accurate and should facilitate tracing the transaction or event and related information from before it occurs, while it is in process, to after it is completed.

Complying with this standard requires that the documentation of internal control systems and transactions and other significant events be purposeful and useful to managers in controlling their operations, and to auditors or others involved in analyzing operations.

RECORDING OF TRANSACTIONS AND EVENTS

Transactions and other significant events are to be promptly recorded and properly classified.

Transactions must be promptly recorded if pertinent information is to maintain its relevance and value to management in controlling operations and making decisions. This standard applies to

(1) the entire process or life cycle of a transaction or event and includes the initiation and authorization, (2) all aspects of the transaction while in process, and (3) its final classification in summary records. Proper classification of transactions and events is the organization and format of information on summary records from which reports and statements are prepared.

EXECUTION OF TRANSACTIONS AND EVENTS

Transactions and other significant events are to be authorized and executed only by persons acting within the scope of their authority.

This standard deals with management's decision to exchange, transfer, use, or commit resources for specified purposes under specific conditions. It is the principal means of assuring that only valid transactions and other events are entered into. Authorization should be clearly communicated to managers and employees and should include the specific conditions and terms under which authorizations are to be made. Conforming to the terms of an authorization means that employees are carrying out their assigned duties in accordance with directives and within the limitations established by management.

SEPARATION OF DUTIES

Key duties and responsibilities in authorizing, processing, recording, and reviewing transactions should be separated among individuals.

To reduce the risk of error, waste, or wrongful acts or to reduce the risk of them going undetected, no one individual should control all key aspects of a transaction or event. Rather, duties and responsibilities should be assigned systematically to a number of individuals to ensure that effective checks and balances exist. Key duties include authorizing, approving, and recording transactions; issuing and receiving assets; making payments; and reviewing or auditing transactions. Collusion, however, can reduce or destroy the effectiveness of this internal control standard.

SUPERVISION

Qualified and continuous supervision is to be provided to ensure that internal control objectives are achieved.

This standard requires supervisors to continuously review and approve the assigned work of their staffs. It also requires that they provide their staffs with the necessary guidance and training to help ensure that errors, waste, and wrongful acts are minimized and that specific management directives are achieved.

Assignment, review, and approval of a staff's work requires

--clearly communicating the duties, responsibilities, and accountabilities assigned each staff member;

--systematically reviewing each member's work to the extent necessary; and

--approving work at critical points to ensure that work flows as intended.

Assignment, review, and approval of a staff's work should result in the proper processing of transactions and events including (1) following approved procedures and requirements, (2) detecting and eliminating errors, misunderstandings, and improper practices, and (3) discouraging wrongful acts from occurring or from recurring.

ACCESS TO AND ACCOUNTABILITY FOR RESOURCES

Access to resources and records is to be limited to authorized individuals, and accountability for the custody and use of resources is to be assigned and maintained. Periodic comparison shall be made of the resources with the recorded accountability to determine whether the two agree. The frequency of the comparison shall be a function of the vulnerability of the asset.

The basic concept behind restricting access to resources is to help reduce the risk of unauthorized use, loss to the Government, and to help achieve the directives of management. However, restricting access to resources depends upon the vulnerability of the resource and the perceived risk of loss, both of which should be periodically assessed. For example, access to and accountability for highly vulnerable documents, such as check stocks, can be achieved by

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--keeping them locked in a safe,

--assigning or having each document assigned a sequential number, and

--assigning custodial accountability to responsible individuals.

Other factors affecting access include the cost, portability, exchangeability, and the perceived risk of loss or improper use of the resource. In addition, assigning and maintaining accountability for resources involves directing and communicating responsibility to specific individuals within an agency for the custody and use of resources in achieving the specifically identified management directives.

EXPLANATION OF THE AUDIT RESOLUTION STANDARD

PROMPT RESOLUTION OF AUDIT FINDINGS

Managers are to (1) promptly evaluate findings and recommendations reported by auditors, (2) determine proper actions in response to audit findings and recommendations, and (3) complete, within established time frames, all actions that correct or otherwise resolve the matters brought to management's attention.

The audit resolution standard requires managers to take prompt, responsive action on all findings and recommendations made by auditors. Responsive action is that which corrects identified deficiencies. Where audit findings identify opportunities for improvement rather than cite deficiencies, responsive action is that which produces improvements.

The audit resolution process begins when the results of an audit are reported to management, and is completed only after action has been taken that (1) corrects identified deficiencies, (2) produces improvements, or (3) demonstrates the audit findings and recommendations are either invalid or do not warrant management action.

Auditors are responsible for following up on audit findings and recommendations to ascertain that resolution has been achieved. Auditors' findings and recommendations should be monitored through the resolution and followup processes. Top management should be kept informed through periodic reports so it can assure the quality and timeliness of individual resolution decisions.

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44	Donation of personal property
45	Sale, abandonment, or destruction of personal property
46	Utilization and disposal of personal property pursuant to exchange/sale authority

Number

47	Utilization and disposal of real property
48	Utilization, donation, or disposal of abandoned and forfeited personal property
49	Utilization, donation, and disposal of foreign gifts and decorations

LIST OF THE MAJOR PARTS OF THE GSA ACQUISITION REGULATIONS

Part	
A--GENERAL	
1	Federal Acquisition Regulations System
2	Definition of Words and Terms
3	Improper Business Practices and Personal Conflicts of Interest
4	Administrative Matters
5	Publicizing Contract Actions
B--ACQUISITION PLANNING	
7	Acquisition Planning
8	Required Sources of Supplies and Services
9	Contractor Qualifications
10	Specifications, Standards, and Other Purchase Descriptions
11	Acquisition and Distribution of Commercial Products
12	Contract Delivery or Performance

Part

C--CONTRACTING METHODS AND CONTRACT TYPES

13 Small Purchase and Other Simplified Purchase Procedures

14 Formal Advertising

15 Contracting by Negotiation

16 Types of Contracts

17 Special Contracting Methods

D--SOCIOECONOMIC PROGRAMS

19 Small Business and Small Disadvantaged Business Concerns

20 Labor Surplus Area Concerns

22 Application of Labor Laws to Government Acquisitions

23 Environment, Conservation, and Occupational Safety

24 Protection of Privacy and Freedom of Information

25 Foreign Acquisition

Part

E--GENERAL CONTRACTING REQUIREMENTS

27 Patents, Data, and Copyrights

28 Bonds and Insurance

29 Taxes

30 Cost Accounting Standards

31 Contract Cost Principles and Procedures

32 Contract Financing

33 Disputes and Appeals

F--SPECIAL CATEGORIES OF CONTRACTING

34 Major System Acquisition

35 Research and Development Contracting

36 Construction and Architect-Engineer Contracts

37 Service Contracting

38 Federal Supply Schedule Contracting

39 Management, Acquisition, and Use of Information Resources

Part

G--CONTRACT MANAGEMENT

42 Contract Administration

43 Contract Modifications

44 Subcontracting Policies and Procedures

45 Government Property

46 Quality Assurance

47 Transportation

48 Value Engineering

49 Termination of Contracts

50 Extraordinary Contractual Actions

51 Use of Government Sources By Contractors

H--CLAUSES AND FORMS

52 Solicitation Provisions and Contract Clauses

53 Forms

LIST AND SYNOPSES OF THE TITLES IN THE GAO POLICY AND PROCEDURES MANUAL FOR GUIDANCE OF FEDERAL AGENCIES

TITLE 1 THE UNITED STATES GENERAL ACCOUNTING OFFICE

--Historical and descriptive information on GAO, (e.g., origin and functions) providing a basic understanding of GAO and its relationships with Congress, other federal agencies, and the public.

TITLE 2 ACCOUNTING

--The Comptroller General's accounting principles and standards and internal control standards for federal agencies, which he is required to develop by the Budget and Accounting Procedures Act of 1950 and the Federal Managers' Financial Integrity Act of 1982 respectively.

TITLE 3 AUDIT

--Legal authority for various types of GAO audits, and related GAO policy; also guidance for agencies' internal audit programs. Also, this title prescribes the maximum dollar limit for vouchers which may be examined using statistical sampling procedures. Public Law 93-604 specifically authorizes the Comptroller General to set this standard.

TITLE 4 CLAIMS

--GAO policy and regulations relating to the Budget and Accounting Act's mandate that GAO settle and adjust all claims by and against the United States

TITLE 5 TRANSPORTATION

--Policy and regulations relating to GAO's remaining responsibilities for review of claims for transportation services furnished the United States. Most of GAO's former responsibilities in this area were transferred to GSA in 1975 (Public Law 93-604).

TITLE 6 PAY, LEAVE, AND ALLOWANCES

--Principles, standards, and related requirements for executive agencies' pay and leave accounting.

TITLE 7 FISCAL PROCEDURES

--Procedural requirements for appropriations and fund accounting, collections, disbursements, obligations, and adjustments to appropriation balances. Also, this title contains policies and procedures for settlement of accountable officers' accounts, a GAO responsibility under the Budget and Accounting Act. Further, this

title contains the joint GAO-Treasury regulations on Treasury warrants, developed in accordance with the Budget and Accounting Procedures Act of 1950.

TITLE 8 RECORDS MANAGEMENT

--Policies and regulations relating to GAO's responsibilities in preservation and disposal of federal accounting records.

APPENDIX V

Quick Reference To Work Steps

QUICK REFERENCE TO WORK STEPS IN THE CARE-BASED AUDIT METHODOLOGY TO REVIEW AND EVALUATE THE OPERATIONS OF AGENCY ACCOUNTING AND FINANCIAL MANAGEMENT SYTEMS

APPENDIX V

CONTENTS

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PREFACE	V-ii
General Risk Analysis (GRA) Work steps	V-3
Transaction Flow Review and Analysis (TFRA) Work steps	V-25
Compliance Tests and Analysis (CTA) Work steps	V-38
Substantive Tests and Analysis (STA) Work steps	V-42

APPENDIX V

PREFACE

Appendix V lists sequentially the work steps for each task under the four major audit segments. Each work step is referenced to the page where it is listed in the Audit Methodology portion of the Manual. The schedules identify, for each work step, the type of audit(s) (i.e., entire agency, a component thereof, or specific system) for which the step is normally applicable. Also, the main source(s) of the information needed to perform the work step are identified. Finally, the schedules list the main output (i.e., workpapers or other documentation) developed in carrying out each work step, and reference the work step to appendix VI, which fully describes the documentation and contains sample formats. The illustration on page V-2 further describes the structure and content of the work step schedules.

This quick reference to the work steps in the CARE-based audit methodology to review and evaluate the operations of agency accounting and financial management systems is designed to provide audit staff trained and familiar with with the audit methodology a quick reference to the work steps. This appendix consists of the following five segments:

—Guidance on how to use this appendix.

—General Risk Analysis Segment.

—Transaction Flow Review and Analysis Segment.

—Compliance Tests and Analysis Segment.

—Substantive Tests, and Analysis Segment.

SEGMENT: THIS SECTION IDENTIFIES THE SEGMENT OF THE WORK TASK : This section identifies The Task To Be Accomplished		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference This section provides the page reference in the audit methodology that discusses the task, work objective, and work steps.	OBJECTIVES: This section presents the work objective to be achieved. WORK STEPS: This section sets forth the specific work steps to be done.	This section indicates the work steps to be done based on the work scope selected for a particular review.			This section indicates the major sources of the information needed to accomplish each work step.						This section provides reference to the items of documentation to be produced that are illustrated in appendix VI.	

GENERAL RISK ANALYSIS SEGMENT

The General Risk Analysis Segment includes the following tasks:

Task I - Identify and Document Specific Responsibilities, Authorized Resources, and Organizational Structure of The Agency or Major Organizational component of the Agency.

Task II - Identify and Document the General Control Environment of the Agency or Major Organizational Component of the agency.

Task III - Identify and Document the Financial Management Structure of the Agency or Major Organizational Component of the Agency.

Task IV - Identify and Document Accounting Standards, Other System Requirements, and Internal Control Requirements--Control Objectives--For the Agency's Systems.

Task V - Complete an Initial Risk Ranking of the Agency's Accounting and Financial Management Systems.

SEGMENT: GENERAL RISK ANALYSIS TASK I : Identify and Document Specific Responsibilities, Authorized Resources, and Organizational Structure of the Agency or Major Organizational Component of the Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Understand and document the overall mission; specific program, and administrative responsibilities; authorized resources; organizational structures; and and financial reporting needs.											
	WORK STEPS:											
4-3	1. Obtain the organization chart and mission statements for the agency and for each of its major organizational components.	X	X		X	X				X		
4-3	2. For each organizational component determine all of the program, and administrative functions it performs.	X	X			X				X		
4-3	3. Determine the current budget authority for the agency and relate the budget authority to each organizational component and to each program and administrative function.	X	X				X			X		

SEGMENT: GENERAL RISK ANALYSIS TASK I : Identify and Document Specific Responsibilities, Authorized Resources, and Organizational Structure of the Agency or Major Organizational Component of the Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such AS GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS:											
4-3	4. Identify the key management officials responsible for each program and administrative function, as well as officials responsible for related Financial Integrity Act and OMB Circulars A-123 reviews. Determine their specific responsibilities and the key internal and external financial reports theyrequire or are responsible for.	X	X		X	X				X		
4-3	5. Prepare a workpaper summarizing the resuts of these steps.	X	X								Workpaper Summary	GRA-1

SEGMENT: GENERAL RISK ANALYSIS TASK II: Identify and Document the General Control Environment of the Agency or Major Organizational Component of the Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Understand and document the general control environment including general controls over ADP operations.											
	WORK STEPS:											
4-5	1. Obtain agency statements and reports submitted to satisfy requirements of the Federal Managers' Financial Integrity Act of 1982 and agency actions to satisfy OMB Circular A-123.	X	X		X	X				X		
4-5	2. Determine how the agency identified those areas for which internal control reviews were or will be performed.	X	X		X					X		

SEGMENT: GENERAL RISK ANALYSIS

TASK II: Identify and Document the General Control Environment of the Agency or Major Organizational Component of the Agency

Page Reference	WORK STEPS:	PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
4-5	3. Determine whether internal control reviews will be performed for all high risk critical areas on a timely basis. Also, ascertain if internal control reviews will be performed for other areas.	X	X		X					X		
4-5	4. Determine what actions the agency has planned or has taken to assure that the degree of internal control testing and analysis will consider the risks and potential benefits (such as how much will it cost to test a control versus how critical the control is or how much risk are we taking by not testing the control).	X	X		X	X				X		
4-6	5. Determine who will perform the internal control review (managers internal reviews staffs, inspector general, management analysts, or outside contractors) and consider whether their level of knowledge and expertise are adequate.	X	X		X					X		

SEGMENT: GENERAL RISK ANALYSIS TASK II: Identify and Document the General Control Environment of the Agency or Major Organizational Component of the Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS:											
4-5	6. Determine to what extent the inspector general or internal audit staffs will be involved in the internal control review process, and evaluate whether they have provided adequate guidance and assistance.	X	X		X	X				X		
4-6	7. Determine if the agency has established adequate formal follow-up systems to (1) develop plans including target dates, to implement corrective actions, (2) log and track corrective actions and (3) monitor whether actions are implemented in an effective and timely manner.	X	X		X	X				X		

SEGMENT: GENERAL RISK ANALYSIS TASK II: Identify and Document the General Control Environment of the Agency or Major Organizational Component of the Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS:											
4-6	8. Determine how the follow-up system will be notified of weaknesses and related corrective actions identified by —vulnerability assessments, and —internal control reviews.	X	X		X	X				X		
4-6	9. Determine how the followup system ensures that —vulnerability assessments be scheduled and completed in a timely manner, —internal control reviews are scheduled and completed in a timely manner, and —corrective actions resulting from vulnerability assessments and internal control reviews are implemented in an effective and timely manner.	X	X		X	X				X		

SEGMENT: GENERAL RISK ANALYSIS TASK II: Identify and Document the General Control Environment of the Agency or Major Organizational Component of the Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS:											
4-6	10. Determine inspector general and/or internal audit involvement in assuring corrective actions are implemented effectively and promptly and what, if any, plans exist for subsequent audits. In addition, determine how the follow-up system will be used to support the agency's annual reports to the President and the Congress.	X	X		X	X				X		
4-8	11. Determine and document agency internal audit and inspector general coverage of agency's financial operations. In doing this work, obtain: --Internal audit and IG reports that deal with financial and ADP operations for the past 3 years, and	X	X	X	X	X		X		X		

SEGMENT: GENERAL RISK ANALYSIS.

TASK II: Identify and Document the General Control Environment of the Agency or Major Organizational Component of the Agency

Page Reference	WORK STEPS:	PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System	Work Priority FIA Work	Agency Manuals	Budget Requests (Appropriations	Prior Audit Reports as GAO and IG Reports	ADP Manuals and Documents	Agency Files and Documents		
	11. Continued: --internal audit and IG plans for reviews of financial and ADP operations for the next 2 years.											
4-8	12. Prepare summary schedules of internal audit and inspector general findings. Indicate corrective action taken.	X	X								Workpaper summary	GRA-2
4-8	13. Obtain the semi-annual inspector general's reports to the Congress for the past 3 years.	X	X	X	X					X	Workpaper Summary	GRA-3
4-8	14. Obtain any pertinent reports issued by external study groups during the past 3 years.	X	X	X	X					X		

SEGMENT: GENERAL RISK ANALYSIS TASK II: Identify and Document the General Control Environment of the Agency or Major Organizational Component of the Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
Page Reference	WORK STEPS:	Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
4-8	15. Prepare schedules summarizing findings in semi-annual and study group reports.	X	X	X				X	X	X	Workpaper summary	GRA-6
4-8	16. Obtain any pertinent GAO reports issued during the past 3 years.	X	X	X								
4-8	17. Prepare schedules summarizing findings.	X	X	X							Workpaper schedule	GRA-7
	18. Obtain any information GAO's Fraud Prevention and Oversight Group has on the agency, its major organizational components, or any of its systems and summarize this information on a schedule.	X	X	X							Workpaper schedule	GRA-8
4-9	19. Obtain any written plans for the development and upgrading of accounting systems and summarize these plans.	X	X	X				X			Workpaper summary	GRA-4

SEGMENT: GENERAL RISK ANALYSIS TASK II: Identify and Document the General Control Environment of the Agency or Major Organizational Component of the Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS:											
4-9	20. Obtain any written plans including cost estimates, for the development of new or upgrade of existing ADP capability, and summarize these plans.	X	X	X	X	X			X	X X	Workpaper summary	GRA-5

SEGMENT : GENERAL RISK ANALYSIS TASK III: Identify and Document The Financial Management Structure Of The Agency Or Major Organizational Component Of The Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Identify and describe the agency's accounting systems that support the four financial management activities discussed in section 2, and their interrelationship.											
	WORK STEPS:											
4-11	1. Obtain the inventory of accounting systems developed by the agency as required by OMB Circular A-123 and the Federal Manager's Financial Integrity Act and determine which of the four management activities are covered by the agency inventory. Note in the workpapers which activities are not covered and which activitiess are only partially covered.	X	X		X	X				X		
4-11	2. Obtain or develop an inventory of the agency's automated systems, with brief descriptions which include their interrelationships.	X	X		X	X			X	X		

SEGMENT: GENERAL RISK ANALYSIS TASK III: Identify and Document The Financial Management Structure Of The Agency Or Major Organizational Component Of The Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUT-PUT	APPEN-DIX VI REFER-ENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appro-priations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Docu-ments	Agency Files and Docu-ments		
Page Reference	WORK STEPS:											
4-11	3. From the automated systems descriptions, develop a list of those that appear to be account-ing systems.	X	X		X	X				X		
4-11	4. Compare the work step 1 and work step 3 inventories and, through discussions with appropriate agency officials, reconcile any differences.	X	X									
4-12	5. Compare the reconciled inventory with the workpaper summary developed in task II in this section. Note any organiza-tional components; specific program or administrative functions; or specific line items of budget authority which don't appear to be covered by the systems.	X	X									

SEGMENT: GENERAL RISK ANALYSIS TASK III: Identify and Document The Financial Management Structure Of The Agency Or Major Organizational Component Of The Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUT-PUT	APPEN-DIX VI REFER-ENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appro-priations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Docu-ments	Agency Files and Docu-ments		
Page Reference	WORK STEPS:											
4-12	6. Resolve, through discussion with cognizant agency officials, any inconsistencies identified by the comparison. Make any needed adjustments to the inventory.	X	X			X			X	X		
4-12	7. Develop a validated inventory of the agency's accounting systems based on the results of work steps 5 and 6. For each system in the inventory, prepare a schedule with the following information: —system name, —brief description of processing, —responsible systems analyst, —systems ananlyst's telephone number, —computer center(s) at which system is run, —annual system operating costs, —organizational component(s) suported, —program or administrative function(s) supported,	X	X								Work-paper sum-mary	GRA-9

SEGMENT: GENERAL RISK ANALYSIS TASK III: Identify and Document The Financial Management Structure Of The Agency Or Major Organizational Component Of The Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency Systems	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference 4-12	7. Continued —amount of budget authority, assets, liabilities, receipts or disbursements accounted for and controlled, —main inputs (including inputs from other systems), —main outputs (including output to other systems), —main users of the systems's outputs, and —known internal control and other weaknesses.											
	8. At each of the agency's computer centers, identified in work step J above, complete checklist 2 in appendix VI and complete the following questionnaires and profiles in appendix VI: —Questionnaire 1 - Executive ADP Management Committee,	X	X	X		X			X	X	Checklist Ques.	GRA-10 GRA-11

SEGMENT: GENERAL RISK ANALYSIS TASK III: Identify and Document The Financial Management Structure Of The Agency Or Major Organizational Component Of The Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUT-PUT	APPEN-DIX VI REFER-ENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appro-priations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Docu-ments	Agency Files and Docu-ments		
Page Reference	WORK STEPS: 8. Continued											
4-13	--Questionnaire 2 - Internal audit, or Inspector general										Ques.	GRA-12
	--Questionnaire 3 - External Audit and Studies,										Ques.	GRA-13
	--Profile 1 (Top Management Control Profile)										Prof.	GRA-14
	--Questionnaire 4 - ADP Organizational Controls,										Ques.	GRA-15
	--Questionnaire 5 - System Design, Development, and Modification Controls,										Ques.	GRA-16
	--Questionnaire 6 - Data Center Management Controls,										Ques.	GRA-17

SEGMENT: GENERAL RISK ANALYSIS TASK III: Identify and Document The Financial Management Structure Of The Agency Or Major Organizational Component Of The Agency		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS:											
4-14	8. Continued --Questionnaire 7 - Data Center Protection Controls,										Ques.	GRA-18
	--Questionnaire 8 - System Software Controls,										Ques.	GRA-19
	Questionnaire 9 - Hardware Controls, and										Ques.	GRA-20
	--Profile 2 (General Controls Profile).										Prof.	GRA-21

SEGMENT: GENERAL RISK ANALYSIS TASK V: Identify and Document Accounting Standards, Other System Requirements, And Internal Control Requirements—Control Objectives—For the Agency's Systems		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Identify and document internal control objectives for accounting systems selected for further review.											
	WORK STEPS:											
4-20	1. Determine and examine, for each system selected for further review, the GAO and central management agencies' requirements which appear to be pertinent, as well as requirements stated or implied in the laws establishing the covered programs, and the agency's implementing regulations.			X	X	X	X	X		X		
4-20	2. Also examine internal needs (identified in task 1) for financial information in suport of budgeting and the other activities comprising the financial management function.			X	X	X	X	X		X		

SEGMENT: GENERAL RISK ANALYSIS TASK V: Identify and Document Accounting Standards, Other System Requirements, And Internal Control Requirements—Control Objectives--For the Agency's Systems		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS:											
4-21	3. Acquire a copy, for each system selected, of the agency's listing of internal control objectives developed in response to the Financial Integrity Act and OMB Circular A-123.			X	X			X		X		
4-21	4. Develop, for each system selected, a comprehensive list of internal control objectives (see appendix VI-GRA 22 for sample format), using the agency's listing as a starting point, and making additions/changes as needed based on the understanding of requirements gained in work steps 1 and 2.			X	X	X		X	X	X		GRA-22
4-21	5. Where the agency hasn't developed its own listing of internal control objectives, develop listings based completely on the understanding gained in work steps 1 and 2.			X								

TRANSACTION FLOW REVIEW AND ANALYSIS

SEGMENT

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK I : Identify and Document System Information Flows		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Determine and document how information flows through each system from initial input of transaction information through final output of reports.											
	WORK STEPS:											
6-3	1. Obtain or prepare for each system a detailed written description of what it is supposed to do and how it is designed to operate. This written description should include a detailed discussion of all manual or automated edit and validation checks of input data.	X	X	X		X			X	X		
6-3	2. Obtain data record layouts for all inputs, machine media records, and outputs--both hardcopy reports and machine media files.	X	X	X						X		

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK 1 : Identify and Document System Information Flows		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS:											
6-4	3. Identify all recipients of system outputs, including hardcopy reports and machine media files. Recipients of system outputs include agency personnel for hardcopy reports and other agency systems for machine media files.	X	X	X					X	X		
6-4	4. For each of the agency's systems selected for review complete the following checklists, questionnaires, and profile, if applicable, in appendix VI. —Checklist 3 - Background information on computer application.	X	X	X		X			X	X	Checklist	TFRA-1

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK I : Identify and Document System Information Flows		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	WORK STEPS: —Questionnaire 10 - Data Origination Controls.										Quest.	TFRA-2
6-4	—Questionnaire 11 - Data Input Controls.										Quest.	TFRA-3
	—Questionnaire 12 - Data Processing Controls.										Quest.	TFRA-4
	—Questionnaire 13 - Data Output Controls.										Quest.	TFRA-5
	—Profile 3 - Application Controls Profile.										Profile	TFRA-6

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK I : Identify and Document System Information Flows		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS:											
6-4	5. Flowchart how information is processed and reported into and out of the selected systems to include both hardcopy of reports and machine media and files. Three levels of flowcharts are to be prepared:	X	X	X					X	X		
	—Top level flowcharts depicting the accounting system(s) used by the agency.										Flowchart	TFRA-7
	—Intermediate level flowcharts depicting information flows between system(s).										Flowchart	TFRA-8
	—Detailed flowcharts identifying control techniques and data flows.	X	X	X		X			X	X	Flowchart	TFRA-9
6-5	6. Obtain or prepare a detailed written description of how each system uses the ADP resources—computer terminals, magnetic tape drives, magnetic disk packs, card reader/punches, printers, and computer central processing units—in the computer centers.	X	X	X						X		

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK 1 : Identify and Document System Information Flows		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS:											
6-5	7. Prepare a written summary for each system that includes the following sections: —purpose of the system; —discussion of how the system uses available computer resources; —description of system control techniques, inputs, files, processing steps, output, computer equipment used and identification of the agency computer center; —edits and validation checks of input data; —system flowchart to include the relationship with other systems; and —complete list of users of system hardcopy reports.			X							Work paper summary	TFRA-10

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK 11: Identify and Document The Usefulness Of System Outputs		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Determine whether the outputs produced meet users' needs for information in suppt of the financial management function.											
	WORK STEPS											
6-5	1. Obtain a completed "User Satisfaction Questionnaire" from users of reports generated by the systems selected for the review.	X	X	X							Questionnaire	TFRA-11
6-6	2. For each system summarize the responses to the questionnaire and develop an overall conclusion, based on this summarization, as to the reliability and usefulness of the reports and information.	X	X	X							Workpaper Summary	TFRA-12

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK III: Identify And Document Control Techniques In Each System.		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Identify and document each system's internal control techniques.											
	WORK STEPS											
6-7	1. For each system selected for review, prepare a workpaper schedule showing: —control objectives (based on the information developed in the general risk analysis segment) and —control techniques (based on the information developed in Task I.)	X	X	X								
6-8	2. Compare the internal control techniques in the schedule with any techniques identified by the agency in its Federal Manager's Financial Integrity Act work.	X	X	X								
6-8	3. Adjust the schedule to show any additional techniques identified by the work step 2 comparison.	X	X	X								

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK IV: Evaluate The Effectiveness Of Control Techniques In Meeting Control Objectives		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Evaluate the adequacy of the control techniques in implementing the system's control objectives. Document any material internal control weaknesses. WORK STEP											
6-9	1. Annotate the schedule prepared in Task III with material internal control strengths and weaknesses.	X	X	X							Workpaper Summary	TFRA-13

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK V: RANK THE SYSTEMS ACCORDING TO RISK		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Complete a final risk ranking of the systems based on any additional insights gained from the transaction flow review and analysis segment, and select systems for compliance testing based on the revised risk ranking. WORK STEPS											
6-9	1. Based on the guidance in section 5, Risk Ranking of Systems, reevaluate the assigned risk rating of low, medium, and high for each of the risk ranking factors for each system reviewed.	X	X									
6-10	2. Compute a revised composite reliability score for each system reviewed based on the risk ratings assigned for each system and the weighting system discussed in section 5.	X	X									

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK V : RANK THE SYSTEMS ACCORDING TO RISK		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS											
6-10	3. Prepare a work paper schedule of the revised risk rankings and composite reliability score assigned each system reviewed.	X	X								Workpaper Summary	TFRA-14
6-10	4. Prepare a schedule of the systems in descending order of their revised composite reliability scores. These systems should be grouped in three risk categories: high, medium, and low.	X	X								Workpaper Schedule	
6-10	5. Update the financial management profile of the agency.	X	X								Financial Management Profile	TFRA-15
6-10	6. Based on the revised risk rankings of the systems reviewed in the TFRA segment, select systems for the next phase, compliance tests and analysis.	X	X									

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK V : RANK THE SYSTEMS ACCORDING TO RISK		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS											
6-10	7. Based on the revised risk ranking of the systems reviewed in the transaction flow review and analysis segment, select system(s) for the compliance segment.											

COMPLIANCE TESTS AND ANALYSIS
SEGMENT

SEGMENT: COMPLIANCE TESTS AND ANALYSIS TASK I : Develop, Apply, And Analyze Compliance Tests Of The Agency Systems Selected For Testing		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS											
7-13	1. Based on the analysis of the system procedures and controls made in earlier segments of the review, determine the types of transactions and conditions to be tested.	X	X	X		X		X	X	X		
7-13	2. For any manual aspects of transaction processing, determine compliance with the applicable procedures and control techniques that were previously identified in TFRA Task III, step 1. Walk actual transactions through the manual portions of the system.	X	X	X		X		X	X	X		
7-13	3. Determine the types of master records to be included in the testing based on the data flows for each system identified in work TFRA Task III steps 1 through 7.	X	X	X		X		X	X	X		
7-13	4. Obtain copies of master records and/or prepare fictitious master records for processing with the test transactions.	X	X	X		X		X	X	X		

SEGMENT: COMPLIANCE TEST AND ANALYSIS TASK I : Develop, Apply, And Analyze Compliance Tests Of The Agency Systems Selected For Testing		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS.											
7-14	5. Using a printout of the master records, predetermine the end result for each test transaction for comparison with the actual processing results. Appendix VI CTA-1.	X	X	X		X		X	X	X	Workpaper Schedule	CTA-1
7-14	6. In batch processing systems, verify that the programs used for processing the test transactions are the same as those used for normal system processing.	X	X	X		X		X	X	X		
7-14	7. Ascertain that any changes to programs during the review have been documented and that the changes have been tested and approved by the agency.	X	X	X								
7-14	8. Print the after-test contents of all master records and compare with the predetermined results (see step 5) to see whether the programs performed as expected.	X	X	X		X		X	X	X		

SEGMENT:		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
TASK I :	Develop, Apply, And Analyze Compliance Tests Of The Agency Systems Selected For Testing	Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS											
7-14	9. Summarize and evaluate the impact of any instances of noncompliance with prescribed procedures and controls; develop recommendations for needed corrective actions, with due regard to cost benefit considerations.	X	X	X		X		X	X	X		
7-14	10. Discuss results of compliance tests with appropriate agency officials and ascertain their willingness to take corrective action.	X	X	X		X		X	X	X		
7-14	11. Based on results of step 10, determine the nature of formal reporting and decide whether substantive testing is warranted.	X	X	X		X		X	X	X		

SUBSTANTIVE TESTS AND ANALYSIS
SEGMENT

SEGMENT: SUBSTANTIVE TESTS AND ANALYSIS TASK I : Conduct Substantive Tests and Analysis		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS:											
B-8	1. Design and carry out substantive tests to document and measure the extent of adverse impact on agency operations that occurs because of the previously identified inoperating internal controls. The selection of transactions for testing should be statistically sound to permit valid estimates of the actual impact.	X	X	X		X		X	X	X		
B-8	2. Summarize and evaluate test results.	X	X	X		X		X	X	X		
B-8	3. Develop findings and recommendations for discussions with agency management and formal reporting.	X	X	X		X		X	X	X		

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK IV: Evaluate The Effectiveness Of Control Techniques in Meeting Control Objectives		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Evaluate the adequacy of the control techniques is implementing the system's control objectives. Document any material internal control weaknesses. WORK STEPS Annotate the schedule prepared in Task III with material internal control strengths and weaknesses.											
6-9		X	X	X							Workpaper Summary	TFRA-13

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK V : RANK THE SYSTEMS ACCORDING TO RISK		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Complete a final risk ranking of the systems based on any additional insights gained from the transaction flow review and analysis segment, and select systems for compliance testing based on the revised risk ranking.											
	WORK STEPS											
6-9	1. Based on the guidance in section 5, Risk Ranking of Systems, reevaluate the assigned risk rating of low, medium, and high for each of the risk ranking factors for each system reviewed.	X	X									
6-10	2. Compute a revised composite reliability score for each system reviewed based on the risk ratings assigned for each system and the weighting system discussed in section 5.	X	X									

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK V : RANK THE SYSTEMS ACCORDING TO RISK		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appro-pria-tions	Prior Audit Reports Such as GAO and IG	ADP Manuals and Docu-ments	Agency Files and Docu-ments		
Page Refer-ence	OBJECTIVE: WORK STEPS											
6-10	3. Prepare a work paper schedule of the revised risk rankings and composite reliability score assigned each system reviewed.	X	X								Workpaper Summary	TFRA-14
6-10	4. Prepare a schedule of the systems in descending order of their revised composite reliability scores. These systems should be grouped in three categories: high, medium, and low risk.	X	X								Workpaper Schedule	
6-10	5. Update the financial management profile of the agency.	X	X								Financial Manage-ment Profile	TFRA-15
6-10	6. Based on the revised risk rankings of the systems reviewed in the TFRA segment, select systems for the next phase, compliance tests and analysis.	X	X									

SEGMENT: TRANSACTION FLOW REVIEW AND ANALYSIS TASK V : RANK THE SYSTEMS ACCORDING TO RISK		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appro-pria-tions	Prior Audit Reports Such as GAO and IG	ADP Manuals and Docu-ments	Agency Files and Docu-ments		
Page Refer-ence	OBJECTIVE: WORK STEPS											
6-10	7. Based on the revised risk ranking of the systems reviewed in the transaction flow review and analysis segment, select system(s) for the compliance segment.											

page V-48 is not used

COMPLIANCE TESTS AND ANALYSIS SEGMENT

SEGMENT: COMPLIANCE TESTS AND ANALYSIS TASK I : Develop, Apply, And Analyze Compliance Tests Of The Agency Systems Selected For Testing		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS											
7-13	1. Based on the analysis of the system procedures and controls made in earlier segments of te review, determine the types of transactions and conditions to be tested.	X	X	X		X		X	X	X		
7-13	2. For any manual aspects of transaction processing, determine compliance with the applicable procedures and control techniques that were previously identified in TFRA Task III, step 1. Walk actual transactions through the manual portions of the system.	X	X	X		X		X	X	X		
7-13	3. Determine the types of master records to be included in the testing based on the data flows for each system identified in work TFRA Task III steps 1 through 7.	X	X	X		X		X	X	X		
7-13	4. Obtain copies of master records and/or prepare ficticious master records for processing with the test transactions.	X	X	X		X		X	X	X		

SEGMENT: COMPLIANCE TEST AND ANALYSIS TASK I : Develop, Apply, And Analyze Compliance Tests Of The Agency Systems Selected For Testing		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS											
7-14	5. Using a printout of the master records, predetermine the end result for each test transaction for comparison with the actual processing results. Appendix VI CTA-1.	X	X	X		X		X	X	X	Workpaper Schedule	CTA-1
7-14	6. In batch processing systems, verify that the programs used for processing the test transactions are the same as those used for normal system processing.	X	X	X		X		X	X	X		
7-14	7. Ascertain that any changes to programs during the review have been documented and that the changes have been tested and approved by the agency.	X	X	X								
7-14	8. Print the after test contents of all master records and compare with the predetermined results (see step 5) to see whether the programs performed as expected.	X	X	X		X		X	X	X		

SEGMENT:		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
TASK I : Develop, Apply, And Analyze Compliance Tests Of The Agency Systems Selected For Testing		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such as GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: WORK STEPS											
7-14	9. Summarize and evaluate the impact of any instances of noncompliance with prescribed procedures and controls; develop recommendations for needed corrective actions, with due regard to cost benefit considerations.	X	X	X		X		X	X	X		
7-14	10. Discuss results of compliance tests with appropriate agency officials and ascertain their willingness to take corrective action.	X	X	X		X		X	X	X		
7-14	11. Based on results of step 10, determine the nature of formal reporting and decide whether substantive testing is warranted.	X	X	X		X		X	X	X		

SUBSTANTIVE TESTS AND ANALYSIS SEGMENT

SEGMENT: SUBSTANTIVE TESTS AND ANALYSIS TASK I : Conduct Substantive Tests and Analysis		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appro-pria-tions	Prior Audit Reports Such as GAO and IG	ADP Manuals and Docu-ments	Agency Files and Docu-ments		
Page Refer-ence	OBJECTIVE: WORK STEPS											
8-8	1. Design and carry out substantive tests to document and measure the extent of adverse impact on agency operations that occurs because of the previously identified inoperating internal controls. The selection of transactions for testing should be statistically sound to permit valid estimates of the actual impact.	X	X	X		X		X	X	X		
8-8	2. Summarize and evaluate test results.	X	X	X		X		X	X	X		
8-8	3. Develop findings and recommendations for discussions with agency management and formal reporting.	X	X	X		X		X	X	X		

APPENDIX VI

Survey Documentation To Be Produced

APPENDIX VI

SURVEY DOCUMENTATION TO BE PRODUCED UNDER THE CARE-BASED METHODOLOGY FOR EVALUATING AGENCY ACCOUNTING AND FINANCIAL MANAGEMENT SYSTEMS

This appendix presents the main items of documentation to be produced as a result of applying the CARE-BASED methodology to evaluating the operations of agency accounting and financial management systems. This appendix includes:

--"Guide to Using the Index of Items of Documentation to Be Produced,

--"Index to Items of Documentation to be Produced," and

--"Examples of Items of Documentation to be Produced."

GUIDE TO USING THE INDEX OF ITEMS OF DOCUMENTATION TO BE PRODUCED

GUIDE TO USING THE INDEX OF ITEMS OF DOCUMENTATION TO BE PRODUCED THAT APPEAR ON PAGES 6 TO 10 OF THIS APPENDIX

APPENDIX WORK PROGRAM REFERENCE			DESCRIPTION OF ITEM OF DOCUMENTATION	DOCUMENTATION REFERENCE	WORK PROGRAM PG. REF.	SOURCE OF INFORMATION FOR DOCUMENTATION ITEM
SEGMENT	TASK	WORK STEP				
These columns refer to the work steps in appendix V. Appendix V presents a quick reference to the work steps discussed in detail in the main part of the methodology.			This column describes the item of documentation to be produced.	This column lists the short ref. to the documentation items in this appendix.	This column references the page number(s) in the main part of the methodology which discuss the documentation item to be produced.	This column cross-references the sources of information for each documentation item to (1) other documentation items in this appendix and/or (2) work steps presented in appendix V.

INDEX TO ITEMS OF DOCUMENTATION TO BE PRODUCED

INDEX TO ITEMS OF DOCUMENTATION TO BE PRODUCED

APPENDIX WORK PROGRAM REFERENCE			DESCRIPTION OF ITEM OF DOCUMENTATION	DOCUMENTATION REFERENCE	WORK PROGRAM PG. REF.	SOURCE OF INFORMATION FOR DOCUMENTATION ITEM
SEGMENT	TASK	WORK STEP				
GRA	I	5	Workpaper Summary - Agency or Organizational Component, Specific Responsibilities, Authorized Resources, and Organizational Structure.	GRA - 1 p. VI-12	4-3	GRA II, work steps 1-4
GRA	II	12	Workpaper Summary on Inspector General or Internal Audit Reports Dealing with Financial Operations.	GRA - 2 p. VI-13	4-8	GRA II, work step 11
GRA	II	12	Workpaper Summary on Inspector General or Internal Audit Reports Dealing with ADP Operations.	GRA - 3 p. VI-14	4-8	GRA II, work step 11
GRA	II	19	Workpaper Summary on Development and Upgrading Plans for Financial Systems.	GRA - 4 p. VI-15	4-9	GRA II, work step 19
GRA	II	20	Workpaper Summary on Development and Upgrading Plans for New and Existing ADP Capabilities.	GRA - 5 p. VI-15	4-9	GRA II, work step 20
GRA	II	15	Workpaper Schedule on Special System Study Group Reports that Pertain to Systems Under Review.	GRA - 6 p. VI-17	4-8	GRA II, work step 14
GRA	II	17	Schedule of GAO Reports Pertaining to Agency Systems Under Review.	GRA - 7 p. VI-18	4-8	GRA II, work step 16
GRA	II	18	Workpaper Schedule of GAO Fraud Prevention and Audit Oversight Group Cases that Pertain to Systems and/or Program and Administrative Functions Under Review.	GRA - 8 p. VI-19	4-8	GRA II, work step 18

APPENDIX WORK PROGRAM REFERENCE SEGMENT	TASK	WORK STEP	DESCRIPTION OF ITEM OF DOCUMENTATION	DOCUMENTATION REFERENCE	WORK PROGRAM PG. REF.	SOURCE OF INFORMATION FOR DOCUMENTATION ITEM
GRA	III	7	Workpaper Summary on Validated Inventory of Agency's Accounting and Budget Development Systems.	GRA - 9 p. VI-20	4-12	GRA III, work steps 1-6 and information on Documentation. Items GRA-1, GRA-2, GRA-3, GRA-4, GRA-5, GRA-6, GRA-7, and GRA-8.
GRA	III	8	GAO's Evaluating Internal Controls in Computer-Based Systems - Audit Guide a. Checklist 2 - Background Information on ADP Department (Note: Checklist 1 is not used). b. Questionnaire 1 - Executive ADP Management Committee. c. Questionnaire 2 - Internal Audit. d. Questionnaire 3 - External Audit and Studies. e. Profile 1 Top Management Controls Profile.	 GRA - 10 p. VI-21 GRA - 11 p. VI-27 GRA - 12 p. VI-29 GRA - 13 p. VI-33 GRA - 14 p. VI-35	4-13	GAO's Evaluating Internal Controls in Computer-Based Systems - Audit Guide.

APPENDIX WORK PROGRAM REFERENCE SEGMENT	TASK	WORK STEP	DESCRIPTION OF ITEM OF DOCUMENTATION	DOCUMENTATION REFERENCE	WORK PROGRAM PG. REF.	SOURCE OF INFORMATION FOR DOCUMENTATION ITEM
			f. Questionnaire 4- Organization Controls	GRA - 15 p. VI-38		
			g. Questionnaire 5- System Design, Development, and Modification Controls.	GRA - 16		
			h. Questionnaire 6- Data Center Management Controls.	p. VI-40 GRA - 17		
			i. Questionnaire 7- Data Center Projection Controls.	p. VI-61 GRA - 18		
			j. Questionnaire 8- System Software Controls.	p. VI-67 GRA - 19		
			k. Questionnaire 9- Hardware Controls.	p. VI-76 GRA - 20		
			l. Profile 2 (General Controls Profile).	p. VI-92 GRA - 21		
GRA	V	4	Schedule of Control Objective for Each Agency System Selected for Review.	p. VI-97 GRA - 22 P. VI-102	4-21	appendix VII and appendix VIII.
GRA	IV	3	Initial Summary Workpaper Schedule of the 12 Risk Rankings and Composite Reliability Scores for Each System Reviewed.	TFRA-14 p. VI-194	4-15	
GRA	IV	4	Initial Overall Risk Ranking of the Agency's Systems.	Sec. 5	4-15	

APPENDIX WORK PROGRAM REFERENCE SEGMENT	TASK	WORK STEP	DESCRIPTION OF ITEM OF DOCUMENTATION	DOCUMENTATION REFERENCE	WORK PROGRAM PG. REF.	SOURCE OF INFORMATION FOR DOCUMENTATION ITEM
TFRA	I	4	GAO's Evaluating Internal Controls in Computer-Based Systems-Audit Guide (appendix X)		6-4	GAO's Evaluating Controls In Computer Based Systems - Audit Guide
			a. Checklist 3 - Background Information on Computer Application.	TFRA - 1 p. VI-103		
			b. Questionnaire 10- Data Origination Controls	TFRA - 2 p. VI-105		
			c. Questionnaire 11- Data Input Controls	TFRA - 3 p. VI-110		
			d. Questionnaire 12- Data Processing Controls	TFRA - 4 p. VI-127		
			e. Questionnaire 13- Data Output Controls	TFRA - 5 p. VI-144		
			f. Profile 3 (Applications Control Profile)	TFRA - 6 p. VI-158		
TFRA	I	5	Top Level Flowchart of Data Flows Through an Agency's Accounting Systems.	TFRA - 7 p. VI-163	6-4	TFRA I, work steps 1-4
			Intermediate level flowchart of the Relationships Between an Agency's Accounting Systems.	TFRA - 8 p. VI-164		TFRA I, work steps 1-4
			Detailed flowcharts identifying control techniques and data flows.	TFRA - 9 p. VI-165		TFRA I, work steps 1-4
TFRA	I	7	Written Summary for Each Agency System Reviewed.	TFRA - 10 p. VI-166	6-5	TFRA I, work steps 1-6
TFRA	II	1	User Satisfaction Questionnaire.	TFRA - 11 p. VI-168		TRFA II work step 1
TFRA	II	2	Summary of Responses to User Satisfaction Questionnaire.	TFRA 12 p. VI-175.1	6-6	

APPENDIX WORK PROGRAM REFERENCE SEGMENT	TASK	WORK STEP	DESCRIPTION OF ITEM OF DOCUMENTATION	DOCUMENTATION REFERENCE	WORK PROGRAM PG. REF.	SOURCE OF INFORMATION FOR DOCUMENTATION ITEM
TFRA	IV	1	Summary of Control Objectives, Techniques, and Control Strengths and Weaknesses for an Agency's Accounting System.	TFRA - 13 p. VI-176	6-9	TFRA III, work steps 1-3 GRA-9, GRA-22, TFRA-1, TFRA-2, TFRA-3, TFRA-4, TFRA-5, TFRA-6, TFRA-10, AND TFRA-12.
TFRA	V	1	Reevaluate summary workpaper schedule of the 12 Risk Rankings and Composite Reliability Scores for Each System Reviewed.	TFRA - 14 p. VI-194	6-9	TFRA V, Work Steps 1-2, Sect. VI of the work program, and TFRA - 13
TFRA	V	3	Update Overall Risk Ranking of the Agency's System Selected for Review.	Sec. 5	6-10	TFRA - 14
TFRA	V	5	Update Financial Management Profile of the Agency or Major Organizational Component of the Agency Selected for Review.	TFRA - 15 p. VI-195	6-10	GRA-1, GRA-9, GRA-14, GRA-21, TFRA-6, TFRA-9, TFRA-10, TFRA-13,
CTA	V	5	Schedule of Predetermined Compliance Test Results.	CTA - 1 p. VI-261	7-14	

EXAMPLES OF ITEMS OF DOCUMENTATION TO BE PRODUCED

WORKPAPER SUMMARY:
AGENCY OR ORGANIZATIONAL COMPONENT'S
SPECIFIC RESPONSIBILITIES, AUTHORIZED
RESOURCES, AND ORGANIZATIONAL STRUCTURE

BUDGET LINE ITEM CODE	DESCRIPTION OF PROGRAM OR ADMINISTRATIVE FUNCTION	AMOUNT OF SPENDING AUTHORITY	AGENCY ORGANIZATIONAL COMPONENT RESPONSIBLE FOR FUNCTION	KEY AGENCY OFFICIAL RESPONSIBLE FOR FUNCTION	KEY FINANCIAL REPORTS THAT SHOULD BE PRODUCED FOR AGENCY USE	REQUIRED EXTERNAL FINANCIAL REPORTS	RESPONSIBLE FOR A-123 AND FINANCIAL INTEGRIT ACT REVIEWS FOR BUDGET LINE ITEM

WORKPAPER SUMMARY ON
INSPECTOR GENERAL OR INTERNAL AUDIT
REPORTS DEALING WITH FINANCIAL OPERATIONS

REPORT NUMBER	REPORT DATE	REPORT TITLE	IG OR INTERNAL AUDIT POINT OF CONTACT	AGENCY PROGRAM OR ADMIN. FUNCTION(S) COVERED	SPENDING AUTHORITY COVERED BY AUDIT	FINANCIAL SYSTEM(S) COVERED BY AUDIT	AGENCY ORGANI-ZATIONAL COMPONENTS COVERED BY AUDIT	DESCRIPTION OF EACH FINDING IN AUDIT REPORT	RECOMMENDATIONS MADE FOR EACH FINDING IN AUDIT REPORT	ACTION TAKEN ON EACH RECOMMENDATION	ADEQUACY OF ACTION TAKEN ON EACH RECOMMEND	UNRESOLVED AUDIT FINDINGS & OPEN AUDIT RECOMMENDATIONS

WORKPAPER SUMMARY ON
INSPECTOR GENERAL OR INTERNAL AUDIT
REPORTS DEALING WITH APD OPERATIONS

REPORT NUMBER	REPORT DATE	REPORT TITLE	IG OR INTERNAL AUDIT POINT OF CONTACT	AGENCY PROGRAM OR ADMIN. FUNCTION(S) COVERED WPS-1	SPENDING AUTHORITY COVERED BY AUDIT	ADP SYSTEM(S) COVERED BY AUDIT	AGENCY ORGANI-ZATIONAL COMPONENTS COVERED BY AUDIT	DESCRIPTION OF EACH FINDING IN AUDIT REPORT	RECOMMENDATIONS MADE FOR EACH FINDING IN AUDIT REPORT	ACTION TAKEN ON EACH RECOMMENDATION	ADEQUACY OF ACTION TAKEN ON EACH RECOMMEND	UNRESOLVED AUDIT FINDINGS & OPEN AUDIT RECOMMENDATIONS

WORKPAPER SUMMARY ON DEVELOPMENT AND UPGRADING PLANS FOR FINANCIAL SYSTEMS

INTERNAL POINT OF CONTACT FOR DEVELOPMENT/UPGRADING PLANS	BUDGET AUTHORITY AFFECTED BY PLANS	AGENCY PROGRAMS OR ADMINISTRATIVE FUNCTIONS AFFECTED BY PLANS	AGENCY ORGANIZATIONAL COMPONENT(S) ASSOCIATED WITH PLANS	PRIVATE CONTRACTORS ASSOCIATED WITH DEVELOPMENT/UPGRADING EFFORTS	STARTING DATE FOR EFFORTS	FINANCIAL SYSTEMS AFFECTED BY ENHANCEMENT EFFORTS	DESCRIPTION OF DEVELOPMENT/UPGRADING PLANS	COMPLETION DATE OF PLANS

WORKPAPER SUMMARY ON DEVELOPMENT
AND UPGRADING PLANS FOR NEW AND
EXISTING ADP CAPABILITIES

INTERNAL POINT OF CONTACT FOR DEVELOPMENT/UPGRADING PLANS	BUDGET AUTHORITY AFFECTED BY PLANS	AGENCY PROGRAMS OR ADMINISTRATIVE FUNCTIONS AFFECTED BY PLANS	AGENCY ORGANIZATIONAL COMPONENT(S) ASSOCIATED WITH PLANS	PRIVATE CONTRACTORS ASSOCIATED WITH DEVELOPMENT/UPGRADING EFFORTS	STARTING DATE FOR EFFORTS	ADP SYSTEMS AFFECTED BY ENHANCEMENTS EFFORTS	DESCRIPTION OF DEVELOPMENT PLAN FOR NEW ADP CAPABILITY	APPROXIMATE COST FOR DEVELOPING NEW ADP CAPABILITIES	DESCRIPTION OF UPGRADING PLAN FOR EXISTING ADP CAPABILITIES	APPROXIMATE COST FOR UPGRADING EXISTING ADP CAPABILITIES	COMPLETION DATES FOR PLANS

WORKPAPER SCHEDULE ON
SPECIAL SYSTEM STUDY GROUP REPORTS
THAT PERTAIN TO SYSTEMS UNDER REVIEW

AGENCY PROGRAM OR ADMINISTRATIVE FUNCTION	SYSTEM CODE USED BY AGENCY	SYSTEM NAME	SYSTEM STUDY REPORT DATE	SYSTEM STUDY REPORT NUMBER	TITLE OF SYSTEM STUDY REPORT	POINT OF CONTACT FOR SYSTEM STUDY REPORT	BRIEF DESCRIPTION OF SYSTEM STUDY	SYSTEM STUDY GROUPS FINDINGS	SYSTEM STUDY GROUP'S RECOMMENDATIONS	ADEQUACY OF AGENCY ACTIONS	UNRESOLVED SYSTEM STUDY GROUP RECOMMENDATIONS

SCHEDULE OF GAO REPORTS PERTAINING TO AGENCY SYSTEMS UNDER REVIEW

SYSTEM CODE USED BY GAO	SYSTEM NAME	BRIEF DESCRIPTION OF SYSTEM OPERATIONS	GAO REPORT DATE	GAO REPORT NUMBER	GAO REPORT TITLE	FINDINGS IN GAO REPORT (SYSTEM PROBLEMS)	RECOMMENDATIONS IN GAO REPORT	AGENCY ACTIONS TAKEN ON GAO REC-OMMENDATIONS	ADEQUACY OF AGENCY ACTIONS	UNRESOLVED GAO FINDINGS AND RECOMMENDATIONS

WORKPAPER SCHEDULE OF GAO FRAUD PREVENTION AND OVERSIGHT (FPAO) GROUP CASES THAT PERTAIN TO SYSTEM AND/OR AGENCY PROGRAM AND ADMINISTRATIVE FUNCTIONS UNDER REVIEW

AGENCY PROGRAM OR ADMINISTRATIVE FUNCTION	SYSTEM CODE USED BY AGENCY	SYSTEM NAME	GAO FPAO GROUP CASE NUMBER	GAO FPAO POINT OF CONTACT	DESCRIPTION OF ALLEGATIOM IN FPAO CASE	DOLLAR VALUE INVOLVED WITH FPAO CASE	DISPOSITION OF FPAO CASE	CASE'S IMPACT ON INTERNAL CONTROLS AND/OR SYSTEMS MEETING CG'S ACCOUNTING PRINCIPLES AND STANDARDS

WORKPAPER SUMMARY ON VALIDATD INVENTORY
OF AGENCY'S ACCOUNTING AND BUDGET DEVELOPMENT SYSTEMS

SYSTEM CODE USED BY AGENCY	SYSTEM NAME	BRIFE DESCRIP-TION OF SYSTEM OPERATIONS	RESPONSIBLE SYSTEM ANALYST	SYSTEM ANALYST PHONE NUMBER	AGENCY COM-PUTER CENTER AT WHICH SYS-TEM IS RUN	ANNUAL SYSTEM OPERAT-ING COSTS	AGENCY ORGANIZ-ATIONAL COMPONENT SUPPORTED BY SYSTEM	PROGRAM OR ADMINISTRATIVE FUNCTION SUP-PORTED BY SYSTEM	BUDGET AUTHOR-ITY OR VALUE OF ASSETS OR LIABILITIES ACCOUNTED FOR BY SYSTEM	MAIN INPUTS TO SYSTEM	MAIN OUTPUTS OF SYSTEM	MAIN USERS OF SYSTEM OUTPUTS	KNOWN INTERNAL CONTROL &/OR KNOWN FAILURES TO MEET COMPTROLLER GENERAL'S ACCOUNTING PRINCIPLES & STANDARDS

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BACKGROUND INFORMATION ON ADP DEPARTMENT

Workpaper index

ITEMS TO BE OBTAINED

Organization and staffing

1. ADP department organization chart. _____

2. Functional descriptions of ADP department organization. _____

3. List of key officials in the ADP department. _____

Section and supervisor	Location and telephone number	Major responsibilities

Workpaper index

4. Staffing level of the ADP department by division or office. _____

	Number		Names of supervisors
	Authorized	Assigned	
ADP general management			
Security personnel			
System programmers			
Systems analysts			
Application programmers			
Other technical support			
Computer operators			
Peripheral equipment handlers			
Data entry operators			
Control clerks			
Schedulers			
Librarian(s)			
Data base administrator(s)			
Secretaries and clerks			
Other			
Total			

Anticipated staffing additions and deletions during the next 2 years:

5. Major position descriptions. _____

	Workpaper index
System design, development, and modification	
6. System documentation standards.	_____
7. System documentation procedures.	_____
8. System development procedures.	_____
9. Computer program change procedures.	_____
Data center management	
10. Data center operations procedures manual.	_____
11. File library procedures manual.	_____
12. User billing procedures, including the billing algorithm.	_____
13. Statistics on system utilization.	_____

	Total system processing	Specific computer-based system being evaluated
Number of scheduled 8-hour shifts per day	_____	_____
Number of scheduled days per week	_____	_____
Average number of jobs per day	_____	_____
Total hours scheduled for past 3 months	_____	_____
Actual hours used for past 3 months:	_____	_____
Production	_____	_____
Testing	_____	_____
Rerun	_____	_____
Maintenance	_____	_____
Idle	_____	_____
Other	_____	_____

Explain how the numbers of actual hours used were derived.

_____

_____

Multiprogramming factor (average number of programs running concurrently)	_____

Workpaper index

14. Budgeted, actual, and projected costs for current and next fiscal year. _____

	Budgeted costs	Actual costs	Projected costs
Costs of rented equipment:			
Central processing units			
Data communications			
All other			
Costs of purchased equipment:			
Central processing units			
Data communications			
All other			
Hardware maintenance costs			
Personnel costs:			
ADP general management			
Security personnel			
System programmers			
Systems analysts			
Application programmers			
Other technical support			
Computer operators			
Peripheral equipment handlers			
Data entry operators			
Control clerks			
Schedulers			
Librarian(s)			
Data base administrator(s)			
Secretaries and clerks			
Other			
Supplies (cards, paper, etc.)			
Contracts:			
Data conversion			
Other services			
Facility costs:			
Space			
Utilities			
Other costs (specify)			
Total costs			

	Workpaper index
Data center protection	
15. Data center security procedures.	_____
16. Emergency plan.	_____
17. Backup and recovery procedures.	_____
System software	
18. Operating system description.	_____
19. System utilities description.	_____
20. Program library system description.	_____
21. File maintenance system description.	_____
22. Security software description.	_____
23. Data communications system description.	_____
24. Data base management system description.	_____
25. System software change procedures.	_____

Workpaper index

Hardware

26. Complete inventory and description of the computer system. _____

CPU manufacturer	_____
CPU model number	_____
Date CPU installed	_____
CPU physical location	_____
Internal storage capacity	_____
Direct access storage capacity	_____
Console model number	_____

Peripheral devices	Number of devices
Magnetic tape drives:	
___track, ____density	_____
___track, ____density	_____
___track, ____density	_____
Magnetic disk drives:	
___series or model number	_____
___series or model number	_____
___series or model number	_____
Magnetic drum units	_____
Other mass storage units (specify type)	_____
Card readers	_____
Card punches	_____
Card reader/punches	_____
Line printers:	
___lines per minute	_____
___lines per minute	_____
On-line terminals	_____
Remote batch terminals	_____
Communications controllers	_____
Optical scanners	_____
MICR readers	_____
Mark sense readers	_____
Key-to-tape units	_____
Key-to-disk units	_____
Keypunch/verification units	_____
Card sorters	_____
Card collators	_____
Card accounting machines	_____
Other (specify)	_____

27. Schematic of telecommunications network. _____

EXECUTIVE ADP MANAGEMENT COMMITTEE

An executive ADP management committee, normally chaired by a top management representative, is usually responsible for

--establishing agencywide policies for data processing systems,

--approving short- and long-range plans to develop and implement new systems,

--evaluating the need for new computer equipment, and

--insuring that new equipment is acquired in the most economical and expeditious manner.

User departments and internal audit should be represented on this committee.

The auditor should determine whether the agency has an executive ADP management committee, its makeup, and the extent of its responsibilities.

	YES	NO
REPRESENTATION		
1. Does the agency have an executive ADP management committee? (Attach a copy of the committee's organization chart.)	___	___
2. Does a top management representative chair the committee?	___	___
3. Are major users of computer-processed information represented on it?	___	___
4. Is the internal audit department represented?	___	___
5. Does the committee have prescribed, documented responsibilities? (Attach a copy of the committee's charter.)	___	___
RESPONSIBILITIES		
6. Does the committee:		
--Establish agencywide policies for ADP?	___	___

	YES	NO
--Approve short- and long-range plans for developing and implementing new computer systems?	___	___
--Evaluate the need for new computer equipment?	___	___
--Insure that new equipment is acquired in the most economical and expeditious manner?	___	___

REPORTING REQUIREMENTS

7. Are executive ADP management committee minutes, staff reports, and memorandums sent directly to the agency head?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

INTERNAL AUDIT

Generally accepted Government auditing standards concerning computer-based systems state that the auditor shall

--review the general controls in data processing systems, and

--review application controls of installed data processing applications.

An additional objective should be to review the design and development of new data processing systems and significant modifications to them. The internal audit function should be independent and should report to the agency head or deputy head.

The auditor should determine the extent of internal audit coverage of agency ADP activities, and the level of internal audit reporting.

	YES	NO
ADP INVOLVEMENT		
1. Is the agency's ADP-related internal audit function documented? (If so, obtain a copy.)	___	___
2. Has internal audit periodically reviewed the ADP function?	___	___
3. Has internal audit developed an overall audit plan which includes ADP reviews?	___	___
4. Does internal audit have an ADP team within its staff?	___	___
5. Are members of the ADP audit team qualified in the ADP audit area?	___	___
GENERAL CONTROLS REVIEW CAPABILITY		
6. Does internal audit review general controls in computer-based systems to determine whether controls have been designed according to management direction and legal requirements?	___	___
7. Does internal audit review general controls in computer-based systems to assure that the controls are operating effectively to provide		

	YES	NO
reliability of, and security over, the data being processed?	___	___
8. As part of its general controls reviews, does internal audit make sure that each of the following are adequate:		
--Organizational controls?	___	___
--Physical facilities controls?	___	___
--Personnel controls?	___	___
--Security controls?	___	___
--Operating system controls?	___	___
--Hardware controls?	___	___

APPLICATION CONTROLS REVIEW CAPABILITY

9. Does internal audit review the application controls in computer-based systems upon which they are relying to assess their reliability in processing data in a timely, accurate, and complete manner?	___	___
10. Do these control reviews determine whether the computer-based systems conform to agency and Federal standards?	___	___
11. Do these control reviews determine whether the systems conform to the latest approved design specifications?	___	___
12. Are periodic audits designed to test internal controls and reliability of data processed?	___	___
13. Does internal audit verify the information on ADP output reports against related source documents?	___	___
14. Does internal audit use test data to insure the reliability of computer programs?	___	___

	YES	NO
15. Are automated data retrieval and analysis packages or specially written computer programs used for evaluating data records?	___	___
16. Are audit test data stored under internal audit control?	___	___
17. Does internal audit supervise the running of test data?	___	___
18. Are audit retrieval programs stored under internal audit control?	___	___
19. Does internal audit supervise the running of audit retrieval programs?	___	___
SYSTEMS DESIGN, DEVELOPMENT, AND MODIFICATION REVIEW CAPABILITY		
20. Does internal audit review the design and development of new data processing systems or applications?	___	___
21. Does internal audit review significant modifications to systems or applications?	___	___
22. As part of its design, development, and modification review function, does internal audit make sure that all systems:		
--Carry out the policies management has prescribed for the system?	___	___
--Provide the controls and audit trails needed for management, auditor, and operational review?	___	___
--Will be efficient and economical in operation?	___	___
--Conform with applicable legal requirements?	___	___
--Are documented in a manner that will provide the understanding of the system required for appropriate maintenance and auditing?	___	___

	YES	NO
REPORTING REQUIREMENTS		
23. Is internal audit located outside the staff or line management function of units under audit?	___	___
24. Does internal audit report to the agency head or deputy head?	___	___
25. Does internal audit maintain copies of memorandums and reports of all (both internal and external) ADP review efforts?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

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EXTERNAL AUDITS AND STUDIES

External reviews and studies conducted by GAO, private accounting firms, or consultants provide a third party appraisal of agency ADP operations.

The auditor should determine the extent of external review coverage for the past 1 to 3 years and whether the agency has implemented recommendations.

	YES	NO
GAO ADP REVIEWS		
1. Has the agency been included in a Government-wide ADP review?	___	___
2. Were agency ADP operations free of deficiencies?	___	___
3. If not, has the agency taken corrective measures?	___	___
4. Has the agency's ADP planning process ever been reviewed?	___	___
5. Were agency ADP planning processes free of deficiencies?	___	___
6. If not, has the agency taken corrective measures?	___	___
7. Have the agency's ADP procurement activities ever been reviewed?	___	___
8. Were agency ADP procurement activities free of deficiencies?	___	___
9. If not, has the agency taken corrective measures?	___	___
GAO SYSTEM APPROVALS		
10. Has the application system under review ever been subjected to a GAO system approval review?	___	___
11. Was the agency system free of deficiencies?	___	___
12. If not, has the agency taken corrective measures?	___	___
13. Was the system approved?	___	___

PRIVATE ACCOUNTING FIRMS AND CONSULTANTS	YES	NO
14. Has the agency contracted with private firms to evaluate its ADP activities?	___	___
15. Were agency ADP activities free of deficiencies?	___	___
16. If not, has the agency taken corrective measures?	___	___
17. If a financial computer-based system is involved, was the system reviewed by a private accounting firm?	___	___
18. Were both general and application controls reviewed?	___	___
19. Was the financial computer-based system free of deficiencies?	___	___
20. If not, has the agency taken corrective measures?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

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TOP MANAGEMENT CONTROLS PROFILE

On the basis of questionnaire responses and other information obtained relating to the following control characteristics, how much risk (low, medium, or high) do you believe is involved in relying on the agency's top management controls to assure effective ADP operations? Refer to appendix II for more information on assessing risk.

Control characteristic	Is the control in place?	Is the control effective?	Is some alternate control in place?	Is the alternate control effective?	Level of potential risk
EXECUTIVE ADP MANAGEMENT COMMITTEE					
Committee representation					
Committee responsibilities					
Committee reporting requirements					

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TOP MANAGEMENT CONTROLS PROFILE

Control characteristic	Is the control in place?	Is the control effective?	In some alternate control in place?	Is the alternate control effective?	Level of potential risk
INTERNAL AUDIT					
ADP involvement					
General controls review capability					
Application controls review capability					
Systems design, development, and modification review capability					
Reporting requirements					
EXTERNAL AUDITS AND STUDIES					
GAO ADP reviews					
GAO system approvals					
Private accounting firms and consultants					

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TOP MANAGEMENT CONTROLS MATRIX

If the degree of risk determined on the previous profile warrants additional audit work (i.e., medium to high risk), the following matrix should help the auditor select appropriate audit steps to complete the review.

	document the data flow	observe operations	obtain user satisfaction	process test data	perform computer program analysis	perform data retrieval analysis	analyze job accounting data	report deficiencies	suggest additional audit
Executive ADP Management Committee									
Committee Representation								●	
Committee Responsibilities								●	
Committee Report Requirements								●	
Internal Audit									
ADP Involvement								●	●
General Control Reviews	●	●	●			●	●	●	●
Application Control Reviews	●	●	●	●	●	●	●	●	
System Design, Development and Modification Reviews			●	●	●			●	
Reporting Requirements								●	
External Audits and Studies									
GAO ADP Reviews								●	●
GAO System Approvals								●	●
Private Accounting Firms and Consultants								●	●

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ORGANIZATIONAL CONTROLS

A key organizational control is an adequate separation of duties, which includes

--separating the data processing functions from other agency functions,

--separating different data processing functions within the data processing department, and

--providing for separation of duties within user departments.

Clear-cut lines of supervision, job rotation, and mandatory vacations can also improve internal control.

The auditor should determine the extent of separation of duties.

	YES	NO
SEPARATION OF DUTIES		
1. Is the ADP function independent from other agency operations?	___	___
2. Are all ADP employees prohibited from having authority, or duties in any other department?	___	___
3. Are the following functions performed by a different individual or group:		
--Systems analysis?	___	___
--Application programming?	___	___
--Acceptance testing?		___
--Program change control?	___	___
--Data control?	___	___
--Production control and scheduling?	___	___
--Computer equipment operation?	___	___
--Data base management?	___	___
--System software maintenance?		

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	YES	NO
--Computer files maintenance?	___	___
--Source document origination?	___	___
--Source document conversion to machine-readable format?	___	___

PERSONNEL POLICIES

4. Is there a direct line of responsibility between every subordinate and supervisor?	___	___
5. Is a personnel rotation plan in effect within the different functional areas in the ADP department?	___	___
6. Are ADP department personnel required to take regularly scheduled vacations?	___	___
7. Does the ADP department have a low turnover rate?	___	___
8. Does the ADP department have a low absentee rate?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

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SYSTEM DESIGN, DEVELOPMENT, AND MODIFICATION CONTROLS

The adequacy and effectiveness of controls in computer-based systems begin with the methods and procedures used during the system development process. The agency should have a structured design, development, and modification process which provides adequate separation of duties and assures user, management, and internal auditor participation. Additional key elements are adequate documentation, effective computer program testing, effective system acceptance testing, and effective computer program change control procedures.

The auditor should evaluate the total system development process used by the agency, paying strict attention to the key elements outlined above.

	YES	NO
SYSTEM DEVELOPMENT LIFE CYCLE		
1. Does the agency have a formal, management controlled approach for system development?	___	___
2. Does the system development process include the following steps:		
--User needs definition?	___	___
--Conceptual system design?	___	___
--Feasibility study?	___	___
--Cost-benefit analysis?	___	___
--Detailed system analysis and design?	___	___
--Programming?		___
--Testing?	___	___
--Procedure preparation?	___	___
--Conversion?	___	___
--System acceptance?	___	___
--Operations?	___	___
--Postimplementation audit?	___	___

		YES	NO
3.	Are formal requests for new or revised systems prepared by users and submitted with proper authorization signatures?	___	___
4.	Are these users' needs used to develop the conceptual system design?	___	___
5.	Is this conceptual design used to determine the technical and operational feasibility of the system?	___	___
6.	Is a cost-benefit analysis performed to make sure that the conceptual system will produce desired results economically?	___	___
7.	Were additional hardware and/or system software needs considered in the cost-benefit analysis?	___	___
8.	If so, is the additional hardware and/or system software requirement consistent with the agency's short- and long-range plans?	___	___
9.	Was the detailed system design consistent with the conceptual design and was it based on the feasibility study and cost-benefit analysis?	___	___
10.	Was the detailed system design used to prepare computer programs?	___	___
11.	Upon completion of all programming, is each program, interrelated subsystem, and the entire system thoroughly tested?	___	___
12.	Are program and system test results reviewed and signed by the systems analyst?	___	___
13.	Were all processing procedures--both manual and automated--prepared before implementation and reviewed to make sure that the detailed design specifications were followed?	___	___
14.	Are there effective procedures to insure that no data is lost or erroneously changed during conversion to the newly designed system?	___	___

		YES	NO
15.	Was sufficient computer time allocated for the conversion process?	___	___
16.	Was the newly designed system tested in parallel with the old system?	___	___
17.	Was sufficient time allocated for parallel processing to allow for adequate comparison of results from both processes?	___	___
18.	Was the system "acceptance tested" to insure that it performed in accordance with functional and detailed performance specifications, including desired controls, and meets user needs and objectives?	___	___
19.	Was this system acceptance performed by a group independent of the programmers and analysts who designed the system?	___	___
20.	Does the system acceptance process evaluate both manual and automated procedures?	___	___
21.	Does the system acceptance group certify in writing that the computer-based system performs in accordance with all functional and performance specifications?	___	___
22.	Are all scheduled and emergency computer program modifications evaluated by the independent system acceptance group?	___	___
23.	Does the system acceptance group control all changes to the computer-based system in order to maintain its integrity on a continuing basis?	___	___
24.	When the system is ready for initial operation, is its implementation co-ordinated with all personnel involved and other systems affected?	___	___
25.	After the system is in operation for several months, is a postimplementation audit of the entire system--both manual and automated--performed by the internal audit staff?	___	___

	YES	NO
26. Are at least the following personnel (or their equivalents) involved in the system development process:		
--Project manager?	___	___
--Users?	___	___
--Systems analysts?	___	___
--Programmers?	___	___
--Acceptance testers?	___	___
--Internal auditors?	___	___
27. Are duties of the different personnel assigned to the development project clearly separated?	___	___
28. Is each person assigned to the development project aware of his/her responsibility?	___	___
29. Have specific tasks and time frames for completing tasks been established for each member of the development project?	___	___
30. Is the project manager authorized to make decisions on personnel resources, scheduling, costs, budgets, and most technical project matters?	___	___
31. Is the project manager sufficiently supported by top management to accomplish the system development project?	___	___
32. Have adequate resources been provided to successfully complete the system development project?	___	___
33. Does top management track system development projects to make sure that objectives and time schedules are being met?	___	___
34. Do users actively participate in system development projects?	___	___

	YES	NO
35. Is the user the final authority on whether the system meets its intended purpose (i.e., does the user have the final "go/no go" decision to place the system in operation)?	___	___
36. Are all interested parties represented on the development team?	___	___
37. If not, has a mechanism been established so they can provide input to the team?	___	___
38. Are documentation and programming standards adhered to during the system development project?	___	___
DOCUMENTATION		
39. Do agency standards exist for documenting different data processing functions?	___	___
40. Has a project request document been prepared to provide the means for a user to request the development, procurement, or modification of software or other ADP-related services?	___	___
41. Does the project request document include the following:		
--A statement of objectives to be accomplished by the proposed project?	___	___
--A description of the service to be performed?	___	___
--The reason for the request?	___	___
--A description of how the requested project relates to other systems?	___	___
--A statement on privacy and security considerations?	___	___
--A list of those organizations that will be affected by the proposed project?	___	___
--A list of pertinent reference documents on the project?	___	___

	YES	NO
42. Has the project request document been annotated by the receiving organization with the following:		
--The date the request was received?	___	___
--The individual assigned to investigate the request?	___	___
--The disposition of the request?	___	___
--An estimated cost for completing a feasibility study or other analysis, and the project as a whole?	___	___
--Any additional information such as problems encountered or references to other pertinent information?	___	___
43. Has a feasibility study document been prepared to provide the following:		
--An analysis of the objectives, requirements, and system concepts?	___	___
--An evaluation of alternative approaches?	___	___
--An identification of a proposed approach?	___	___
44. Does the document include the following:		
--A description of the requirements of the proposed system?	___	___
--A statement of the major performance objectives of the proposed system?	___	___
--An analysis of existing systems which currently address the proposed system's requirements and objectives?	___	___
--A detailed description of the proposed system?	___	___
--A discussion of alternative systems or approaches?	___	___

	YES	NO
--The rationale for recommending the proposed system?	___	___
--A proposed schedule for system development?	___	___
45. Has a cost-benefit analysis document been prepared to give managers, users, designers, and auditors adequate cost and benefit information to analyze and evaluate alternative approaches?	___	___
46. Does the document include the following:		
--A description of alternative systems or approaches?	___	___
--The cost of development and operation of each alternative?	___	___
--The benefits which could be attained through the development of each alternative?	___	___
--A comparative cost-benefit summary?	___	___
--A sensitivity analysis assessing the extent to which costs or benefits would be affected by changes in key factors?	___	___
47. Has a functional requirements document been prepared to provide the basic understanding between users and designers of the system?	___	___
48. Does the document include:		
--A statement of objectives to be met by the new computer-based system?	___	___
--A description of existing methods and procedures?	___	___
--A description of proposed methods and procedures?	___	___
--A summary of expected improvements?	___	___
--A summary of impacts?	___	___

	YES	NO
--Cost considerations of the proposed computer-based system?	___	___
--A description of alternative proposals?	___	___
--The performance requirements of the new system?	___	___
--A description of inputs and outputs?	___	___
--A description of data elements, dictionaries, tables, and reference files?	___	___
--A description of contingency steps to be taken in the event of hardware/software failures?	___	___
--A description of the equipment needed to process the system?	___	___
--A description of system software needed to support the system?	___	___
--A description of interfaces with other systems?	___	___
--The security and privacy requirements of the system?	___	___
--A description of controls over and within the system?	___	___
--A plan for developing and implementing the proposed system?	___	___
49. Has a data requirements document been prepared to provide a data description and technical information about data collection requirements?	___	___
50. Does it describe:		
--All required data?	___	___
--Data collection requirements, responsibilities, procedures and impacts?	___	___

	YES	NO
51. Have detailed system/subsystem specifications been developed for the computer-based system?	___	___
52. Do they include:		
--An overall narrative description of the system?	___	___
--Its performance requirements?	___	___
--The equipment configuration needed to process the system?	___	___
--The system software needed to support the system?	___	___
--The interfaces with other systems?	___	___
--The security and privacy requirements of the system?	___	___
--The operational controls over the system?	___	___
--The design characteristics of the system, including a system flowchart?	___	___
53. Have detailed program specifications been developed for all programs of the system?	___	___
54. Do these specifications include the following:		
--A general narrative description of the program and its functions?	___	___
--The program's performance requirements?	___	___
--The equipment required to operate the program?	___	___
--The system software needed to support the program?	___	___
--A description of all interactions by computer operators?	___	___
--The storage requirements of the program, including the amount of		

	YES	NO
internal storage, and the amount and type of off-line storage?	___	___
--The security and privacy requirements of the program?	___	___
--The controls over and within the program?	___	___
--Lists of constants, codes, and tables used?	___	___
--The operating procedures of the program?	___	___
--The input record formats and descriptions?	___	___
--A description of the program's logic, including flowcharts and decision tables, supplemented by narrative explanations?	___	___
--The output record formats and descriptions?	___	___
--The logical and physical characteristics of all data bases used by the program including file layouts and data element definitions?	___	___
--Source program listing?	___	___
--Object program listing?	___	___
55. Have detailed specifications been developed for data bases used by the computer-based system?	___	___
56. Do these specifications include the following:		
--The data base identifications?	___	___
--The system(s) using the data base?	___	___
--The labeling and tagging conventions used when accessing the data base?	___	___
--Any special instructions for using it?	___	___

	YES	NO
--The system software needed to support it?	___	___
--Its logical characteristics?	___	___
--Its physical characteristics?	___	___
57. Has a users manual been developed which documents the functions of the computer-based system?	___	___
58. Does this manual include:		
--A narrative description of the computer-based system?	___	___
--A description or diagram of the computer-based operation?	___	___
--A description of the equipment needed to process the system?	___	___
--The structure and role of each system component?	___	___
--The performance capabilities of the system?	___	___
--A description of all data files used by the system?	___	___
--A description of the inputs, the flow of data through the processing cycle, and the outputs?	___	___
--The step-by-step procedures required to initiate processing?	___	___
--The requirements for preparing and entering input data?	___	___
--The requirements relevant to each output, such as format, frequency, etc.?	___	___
--A list of error codes or conditions generated by the system and the corrective actions to be taken by the user?	___	___
--The detailed instructions necessary to intiate, prepare, process, and receive a query applicable to the data base?	___	___

	YES	NO
59. Has an operations manual been developed which describes the computer-based system and its operational environment for computer operations personnel?	___	___
60. Does this manual include:		
--A diagram showing the inputs, outputs, data files, and sequence of operations of the computer-based system?	___	___
--An inventory of all programs included in the system?	___	___
--An inventory of each permanent file that is referenced, created, or updated by the system?	___	___
--A list of the various runs possible and a summary of each run's purpose?	___	___
--A description of the manner in which progressive advances from one run to another is made to complete the entire run cycle?	___	___
--The job control statements needed for each run?	___	___
--Operator instructions for each run?	___	___
--The input and output files for each run?	___	___
--The output reports produced for each run?	___	___
--The output reports that need to be reproduced by other means?	___	___
--The restart/recovery procedures for each run?	___	___
--Any emergency procedures?	___	___
--A description of procedures for running the computer-based system through remote devices?	___	___

		YES	NO
61.	Does the operations manual exclude:		
	--Program logic charts or decision tables?	___	___
	--Copies of program listings?	___	___
62.	Are program listings inaccessible to computer operations personnel?	___	___
63.	Are computer operations personnel denied access to other program and system documentation?	___	___
64.	Has a program maintenance manual been developed which gives the maintenance programmer sufficient information to understand the programs, their operating environment, and their maintenance procedures?	___	___
65.	Does this manual include:		
	--A detailed description of each program in the computer-based system?	___	___
	--The equipment needed to process it?	___	___
	--The system software needed to support the application programs?	___	___
	--A description of the data base being used by the application programs?	___	___
	--A description of the programming conventions used to develop the application programs?	___	___
	--A description of all error conditions, their sources, and procedures for their correction?	___	___
	--Program listings and flowcharts of decision tables?	___	___
66.	Has a plan been documented to test the computer-based system?	___	___

		YES	NO
67.	If so, does it include the detailed specifications, descriptions, and procedures for all tests?	___	___
68.	Does it include test data reduction and evaluation criteria?	___	___
69.	Has a test analysis report been developed which documents the test analysis results and findings?	___	___
70.	If so, does it present the demonstrated capabilities and deficiencies of the computer-based system?	___	___
71.	Is the report used to prepare a statement of the system's readiness for implementation?	___	___
72.	Is all documentation periodically reviewed to insure that it is current and complete and adheres to established standards?	___	___
73.	Are copies of all documentation stored off the premises?	___	___
74.	If so, is the stored documentation periodically compared and updated with that being used?	___	___
75.	Is there written evidence of who performed the systems and programming work?	___	___
76.	Do documented procedures exist for controlling all system documentation?	___	___

PROGRAM TESTING AND SYSTEM ACCEPTANCE

77.	Are all computer programs desk checked by the programmer and his/her supervisor before program assembly or compilation?	___	___
78.	Are all computer programs reviewed after assembly or compilation to insure that errors disclosed by these translator routines are corrected?	___	___

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		YES	NO
79.	Is test data, as opposed to live data, used to test computer programs?	___	___
80.	Is each program, subsystem, and then the entire system, tested?	___	___
81.	Is test data treated just like live data, as opposed to having special codes entered in the test data to indicate it is not normal production data?	___	___
82.	Are sufficient volumes of test transactions entered which have a wide range of valid and invalid conditions?	___	___
83.	Is sufficient time allocated for thorough testing?	___	___
84.	Have sufficient staff members been allocated for testing purposes?	___	___
85.	Are there test cases which evaluate the following:		
	--Mainline and end-of-job logic?	___	___
	--Each routine?	___	___
	--Each exception?	___	___
	--Abnormal end-of-job conditions?	___	___
	--Combinations of parameter cards and switch settings?	___	___
	--Unusual mixtures and sequences of data?	___	___
86.	Does the test data include cases which test for the following types of valid conditions:		
	--Codes?	___	___
	--Characters?	___	___
	--Fields?	___	___
	--Combinations of fields?	___	___
	--Transactions?	___	___
	--Calculations?	___	___

	YES	NO
--Missing data?	___	___
--Extraneous data?	___	___
--Amounts?	___	___
--Units?	___	___
--Composition?	___	___
--Logic decisions?	___	___
--Limit or reasonable checks?	___	___
--Sign?	___	___
--Record matches?	___	___
--Record mismatches?	___	___
--Sequence?	___	___
--Check digit?	___	___
--Crossfooting of quantitative data?	___	___
--Control totals?	___	___
87. Are programming aid software packages used to improve computer programs' efficiency and effectiveness?	___	___
88. Are new programs run parallel to old ones to help assure their accuracy?	___	___
89. Are all computer-based systems subjected to a system acceptance process?	___	___
90. Does this system acceptance evaluate whether the entire system, both manual and automated processes, is performing in accordance with system specifications and processing standards?	___	___
91. Is system acceptance performed by individuals independent of the analysis, design, and development of the system?	___	___
92. Once system acceptance has been completed, is a written certification that the		

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		YES	NO
	entire system performs in accordance with all functional and performance specifications required before the system can be placed in operation?	___	___
93.	Is system acceptance performed using test data similar to, but independent of, program testing data?	___	___
94.	Are system acceptance transactions tested just like live transactions, as opposed to having special codes entered in the transaction to indicate that it is not normal production data?	___	___
95.	Are sufficient volumes of system acceptance transactions entered and processed which have a wide range of valid and invalid conditions?	___	___
96.	Is sufficient time allowed for system acceptance purposes?	___	___
97.	Have sufficient staff members been allocated for system acceptance purposes?	___	___
98.	Are there system acceptance test transactions which evaluate the following:		
	--Mainline and end-of-job logic?	___	___
	--Each routine?	___	___
	--Each exception?	___	___
	--Abnormal end-of-job conditions?	___	___
	--Combinations of parameter cards and switch settings?	___	___
	--Unusual mixtures and sequences of data?	___	___
99.	Does system acceptance data include cases which test for the following types of valid conditions:		
	--Codes?	___	___
	--Characters?	___	___
	--Fields?	___	___

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	YES	NO
--Combinations of fields?	___	___
--Transactions?	___	___
--Calculations?	___	___
--Missing data?	___	___
--Extraneous data?	___	___
--Amounts?	___	___
--Units?	___	___
--Composition?	___	___
--Logic decisions?	___	___
--Limit or reasonableness checks?	___	___
--Sign?	___	___
--Record matches?	___	___
--Record mismatches?	___	___
--Sequence?	___	___
--Check digit?	___	___
--Crossfooting of quantitative data?	___	___
--Control totals?	___	___

PROGRAM CHANGES

100.	Are computer programs revised only after written request by users and approval by user department management?	___	___
101.	Do these written requests describe the proposed changes and reasons for them?	___	___
102.	Do these requests include security/ privacy specifications?	___	___
103.	Is a change request form or other means of documentation used to originate program modifications?	___	___
104.	If so, are all change request forms sequentially numbered and accounted for?	___	___

		YES	NO
105.	Are program modifications thoroughly tested to make sure that the modification functions properly?	___	___
106.	Are program modifications subjected to system acceptance before being placed in operation?	___	___
107.	Is there a limit on the number of times programs can be changed?	___	___
108.	Are departments that initiate changes in master files or program instructions furnished with a notice or other documentation showing changes actually made?	___	___
109.	Do users make the final decision on whether the modification meets their needs?	___	___
110.	Is program documentation changed to reflect program modifications?	___	___
111.	Is system documentation changed to reflect program modifications?	___	___
112.	Is operations documentation changed to reflect program modifications?	___	___
113.	Is user documentation changed to reflect program modifications?	___	___
114.	Are procedures in place to determine if any other system is affected by the program modifications?	___	___
115.	Does the volume of regularly scheduled program modifications indicate a problem with programs, procedures, or the computer-based system?	___	___
116.	Do computer operations personnel have a list of individuals to notify if a computer-based system requires an emergency or immediate modification?	___	___
117.	Are individuals on the above list the only application programmers allowed in the computer room?	___	___

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		YES	NO
118.	Is access to other data files and programs denied to the programmer making an emergency modification?	___	___
119.	Is the programmer making the emergency modification denied access to the data files that the program was using when the problem occurred?	___	___
120.	Do computer operations personnel document the problems and give that documentation to the ADP department manager?	___	___
121.	Is the responsible user always notified that an emergency modification has been made?	___	___
122.	Is the system's project manager always notified that an emergency modification has been made?	___	___
123.	Are all emergency modifications made to both the source module and the executable load module?	___	___
124.	Does the programmer making the emergency modification complete a statement and leave it with the computer operator as to the problem encountered, and the fix made?	___	___
125.	Is the individual making the emergency modification required to perform sufficient testing to assure that the emergency modification will function properly?	___	___
126.	Are procedures established to insure that the emergency modification is immediately subjected to a system acceptance test?	___	___
127.	Are procedures established so that the system-accepted emergency modification will be incorporated into the next production version of the system?	___	___
128.	Does the volume of emergency modifications indicate a problem with programs, procedures, or the computer-based system?	___	___

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		YES	NO
129.	Are outdated source programs deleted from the production source program library?	___	___
130.	Are outdated load modules deleted from the executable load module library?	___	___
131.	Are job control statements relating to outdated programs discarded?	___	___
132.	Is documentation relating to outdated programs discarded?	___	___
133.	Is there a procedure to prevent suspended programs from being used by mistake?	___	___
134.	Is a special library used for source programs or executable load modules during the testing and system acceptance phases?	___	___
135.	Is an executable load module library used for production processing?	___	___
136.	Does the executable load module library keep track of the day, date, sequence, who made the change, and the change, etc.?	___	___
137.	Are computer programs protected from unauthorized access?	___	___
138.	Does the agency use automated methods (such as a program library system software package) to restrict access to computer programs?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

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DATA CENTER MANAGEMENT CONTROLS

The accuracy and completeness of information processed by an agency's data processing function depends, in part, on the controls over the operations of the data center. The main areas of control include

--input/output control and scheduling,

--malfunction reporting and preventive maintenance, and

--user billing/chargeout procedures.

The auditor should determine the adequacy of the controls over the center and the level of management exercised.

	YES	NO
INPUT/OUTPUT CONTROL AND SCHEDULING		
1. Has a formal control group been established within the data center?	___	___
2. Have formal input/output control procedures been established? (If so, attach a copy.)	___	___
3. Is the control group responsible for recording and controlling all production data processed by the data processing department?	___	___
4. Does the control group keep logs of all computer-based systems?	___	___
5. Do these logs include the following:		
--Name of application?	___	___
--Record counts and predetermined control totals of input transactions?	___	___
--Run-to-run totals?	___	___
--Record counts and predetermined control totals of error transactions?	___	___
--Record counts and predetermined control totals of updated master files?	___	___

		YES	NO
	--Record counts and predetermined control totals of output transactions?		
6.	Are all totals balanced during and after the application processing?	___	___
7.	Are all errors disclosed during processing controlled by the control group to insure that they are corrected promptly?	___	___
8.	Does a supervisor initial each log to indicate that a review has been performed?	___	___
9.	Does the control group require an authorization document or a transmittal sheet to accompany all input transactions?	___	___
10.	Does the group visually scan all output reports for general accuracy and completeness?	___	___
11.	Does the group distribute output reports according to a formal schedule?	___	___
12.	Is the group responsible for scheduling production runs and other workloads?	___	___
13.	Is it responsible for rescheduling of aborted or erroneous processing?	___	___
14.	Have formal scheduling procedures been established? (If so, attach a copy.)	___	___
15.	Is a priority scheme used for scheduling work?	___	___
16.	Is there a schedule of all computer-based systems which includes:		
	--A brief description of the function of each?	___	___
	--The date of approval?	___	___
	--The identification number?	___	___
17.	Is the mix of jobs aimed at getting the proper performance out of the data center's resources?	___	___
18.	If an RJE is used, has a control group been established to govern its operation?	___	___

		YES	NO
19.	Does the computer system schedule the work submitted through the RJE?		
20.	Is the group responsible for all negotiable instruments?	___	___
21.	Have formal procedures been established governing the requisition and accounting for all blank stock of negotiable instruments? (If so, attach a copy.)	___	___
22.	Is the receipt of negotiable instruments inventoried by two people at the time of delivery?	___	___
23.	Are negotiable instruments, damaged or voided during processing, destroyed in the presence of two or more people?	___	___
24.	When negotiable instruments are being processed by the computer, are two or more people present?	___	___
25.	Are all negotiable instruments periodically inventoried by the control group?	___	___

MALFUNCTION REPORTING AND PREVENTIVE MAINTENANCE

26.	Has a formal malfunction reporting procedure been established for the data processing department? (If so, attach a copy.)	___	___
27.	Are computer operators required to keep logs of all computer processing actions?	___	___
28.	Do these logs record:		
	--Startup?	___	___
	--Errors?	___	___
	--Reruns?	___	___
	--Recoveries?	___	___
	--Shutdowns?	___	___
	--Shift changes?	___	___

	YES	NO
--Maintenance?	___	___
--Other?	___	___
29. Are all processes and operator decisions recorded on the operations log?	___	___
30. Does a supervisor initial each log to indicate that a review has been performed?	___	___
31. Does the computer system automatically produce a log of all system operations?	___	___
32. Does the console log list:		
--Date?	___	___
--Job name and/or number?	___	___
--Program name and/or number?	___	___
--Start/stop times?	___	___
--Files used?	___	___
--Record counts?	___	___
--Halts (programmed and unscheduled)?	___	___
33. If the system does not have a console typewriter, does some other method afford adequate control and record the activities performed by both the computer and operator?	___	___
34. Is all computer time accounted for from the time the computer is turned on, until it is shut down?	___	___
35. Are disposition notes entered on the console log showing corrective actions taken when unscheduled program halts occur?	___	___
36. Are job reruns recorded on the console log?	___	___
37. Is the reason for each rerun recorded?	___	___

		YES	NO
38.	Are log pages sequentially numbered?	___	___
39.	Is the log reviewed and signed at the end of each shift by a supervisor and filed as a permanent record?	___	___
40.	Are logs independently examined to detect operator problems and unauthorized intervention?	___	___
41.	Have formal preventive maintenance procedures been established for the data processing department? (If so, attach a copy.)	___	___
42.	Is there documented evidence of the type and time of maintenance performed?	___	___
43.	Is a schedule for machine maintenance published and followed?	___	___
44.	Is sensitive data removed from all on-line storage devices before equipment is turned over to maintenance personnel?	___	___

USER BILLING/CHARGEOUT PROCEDURES

45.	Are there documented procedures for user billing/chargeout?	___	___
46.	Are there user/data processing department billing/chargeout agreements? (If so, attach copies.)	___	___
47.	Are the user billing/chargeout procedures effectively tied into a job accounting system for the data processing department's resources?	___	___
48.	Are the user billing/chargeout procedures based on the number of transactions processed?	___	___
49.	Are they based on an artificial "computer accounting unit"?	___	___
50.	Are there adequate procedures for determining the share of overhead costs for billing users?	___	___
51.	Are additions to the equipment, software, etc., justified on the basis of resource utilization and user needs?	___	___

		YES	NO
52.	Are there adequate procedures for determining why costs are not charged to users?	___	___
53.	Is there an equitable procedure for charging reruns of production jobs so that user errors are charged to users and data processing department errors are not charged to users?	___	___
54.	Are present data processing department costs in line with budgeted costs?	___	___
55.	Is the method of charging the data processing department's costs equitable?	___	___
56.	Is the method of charging the data processing department's costs in the interest of minimizing the use of agency resources?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

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DATA CENTER PROTECTION CONTROLS

Computer resources and data should be protected against unauthorized access to reduce erroneous or fraudulent activities. Formal documented procedures should be established describing actions to be taken in the event of fire or other natural disasters.

The auditor should evaluate protection controls over the data center and the adequacy of emergency procedures and backup arrangements.

	YES	NO
SECURITY AND ACCESS		
1. Has overall agencywide responsibility for conducting periodic risk analyses been formally assigned? (If so, to whom?)	___	___
2. Does the risk analysis measure vulnerability related to the potential for the following:		
--Fraud or theft?	___	___
--Inadvertent error or improper disclosure of information?	___	___
--Financial loss?	___	___
--Harm to individuals or infringement on privacy rights?	___	___
--Loss of proprietary data and harm to agency activities?	___	___
3. Has a specific timetable for conducting risk analyses been established?	___	___
4. Is the interval between risk analyses commensurate with the sensitivity of the information processed?	___	___
5. Is the interval between risk analyses at most every 5 years?	___	___
6. Do agency procedures require that a risk analysis be performed before the approval of design specifications for computer installations?	___	___

		YES	NO
7.	Do agency procedures require that a risk analysis be performed whenever there is a "significant change" to the physical facility, hardware, or operating system software?	___	___
8.	Has the agency defined "significant change"?	___	___
9.	Is the definition of "significant change" commensurate with the sensitivity of the information processed by the installation?	___	___
10.	Are requirements established for conducting risk analyses for Government-owned contractor-operated facilities as well as Government operated facilities?	___	___
11.	Do agency plans provide for assessing risks related to computer services provided by other agencies and those provided through commercial services?	___	___
12	Has overall agencywide responsibility for computer security been formally assigned? (If so, to whom?)	___	___
13.	Has the agency assigned responsibility for computer security at each headquarters and field organization?	___	___
14.	Do the individuals assigned responsibility for computer security have both computer and security experience?	___	___
15.	Are all employees required to sign an agreement regarding their role and responsibility in the department and the ownership and use of data processing equipment and information within the data center?	___	___
16.	Have personnel security policies for screening employees been established and implemented?	___	___
17.	Do these policies provide for levels of screening commensurate with the sensitivity of the position or function?	___	___

		YES	NO
18.	Have screening requirements for contractor/ service personnel been established and implemented?	___	___
19.	Are the personnel policies consistent with FPM letter 732-7?	___	___
20.	When an employee is terminated, are the following precautions taken immediately:		
	--The employee is denied access to the data processing department?	___	___
	--The employee is denied access to any data, program listings, etc.?	___	___
	--All other employees are informed of the employee's termination?	___	___
21.	Is there a procedure to be followed if an employee becomes a suspected security risk?	___	___
22.	Is access to the computer area limited to only authorized personnel?	___	___
23.	Do combination locks, security badges, or other means restrict access to the computer room?	___	___
24.	Are combinations on locks or similar devices periodically changed?	___	___
25.	Are account codes, authorization codes, passwords, etc. controlled to prevent unauthorized use?	___	___
26.	Are restricted entrances and emergency exits equipped with tamperproof automatic alarm systems that signal when doors are opened?	___	___
27.	Are exterior walls, tape library walls, storage room walls, etc., of solid construction from floor to ceiling?	___	___
28.	Are data processing personnel trained to challenge improperly identified visitors?	___	___

		YES	NO
29.	Are data processing personnel counseled to report all cases of security intrusions (either intentional or inadvertent) of which they become aware?	___	___
30.	Is access to the computer area by custodial, electrical, and other in-house maintenance personnel controlled?	___	___
31.	Must vendor and support personnel provide positive identification before they can be admitted to the computer area?	___	___
32.	Must data processing personnel be present when service personnel are in the area?	___	___
33.	Are at least two individuals always present in the computer room at all times?	___	___
34.	Is there a method or procedure to restrict access to source documents and blank input forms to authorized employees only?	___	___
35.	Are all critical forms (i.e., negotiable instruments, identification cards, etc.) stored in a secure location and are they accounted for periodically?	___	___
36.	Are source documents, blank input forms, and other critical forms prenumbered for accountability?	___	___
37.	Are procedures in place to limit access to critical forms during their intermediate storage and transportation such as dual custody and mail and message carrier controls?	___	___
38.	Is there a procedure for joint authorization releases from the storage area?	___	___
39.	Is the receipt of critical forms inventoried by two people at the time of delivery?	___	___
40.	Have controls been established over the issuance of critical forms for jobs being scheduled for processing?	___	___

	YES	NO
41. When critical forms are processed by the computer, are two or more people always present?	___	___
42. Are copies of critical outputs that need to be destroyed kept in a secure location until they can be destroyed?	___	___
43. When critical outputs are destroyed, are at least two people present?	___	___
FILES		
44. Is the responsibility for issuing and storing magnetic tapes, disk packs, or other data storage media assigned to a librarian?	___	___
45. Is this duty the librarian's chief responsibility?	___	___
46. Are library procedures documented?	___	___
47. Is access to the library always limited to the responsible librarian(s)?	___	___
48. Is there a librarian on duty at all times when the data center is being used?	___	___
49. Does the agency use automated methods (such as a file management system software package) to restrict access to computerized files?	___	___
50. Are sensitive files (such as security classification or privacy act restrictions) properly identified as such, and appropriately secured?	___	___
51. Are all data files logged in and out to prevent release to unauthorized personnel?	___	___
52. Are all files expeditiously returned to the library after use?	___	___
53. Are tape and disk inventory records kept?	___	___
54. Are tape and disk status records kept?	___	___
55. Have external labeling procedures been documented?	___	___

	YES	NO
56. Are external labels affixed to active tapes and/or disks?	___	___
57. Do labels tie in with inventory records?	___	___
58. Are work or scratch tapes or disk packs kept in a separate area of the library?	___	___

DISASTER RECOVERY

59. Have emergency procedures been documented?	___	___
60. Do they include steps to take in the event of a natural disaster by fire, water damage, etc., and intentional damage by sabotage, mob action, bomb threats, etc.?	___	___
61. Are employees familar with the emergency procedures?	___	___
62. Is the computer center separated from adjacent areas by fire resistant partitions, walls, etc.?	___	___
63. Have noncombustible flooring, ceilings, and/or draperies been used in the data center?	___	___
64. Are any activities conducted adjacent to the center that might endanger it by flood, fire, or explosion?	___	___
65. Is smoking prohibited in the center?	___	___
66. Are center personnel trained periodically in fire-fighting techniques and assigned individual responsibilities in case of a fire?	___	___
67. Are emergency procedures for handling minor and major fires prominently posted throughout the data center?	___	___
68. Are heat and smoke detectors installed in the following areas:		
--In the ceiling?	___	___
--Under raised floors?	___	___
--In the air return ducts?	___	___

		YES	NO
69.	Do these devices alert the local fire department as well as internal personnel?	___	___
70.	Are portable fire extinguishers located in strategic and accessible areas?	___	___
71.	Are they vividly marked?	___	___
72.	Are they periodically tested?	___	___
73.	Are emergency exits and evacuation routes clearly labeled?	___	___
74.	Are battery-powered emergency lights placed in strategic locations to assist in evacuation should power be interrupted?	___	___
75.	Is the computer center protected by an automatic fire suppressing system?	___	___
76.	Are emergency switches for cutting off power easily accessible at the exits of the center?	___	___
77.	Does emergency power shutdown include the air-conditioning system?	___	___
78.	Is the center equipped with temperature and humidity gauges which automatically activate signals if either goes outside the normal range?	___	___
79.	Is the center air-conditioned by a separate system?	___	___
80.	Is the air-conditioning system sufficiently protected from unauthorized access?	___	___
81.	Is the air-conditioning system (duct linings, filters, etc.) made from noncombustible materials?	___	___
82.	Are air intakes protected against introduction of noxious substances?	___	___
83.	Is backup air-conditioning available?	___	___
84.	Is the source of electric power sufficiently reliable to assure continued operations?	___	___

		YES	NO
85.	Is the source of electric power sufficiently protected from unauthorized access?	___	___
86.	Is an alternate power source available?	___	___
87.	Is the computer center backed up by an uninterruptible power source system?	___	___
88.	Are there provisions for retaining and/or copying master files and a practical means of reconstructing a damaged or destroyed file?	___	___
89.	Are sufficient generations of files maintained to facilitate reconstruction of records (grandfather-father-son routine)?	___	___
90.	Is at least one file generation kept at a location other than the file storage area?	___	___
91.	Are copies of critical files stored at a remote location and restricted from unauthorized access?	___	___
92.	Are duplicate application programs kept at a remote location and restricted from unauthorized access?	___	___
93.	Are duplicate system software programs kept at a remote location and restricted from unauthorized access?	___	___
94.	Are duplicate copies of critical documentation kept at a remote location and restricted from unauthorized access?	___	___
95.	Is there backup computer capacity within the computer center?	___	___
96.	Is this backup capacity in the same building but in a different computer center?	___	___
97.	Is there backup capacity at an offsite location?	___	___
98.	Have critical locations been provided with the following backup devices:		
	--Terminals?	___	___

	YES	NO
--Modems?	___	___
--Communication lines?	___	___
99. Have these backup arrangements been documented?	___	___
100. Have they been formally agreed to by all parties concerned?	___	___
101. Has a priority scheme been established in the event that backup arrangements must be used?	___	___
102. Are backup procedures periodically tested at the backup data center?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

SYSTEM SOFTWARE CONTROLS

Many control operations previously performed manually have been automated in "system software," which is defined as any program or system that helps interconnect and/or control the elements of input, output, processing, data, and application programs. System software normally falls into one of the following categories: (1) operating systems, (2) system utilities, (3) program library systems, (4) file maintenance systems, (5) security software, (6) data communications systems, and (7) data base management systems.

The auditor should determine

--types and uses of system software,

--reliance on system software to perform critical control or critical processes,

--who has access to interworkings of system software, and

--how well the changes to system software are being controlled.

	YES	NO
OPERATING SYSTEMS		
1. Is an operating system used to control the inner workings of the computer hardware? (If "no," skip to question 17.)	___	___
2. Has the vendor or developer provided a complete, documented description of the operating system's design and operation?	___	___
3. Does the operating system prohibit one application program from accessing memory or data of another application program that is processing simultaneously?	___	___
4. Is the operating system "read protected"? (This prohibits an application program from accessing operating system instructions, password tables, and/or other authorization algorithms.)	___	___
5. Does the operating system prohibit operators from entering data or changing memory values at the computer console?	___	___

	YES	NO
6. Is the use of privileged instruction of the operating system strictly controlled?	___	___
7. Does the operating system control all input/output functions of data files?	___	___
8. Are operating system instructions, password tables, and/or other authorization algorithms protected from unauthorized access when the computer system fails?	___	___
9. Has the integrity of the operating system been tested after initial installation?	___	___
10. Does the operating system prohibit application programs from overriding or bypassing errors which are detected during processing?	___	___
11. Must all application programs or other system software be run only when the operating system is operational?	___	___
12. Is an audit trail of all operating system actions maintained either on the automatic console log or the computer system's job accounting data?	___	___
13. Is each use of the computer system's "load" button recorded?	___	___
14. Is the button physically protected?	___	___
15. Is the computer system's internal clock adequately protected from unauthorized access?	___	___
16. Does the operating system adequately and accurately schedule all jobs run on the computer system?	___	___
SYSTEM UTILITIES		
17. Are utility programs used to perform frequently repeated functions? (If "no," skip to question 25.)	___	___
18. Has the vendor or developer of the system utilities provided a complete, documented description of their design and operation?	___	___

	YES	NO
19. Must the operating system be operational when utility programs are used?	___	___
20. Is there a complete directory of all available utilities?	___	___
21. Is access to system utility documentation denied to computer operators?	___	___
22. Is a supervisory authorization required before installation and use of new versions of utility programs?	___	___
23. Can controls that detect processing errors in system utilities be overridden or bypassed?	___	___
24. Can system utilities be used to override or bypass controls within other system software or application programs?	___	___

PROGRAM LIBRARY SYSTEMS

25. Is a program library system used to control application programs? (If no, skip to question 35.)	___	___
26. Has the vendor or developer of the program library system provided a complete, documented description of the system's design and operation?	___	___
27. Does the program library system:		
--Restrict access to application programs?	___	___
--Control movement of programs from test to production modes?	___	___
--Control movement of programs from source code to object code?	___	___
--Control changes to application programs?	___	___
28. Are program library system functions adequately supported by proper manual procedures?	___	___
29. Are control functions performed by the program library system protected so they cannot be bypassed?	___	___

	YES	NO
30. Does the program library system provide an audit trail of all changes made to application programs?	___	___
31. Does the program library system prevent the existence of more than one version of a source code program?	___	___
32. Does the program library system prevent the existence of more than one version of an object code program?	___	___
33. Are obsolete programs removed regularly from the:		
--Source code library?	___	___
--Object code library?	___	___
34. Are computer operators denied access to all libraries maintained by the program library system?	___	___

FILE MAINTENANCE SYSTEMS

35. Is a file maintenance system used to control all tape and disk data sets? (If no, skip to question 43.)	___	___
36. Has the vendor or developer of the file maintenance system provided a complete documented description of its design and operation?	___	___
37. Does the file maintenance system:		
--Restrict access to automated data files?	___	___
--Control the establishment, use and retention of automated data files?	___	___
38. Are file maintenance system functions adequately supported by proper manual procedures?	___	___
39. Are control functions performed by the file maintenance system protected so that they cannot be overridden or bypassed?	___	___

	YES	NO
40. Does the file maintenance system provide an audit trail of all uses and accesses of all automated data files?	___	___
41. Does the file maintenance system prohibit more than one data file from having the same volume serial number?	___	___
42. Have external labels been removed from all tape data files since the file maintenance system became operational?	___	___

SECURITY SOFTWARE

43. Is separate security software used to provide additional control over the agency's computer resources? (If no, skip to question 53.)	___	___
44. Has the vendor or developer of the security software provided a complete documented, description of its design and operation?	___	___
45. Is the security software used to control access to:		
--Terminals?	___	___
--Remote job entry stations?	___	___
--Individual automated data files?	___	___
--Individual application programs?	___	___
--Other system software?	___	___
46. Are security software functions adequately supported by proper manual procedures?	___	___
47. Can the control functions performed by security software be overridden or bypassed?	___	___
48. Does the security software provide an audit trail of:		
--All authorized uses of computer resources under control?	___	___
--All unauthorized attempted access?	___	___

	YES	NO
49. Does security software control access to data separately from access to other computer resources?	___	___
50. Is security software transparent to the following:		
--All application programs?	___	___
--All other system software?	___	___
51. Is there a list of all individuals detailing what computer resources they have access to?	___	___
52. Do supervisors review it periodically?	___	___

DATA COMMUNICATIONS SYSTEMS

53. Is a data communications system used to provide the interface between terminals and the computer-based system? (If no, skip to question 78.)	___	___
54. Has the vendor or developer of the data communications system provided a complete, documented description of its design and operation?	___	___
55. Does the data communications system:		
--Control access to and use of terminals?	___	___
--Poll and receive messages from computer terminals or other computers?	___	___
--Address and send messages back to computer terminals or other computers?	___	___
--Edit and format input and output messages?	___	___
--Handle error situations?	___	___
--Reroute traffic when terminals or lines are inoperative?	___	___
--Perform on-line formatting on visual display terminals?	___	___

		YES	NO
56.	Are data communications system functions adequately supported by proper manual procedures?	___	___
57.	Are functions of the data communications system protected so that they cannot be overridden or bypassed?	___	___
58.	Is a built-in hardware identification code checked by the data communications system to insure that no unauthorized terminals are being used?	___	___
59.	Does the data communications system use a table of authorized terminal addresses to allow polling with the communications network?	___	___
60.	Are user authorization codes or passwords required by the data communications system to:		
	--Access the computer system?	___	___
	--Access application programs?	___	___
	--Access other system software?	___	___
	--Enter transactions?	___	___
61.	Are different authorization codes required to enter different transactions?	___	___
62.	Does the authorization code identify the individual using the terminal?	___	___
63.	Are user authorization codes controlled to restrict unauthorized use?	___	___
64.	Are user authorization codes periodically changed?	___	___
65.	Is a nonprinting/nondisplaying or obliteration facility used when keying in and acknowledging user authorization codes?	___	___
66.	Is a terminal identification check performed by the data communications system so that various transaction types can be limited to authorized data entry stations?	___	___

	YES	NO
67. If a security matrix or table is used to control access to the application system, is it properly protected to prevent unauthorized access?	___	___
68. Is a message header used by the data communications system to identify:		
--Source of the message, including proper terminal and user authorization code?	___	___
--Message sequence number, including the total number of message segments?	___	___
--Transaction type code?	___	___
--Transaction authorization code?	___	___
69. Is this message header validated by the data communications system for:		
--Proper sequence number from the identified terminal?	___	___
--Proper transaction code and/or user authorization code for the terminal or user?	___	___
--Number of message segments received equal to the count indicated in the message header?	___	___
--Proper acknowledgment from the terminal at the end of a transmission?	___	___
--Balancing of debit/credit totals derived from adding all message segments and comparing with corresponding totals in the message header?	___	___
70. Does the data communications system use an end-of-transmission trailer which includes:		
--Message and segment counts?	___	___
--Value totals, including debits and credits?	___	___
--An ending symbol?	___	___

	YES	NO
71. Are trailer counts and totals reconciled with header counts and totals by the data communications system?	___	___
72. Does the data communications system:		
--Send acknowledgments to the terminal indicating receipt of messages?	___	___
--Periodically test line and terminal operating status with standardized test messages and responses?	___	___
73. Does the data communications system use buffering to queue messages when a device, such as a terminal, is busy?	___	___
74. Is a transaction log of sequence-numbered and/or time-of-day-noted transactions maintained by the data communications system?	___	___
75. Does the transaction log record the:		
--Orginating terminal?	___	___
--User authorization code?	___	___
--Message identification?	___	___
--Transaction type code?	___	___
--Time of day that the transaction was logged?	___	___
--Transaction data?	___	___
76. Is the transaction log used to:		
--Provide part of the audit trail?	___	___
--Account for all error messages?	___	___
--Record, with control totals, all retrievals made by a particular terminal?	___	___
77. Are all messages awaiting transmission logged by the data communications system before being put into the transmission queue, and then purged after transmission?	___	___

	YES	NO
DATA BASE MANAGEMENT SYSTEMS		
78. Is a data base management system used to control and maintain the agency's data base? (If "no," skip to question 93.)	___	___
79. Has the vendor or developer of the data base management system provided a complete documented description of its design and operation?	___	___
80. Does the data base management system:		
--Provide security over data base accesses?	___	___
--Control the addition, modification, and deletion of data?	___	___
--Provide the interface between individual application programs and specific data items in the data base?	___	___
81. Are data base management system functions adequately supported by proper manual procedures?	___	___
82. Are functions of the data base management system protected so that they cannot be overridden or bypassed?	___	___
83. Is the use of restricted instructions logged and checked periodically?	___	___
84. Does the data base management system use authorization codes or passwords to control access to data items?	___	___
85. Does the data base management system record unsuccessful attempts to access the data base?	___	___
86. Does the data base management system record which application programs have accessed each data item within the data base?	___	___
87. Does this log indicate whether the application program:		
--Read a data item?	___	___

	YES	NO
--Updated a data item?	___	___
--Created a new data item?	___	___
--Deleted a data item?	___	___
88. Are all errors discovered by the data base management system logged for followup?	___	___
89. Are failures in the data base management system documented for supervisory review?	___	___
90. Can the data base management system fairly and reliably identify and charge individual users of the data base for their actual usage?	___	___
91. Has a data dictionary been developed and maintained documenting the following:		
--Attributes of each data item?	___	___
--Security over each data item?	___	___
92. Does the data dictionary document the following for each data item:		
--Its name?	___	___
--Any synonyms?	___	___
--Its source?	___	___
--Frequency of change?	___	___
--Person responsible for its accuracy?	___	___
--Person responsible for updating it?	___	___
--Person responsible for deleting it?	___	___
--People eligible to read it?	___	___
--Any special authorizations required to update, read, or delete it?	___	___
--Its relationship with all other data items?	___	___
--Tests for correctness to be applied?	___	___

	YES	NO
--Application programs which can update, read, or delete it?	___	___
--Which output reports it appears on and the application programs that produce those reports?	___	___
--Its data format?	___	___
--Its position in the logical data structure(s)?	___	___

SYSTEM PROGRAMMERS

93.	Has the responsibility for controlling and maintaining system software (system programming) been separated from application programming?	___	___
94.	Do system programmer responsibilities include:		
	--Maintaining all system software?	___	___
	--Advising on selection of new system software?	___	___
	--Writing internal or specialized system software?	___	___
	--Modifying vendor-supplied system software?	___	___
95.	Do system programmers possess high level technical skills needed to adequately perform their functions?	___	___
96.	Are application programmers prohibited from performing system programmer functions?	___	___
97.	Are system programmers adequately supervised?	___	___
98.	Do supervisors have sufficient technical skills to adequately monitor system programmer actions?	___	___
99.	Are periodic security background investigations performed on system programmers?	___	___

	YES	NO
100. Are system programmers prohibited from operating the computer system?	___	___

DATA BASE ADMINISTRATOR

101. With the advent of the data base management system, has a data base administrator position been established?	___	___
102. Do data base administrator responsibilities include:		
--Designing a logical structure for the data base and deciding on a physical data storage strategy?	___	___
--Advising on selection of the data base management system?	___	___
--Developing the data dictionary?	___	___
--Selecting data search strategies?	___	___
--Directing conversion of application system data files to the data base?	___	___
--Establishing security, privacy, and accuracy controls?	___	___
--Organizing archival data storage?	___	___
--Resolving errors of data base management system failures?	___	___
--Evaluating performance of the data base management system?	___	___
--Reorganizing the data base when necessary?	___	___
103. Does the data base administrator possess high-level technical skills needed to adequately perform the function?	___	___
104. Is the administrator authorized to resolve conflicting requirements from different user departments?	___	___
105. Does the administrator insure that user requirements are met?	___	___

	YES	NO
106. Does the administrator insure that agency requirements are met?	___	___
107. Does the administrator advise agency officials on organizational structure changes that are necessary because of the data base?	___	___
108. Does the administrator make sure that adequate testing is performed before changes to the data base management system are implemented?	___	___
109. Are controls established to determine when it is necessary to reorganize either the physical or logical structure within the data base in order to maintain an acceptable level of performance?	___	___
110. After the data base is reorganized, does the data base administrator ascertain that control totals for the reorganized data base are reconciled with control totals existing before the reorganization?	___	___
111. Does the administrator make sure that it is technically impossible to access the data base without using the data base management system?	___	___
112. Is separation of duties clearly defined between the data base administrator and the following:		
--System programmers?	___	___
--Application programmers?	___	___
--System analysts?	___	___
--Others?	___	___
113. Is the data base administrator function properly documented?	___	___

SYSTEM SOFTWARE CHANGES

114. Have formal documented system software change procedures been established?	___	___

		YES	NO
115.	Are change request forms or other documentation used to originate system software modifications?	___	___
116.	If so, are all change request forms sequentially numbered and accounted for?	___	___
117.	Are system software modifications thoroughly tested to make sure that modifications function properly?	___	___
118.	Are system software modifications subjected to a system acceptance before being placed in operation?	___	___
119.	Is all relevant documentation changed to reflect system software modifications?	___	___
120.	Does the volume of regularly scheduled system software modifications indicate a problem with the software, procedures, or application?	___	___
121.	Do computer operations personnel have a list of system programmers to notify if system software requires an emergency or immediate modification?	___	___
122.	Are individuals on the above list the only system programmers allowed in the computer room?	___	___
123.	Is access to data files and application programs denied to the system programmer making a system software modification?	___	___
124.	Is the system programmer, when making an emergency modification, denied access to data files and application programs that were operating when the problem occurred?	___	___
125.	Does the system programmer making an emergency system software modification complete a statement and leave it with the computer operator as to the problem encountered and fix made?	___	___
126.	Are procedures established to ensure that emergency system software modifications are immediately subjected to a system acceptance?	___	___

	YES	NO
127. Are procedures established so that the accepted emergency modification will be incorporated into the next operational version of system software?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

HARDWARE CONTROLS

Even though most computer equipment has a high degree of reliability, malfunctions can still occur which affect the accuracy and reliability of computer data. Therefore, controls need to be established within the hardware which can detect equipment errors. This is important because improved performance and faster speed of new computers have recently been achieved by eliminating some previously used hardware controls.

The auditor should determine that proper hardware controls exist and if not, determine if alternate controls have been established.

	YES	NO
CENTRAL PROCESSING UNIT		
1. Are built-in parity bits used by the CPU to insure that all data elements trahs-mitted through the internal circuitry are transmitted correctly?	___	___
2. Is redundant character checking used by the CPU to insure the correctness of data processing?	___	___
3. Are validity checks used by the CPU to insure that only valid operation codes are used?	___	___
4. Does the CPU perform validity checks on the numbers used to access memory to insure that only valid numbers are used?	___	___
5. Does the CPU have automatic interlock controls to prevent the equipment from performing certain operations at the wrong time?	___	___
CARD READER		
6. Are dual read controls (reading and comparing at two separate read stations) used to detect errors in reading cards?	___	___
7. Are hole count controls (counting punched holes and comparing counts at two separate read stations) used to detect errors in reading cards?	___	___
8. Are validity checks used to compare card punches read against valid combinations?	___	___

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	YES	NO
CARD PUNCH		
9. Are read compare controls used to compare card contents with data which was to be punched?	___	___
10. Are hole count controls used to compare hole counts of the card which was punched with the hole count which was to be punched?	___	___
11. Are echo check controls used to verify that punch dies were activated to punch the required holes?	___	___
PRINTER		
12. Are echo check controls used just before printing to verify that the proper print position will be activated?	___	___
13. Are validity check controls used to verify the signals transmitted to the printer against the set of valid signals?	___	___
14. Are print synchronization controls used to check timing of the printer to determine that print hammers of impact printers are activated at the moment when appropriate characters are in the correct position?	___	___
MAGNETIC TAPE DRIVE		
15. Are parity checks (both individual and blocks of characters) made to insure that all data elements on magnetic tape are transmitted correctly?	___	___
16. Does the magnetic tape drive perform read after write comparisons to insure that data was recorded correctly?	___	___
17. Are tape trailer label totals used by the computer to verify the number of characters, records, and/or blocks read with totals maintained on the label?	___	___
18. Are read errors handled by backspacing the tape one record or block and repeating the operation?	___	___

	YES	NO
19. If backspacing does not successfully read the record or block after repeated attempts, does the computer discontinue processing?	___	___
20. Are programmers prevented from bypassing unprocessable records or blocks?	___	___
21. If processing is allowed to continue, have alternate manual controls been established to control bypassed records or blocks?	___	___
DIRECT ACCESS STORAGE DEVICE		
22. Are parity checks (both individual and blocks of characters) made to insure that all data elements on the direct access storage device are transmitted correctly?	___	___
23. Are read-after-write checks performed to insure that the record just written was correctly recorded?	___	___
24. Are validity check controls used to verify the address locations against the set of valid addresses?	___	___
25. Are address comparisons made to verify the address of the location at which data is to be written with the address called for by the instructions?	___	___
DATA COMMUNICATIONS		
26. Is a unique hardwired identification code, requiring no human intervention for its use, incorporated into each terminal device?	___	___
27. Is this identification code checked and validated by the computer to insure that no unauthorized terminals are being used?	___	___
28. Does the communications system avoid using the public switchboard (PBX) as a means of reducing the error rate and the chance of wiretapping data transmissions?	___	___

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		YES	NO
29.	Are voice grade lines used to reduce data transmission errors and maintain integrity of data transmitted?	___	___
30.	Are data communications lines conditioned for improved accuracy and physical security?	___	___
31.	Are scrambling or encryption techniques used in transmitting sensitive data?	___	___
32.	Is an automatic store and forward capability used to maintain control over messages queued for an inoperative or a busy communications device?	___	___
33.	If leased lines are used, is an automatic backup capability used to ensure that when the lines fail, an automatic switchover is accomplished for the length of the outage?	___	___
34.	Is a message intercept function used to receive messages directed to inoperable or unauthorized terminals?	___	___
35.	Are parity checks used to detect errors in transmission of data?	___	___
36.	Are validity checks used to compare character signals transmitted with the set of valid characters?	___	___
37.	Is echo checking used to verify each character so that erroneous data is detected?	___	___
38.	Are forward error correcting techniques used for the detection and reporting of data communications errors using sophisticated redundancy codes?	___	___
39.	Are techniques available for detecting erroneous retransmissions of data?	___	___
40.	Are modems equipped with loop-back switches for fault isolation?	___	___

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	YES	NO
41. Are modems which handle both voice and data communications used to enable computer operators and terminal operators to communicate in case of problems?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers, and identify alternate control procedures.

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GENERAL CONTROLS PROFILE

Based on questionnaire responses and other information obtained relating to the following control characteristics, how much risk (low, medium or high) do you believe is involved in relying on the agency's general controls to assure effective ADP operation and accurate, reliable data processing? Refer to appendix II for more information on assessing risk.

Control characteristic	Is the control in place?	Is the control effective?	Is some alternate control in place?	Is the alternate control effective?	Level of potential risk?
ORGANIZATIONAL CONTROLS					
Separation of duties					
Personnel policies					
SYSTEM DESIGN, DEVELOPMENT, AND MODIFICATION CONTROLS					
System development life cycle					
Documentation					
Program testing and system acceptance					
Program changes					
DATA CENTER MANAGEMENT CONTROLS					
Input/output control and scheduling					

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GENERAL CONTROLS PROFILE

Control characteristic	Is the control in place?	Is the control effective?	Is some alternate control in place?	Is the alternate control effective?	Level of potential risk?
Malfunction reporting and preventive maintenance					
User billing/ chargeout procedures					
DATA CENTER PROTECTION CONTROLS					
Security and access					
Files					
Disaster recovery					
SYSTEM SOFTWARE CONTROLS					
Operating systems					
System utilities					
Program library systems					
File maintenance systems					
Security software					
Data communications systems					
Data base management systems					

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GENERAL CONTROLS PROFILE

Control characteristic	Is the control in place?	Is the control effective?	Is some alternate control in place?	Is the alternate control effective?	Level of potential risk?
System programmers					
Data base administrator					
System software changes					
HARDWARE CONTROLS					
Central processing unit					
Card reader					
Card punch					
Printer					
Magnetic tape drive					
Direct access storage device					
Data communications					

MATRIX 2

GRA - 21

GENERAL CONTROLS MATRIX

If the degree of risk determined on the previous profile warrants additional audit work (medium to high risk), the following matrix should help the auditor select appropriate audit steps to complete the review.

	document the data flow	observe operations	obtain user satisfaction	process test data	perform computer program analysis	perform data retrieval analysis	analyze job accounting data	report deficiencies	suggest additional audit
Organizational Controls									
Separation of Duties	●	●						●	
Personnel Policies		●						●	●
System Design, Development, and Modification Controls									
System Development Life Cycle		●	●					●	
Documentation	●	●		●	●			●	
Program Testing and System Acceptance		●		●	●			●	
Program Change Controls		●		●	●		●	●	
Data Center Management Controls									
Input/Output Scheduling and Control	●	●						●	●
Malfunction Reporting and Preventive Maintenance		●	●				●	●	●
User Billing/Charges Out Procedures		●	●				●	●	●
Data Center Protection Controls									
Security and Access Controls		●					●	●	
File Controls	●	●					●	●	
Disaster Recovery Controls		●						●	

MATRIX 2

GRA - 21

GENERAL CONTROLS MATRIX

System Software Controls	document the data flow	observe operations	obtain user satisfaction	process test data	perform computer program analysis	perform computer retrieval analysis	analyze job accounting data	report deficiencies	suggest additional audit
Operating Systems	●	●		●			●	●	●
System Utilities	●	●		●			●	●	●
Program Library Systems	●	●		●			●	●	●
File Maintenance Systems	●	●		●			●	●	●
Security Software	●	●		●			●	●	●
Data Communications Systems	●	●		●			●	●	●
Data Base Management Systems	●	●		●			●	●	●
System Programmers		●						●	●
Data Base Administrator		●						●	●
System Software Changes		●		●			●	●	●
Hardware Controls									
Central Processing Unit	●	●		●				●	
Card Reader	●	●		●				●	
Card Punch	●	●		●				●	
Printer	●	●		●				●	
Magnetic Tape Drive	●	●		●				●	
Direct Access Storage Device	●	●		●				●	
Data Communications	●	●		●				●	

SCHEDULE OF CONTROL OBJECTIVES FOR EACH AGENCY SYSTEM SELECTED FOR REVIEW

SYSTEM CODE USED BY AGENCY	SYSTEM NAME	BRIEF DESCRIPTION OF SYSTEM	SOURCE OF CONTROL OBJECTIVES *	CONTROL OBJECTIVES FOR SYSTEM

*GAO's policy and procedures manual for Guidance of Federal Agencies -- Title 2 Through 8.

Specific Legislation Supporting Specific Programs and Administrative Functions.

TFRA - 1

BACKGROUND INFORMATION ON COMPUTER APPLICATION

ITEMS TO BE OBTAINED	Workpaper index
1. Project request document.	_____
2. Feasibility study document.	_____
3. Cost/benefit analysis document.	_____
4. Functional requirements document.	_____
5. Data requirements document.	_____
6. System/subsystem specifications.	_____
7. Program specifications.	_____
8. Data base specifications.	_____
9. Users manuals.	_____
10. Operations manuals.	_____
11. Program maintenance manuals.	_____
12. Test plan.	_____
13. Test analysis report.	_____
14. Overview of computerized application system.	_____
System name and agency identification number	_____
Date of initial implementation	_____
Date of latest modification	_____
Number of modifications in the last 2 years	_____
Type of system (administrative, scientific, other (specify))	_____
Type of processing (batch or on-line)	_____
Overview system flowchart and narrative description	_____
Number of computer programs	_____

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Size of largest computer program (bytes of storage) _____

Programming language(s) used _____

Processing frequency _____

Total monthly processing hours _____

Design of system (vendor supplied or agency programmed) _____

Testing methodology (test data, live data, or not at all)
- a. Initial system _____
- b. Latest modification _____

Availability of test results
- a. Initial system _____
- b. Latest modification _____

Date of last audit or evaluation (obtain copy) _____

Output product distribution list _____

TFRA - 2

DATA ORIGINATION CONTROLS

Data origination controls are used to insure the accuracy, completeness, and timeliness of data before it is converted into machine-readable format and entered into the computer application. Controls over the data must be established as close to the point of origination as possible. Additionally, controls must be maintained throughout this manual process to make sure that the data reaches the computer application without loss, unauthorized addition or modification, or other error. The main areas of control are

--source document origination,

--source document authorization,

--source document data collection and input preparation,

--source document error handling, and

--source document retention.

The auditor should determine the adequacy of controls over the manual preparation, collection, and processing of source documents to make sure that no data is added, lost, or altered before it is entered into the computer system.

	YES	NO
SOURCE DOCUMENT ORIGINATION		
1. Do documented procedures exist that explain the methods for proper source document origination, authorization, data collection, input preparation, error handling, and retention?	___	___
2. Are duties separated to make sure that no one individual performs more than one of the following operations:		
--Originating data?	___	___
--Inputting data?	___	___
--Processing data?	___	___
--Distributing output?	___	___

	YES	NO
3. Are source documents designed to minimize errors and omissions such that:		
--Special purpose forms are used to guide the initial recording of data in a uniform format?	___	___
--Preprinted sequential numbers are used to establish controls?	___	___
--Each type of transaction has a unique identifier?	___	___
--Each transaction has a cross-reference number which can be used to trace information to and from the source document?	___	___
4. Is access to source documents and blank input forms restricted to authorized personnel only?	___	___
5. Are source documents and blank input forms stored in a secure location?	___	___
6. Is authorization from two or more accountable individuals required before the release of source documents and blank input forms from storage?	___	___

SOURCE DOCUMENT AUTHORIZATION

7. Are authorizing signatures used for all types of transactions?	___	___
8. Is evidence of approval required for specific types of critical transactions (control bypassing, system overrides, manual adjustments)?	___	___
9. Are duties separated within the user department to make sure that one individual does not prepare more than one type of transaction (establishing new master records plus changing or updating master records)?	___	___
10. Are duties separated within the user department to make sure that no one individual performs more than one of the following phases of data preparation:		
--Originating the source document?	___	___

	YES	NO
--Authorizing the source document?	___	___
--Controlling the source document?	___	___

SOURCE DOCUMENT DATA COLLECTION AND INPUT PREPARATION

11. Does the user department have a control group responsible for collecting and completing source documents?	___	___
12. Does this control group verify the following for source documents:		
--They are accounted for?	___	___
--They are complete and accurate?	___	___
--They have been appropriately authorized?	___	___
--They are transmitted in a timely manner?	___	___
13. Does this control group independently control data submitted for transmittal to the data processing department for conversion or entry by using:		
--Turnaround transmittal documents?	___	___
--Batching techniques?	___	___
--Record counts?	___	___
--Predetermined control totals?	___	___
--Logging techniques?	___	___
--Other? (Describe.)	___	___
14. When the user department is responsible for its own data entry, is there a separate group which performs this input function?	___	___
15. Are source documents, transmitted for conversion, transported in accordance with their security classifications?	___	___

SOURCE DOCUMENT ERROR HANDLING

16. Do documented procedures exist that explain the methods for source document error detection, correction, and reentry?	___	___

	YES	NO
17. Do they include:		
--Types of error conditions that can occur?	___	___
--Correction procedures to be followed?	___	___
--Methods to be used for the reentry of source documents which have been corrected?	___	___
18. Does the control group identify errors to facilitate the correction of erroneous information?	___	___
19. Does the control group follow the same verification and control procedures described in questions 12 and 13 when receiving corrected source documents?	___	___
20. Are error logs used to insure timely followup and correction of unresolved errors?	___	___
21. Are source document originators immediately notified by the control group of all errors?	___	___

SOURCE DOCUMENT RETENTION

22. Are source documents retained so that data lost or destroyed during subsequent processing can be recreated?	___	___
23. Does each type of source document have a specific retention period which is preprinted on the document?	___	___
24. Are source documents stored in a logical manner to facilitate retrieval?	___	___
25. Is a copy of the source document kept in the originating department whenever the document leaves the department?	___	___
26. Is access to records kept in the originating department restricted to authorized personnel only?	___	___

QUESTIONNAIRE 10

TFRA - 2

	YES	NO
27. Are source documents, on reaching their expiration dates, removed from storage and destroyed in accordance with security classifications?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

TFRA - 3

DATA INPUT CONTROLS

Data input controls insure the accuracy, completeness, and timeliness of data during its conversion into machine-readable format and entry into the application. Data input can be accomplished in two different ways: batch and on-line. The main areas of control include

--data conversion and entry,

--data validation and editing, and

--data input error handling.

Also of particular importance is the critical interface between the user department and the data processing department.

The auditor should determine the adequacy of both manual and automated controls over data input to make sure that data is input accurately with optimum use of computerized validation and editing, and that error handling procedures facilitate the timely and accurate resubmission of all corrected data.

	YES	NO
BATCH--DATA CONVERSION AND ENTRY		
1. Do documented procedures exist that explain the methods for data conversion and entry?	___	___
2. Are duties separated to make sure that no one individual performs more than one of the following operations:		
--Originating data?	___	___
--Inputting data?	___	___
--Processing data?	___	___
--Distributing output?	___	___
3. Does the data processing department have a control group responsible for data conversion and entry of all source documents received from user departments?	___	___
4. Does the data processing control group return all turnaround transmittal documents to the user department to make sure that no documents were added or lost?	___	___

TFRA - 3

	YES	NO
5. Does the data processing control group account for all batches of source documents received from the user department to make sure that no batches were added or lost?	___	___
6. Does the data processing control group independently develop record counts which are balanced with those of the control group in the user department, and are all discrepancies reconciled?	___	___
7. Does the data processing control group independently develop predetermined control totals which are balanced with those of the control group in the user department, and are all discrepancies reconciled?	___	___
8. Does the data processing control group keep a log or record showing the receipt of user department source documents, and their actual disposition, and are there provisions to make sure that all documents are accounted for?	___	___
9. Does the data processing control group independently control data submitted for conversion by using:		
--Turnaround transmittal documents?	___	___
--Batching techniques?	___	___
--Record counts?	___	___
--Predetermined control totals?	___	___
--Logging techniques?	___	___
--Other? (Describe)	___	___
10. Are conversion operations established as close to the origination of the source documents as possible?	___	___
11. Do conversion operations record document information directly onto machine-readable media (keypunch cards, key to tape, key to disk, or key to terminal) as opposed to intermediate media, such as coding documents?	___	___

TFRA - 3

		YES	NO
12.	Does the data processing department have a schedule by application that shows when data requiring conversion will be received and needs to be completed?	___	___
13.	Are turnaround transmittal documents returned to the data processing control group accounted for to make sure that no documents were added or lost during conversion?	___	___
14.	Are all batches of documents returned to the data processing control group accounted for to make sure that no batches were added or lost during conversion?	___	___
15.	Are all record counts, developed during conversion, balanced with those of the data processing control group, and are all discrepancies reconciled?	___	___
16.	Are all predetermined control totals developed during conversion, balanced with those of the data processing control group and are all discrepancies reconciled?	___	___
17.	Are all converted documents returned to the data processing control group logged in and accounted for?	___	___
18.	Does the data processing control group independently control data submitted for data entry by using:		
	--Turnaround transmittal documents?	___	___
	--Batching techniques?	___	___
	--Record counts?	___	___
	--Predetermined control totals?	___	___
	--Logging techniques?	___	___
	--Other? (Describe)	___	___
19.	Are data entry operations established as close to the origination of the source data as possible?	___	___
20.	Does the data processing department have a schedule by application that shows		

		YES	NO
	when data requiring entry will be received and needs to be completed?	___	___
21.	Must all documents entered into the application be signed or marked in some way to indicate that they were entered into the system thereby preventing accidental duplication or reuse of the data?	___	___
22.	Are turnaround transmittal documents returned to the data processing control group accounted for to make sure that no documents were added or lost during data entry?	___	___
23.	Are all batches of documents returned to the data processing control group accounted for to make sure that no batches were added or lost during data entry?	___	___
24.	Are all record counts, developed during data entry, balanced with those of the data processing control group, and are all discrepancies reconciled?	___	___
25.	Are all predetermined control totals, developed during data entry, balanced with those of the data processing control group, and are all discrepancies reconciled?	___	___
26.	Are all input documents returned to the data processing control group logged in and accounted for?	___	___
27.	Are all input documents retained in a manner which enables tracing them to related originating documents and output records?	___	___

BATCH--DATA VALIDATION AND EDITING

28.	Is key verification used to check the accuracy of all keying operations?	___	___
29.	Are keying and verifying functions performed on a document done by different individuals?	___	___
30.	Are preprogrammed keying formats used to insure that data is recorded in the proper field, format, etc.?	___	___
31.	Is data validation and editing performed as early as possible in the data flow to		

TFRA - 3

	YES	NO
insure that the application rejects any incorrect transaction before its entry into the system?	___	___
32. Is data validation and editing performed for all input data fields even though an error may be detected in an earlier field of the same transaction?	___	___
33. Are the following checked for validity on all input transactions:		
--Individual and supervisor authorization or approval codes?	___	___
--Check digits on all identification keys?	___	___
--Check digits at the end of a string of numeric data that is not subjected to balancing?	___	___
--Codes?	___	___
--Characters?	___	___
--Fields?	___	___
--Combinations of fields?	___	___
--Transactions?	___	___
--Calculations?	___	___
--Missing data?	___	___
--Extraneous data?	___	___
--Amounts?	___	___
--Units?	___	___
--Composition?	___	___
--Logic decisions?	___	___
--Limit or reasonableness checks?	___	___
--Signs?	___	___
--Record matches?	___	___

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	YES	NO
--Record mismatches?	___	___
--Sequence?	___	___
--Balancing of quantitative data?	___	___
--Crossfooting of quantitative data?	___	___
34. Are special routines used which automatically validate and edit input transaction dates against a table of cutoff dates?	___	___
35. Are all persons prevented from overriding or bypassing data validation and editing problems?	___	___
36. If not, are the following true:		
--This override capability is restricted to supervisors in only a limited number of acceptable circumstances?	___	___
--Every system override is automatically logged by the application so that these actions can be analyzed for appropriateness and correctness?	___	___
37. Are batch control totals submitted by the data processing control group used by the computer-based system to validate the completeness of batches received as input into the application?	___	___
38. Are record counts submitted by the data processing control group used by the computer-based system to validate the completeness of data input into the application?	___	___
39. Are predetemined control totals submitted by the data processing control group used by the computer-based system to validate the completeness of data input into the application?	___	___

BATCH--DATA INPUT ERROR HANDLING

40. Do documented procedures exist that explain the process of identifying, correcting, and reprocessing data rejected by the application?	___	___

		YES	NO
41.	Are error messages displayed with clearly understood corrective actions for each type of error?	___	___
42.	Are error messages produced for each transaction which contains data that does not meet edit requirements?	___	___
43.	Are error messages produced for each data field which does not meet edit requirements?	___	___
44.	Is all data that does not meet edit requirements rejected from further processing by the application?	___	___
45.	Is all data rejected by the application automatically written on an automated suspense file?	___	___
46.	Does the automated suspense file also include:		
	--Codes indicating error type?	___	___
	--Date and time the transaction was entered?	___	___
	--Identity of the user who originated the transaction?	___	___
47.	Are record counts automatically created by suspense file processing to control these rejected transactions?	___	___
48.	Are predetermined control totals automatically created by suspense file processing to control these rejected transactions?	___	___
49.	Are rejected transactions caused by data conversion or entry errors corrected by the data processing department control group?	___	___
50.	Does the data processing department control group independently control data rejected by the application by using:		
	--Turnaround transmittal documents?	___	___
	--Batching techniques?	___	___
	--Record counts?	___	___
	--Predetermined control totals?	___	___
	--Logging techniques?	___	___

		YES	NO
	--Other? (Describe)	___	___
51.	Are rejected transactions not caused by data conversion or entry errors corrected by the user originating the transaction?	___	___
52.	Does the user department's control group independently control data rejected by the application by using:		
	--Turnaround transmittal documents?	___	___
	--Batching techniques?	___	___
	--Record counts?	___	___
	--Predetermined control totals?	___	___
	--Logging techniques?	___	___
	--Other? (Describe)	___	___
53.	Is the automated suspense file used to control followup, correction, and reentry of transactions rejected by the application?	___	___
54.	Is the automated suspense file used to produce, for management review, analysis of:		
	--Level of transaction errors?	___	___
	--Status of uncorrected transactions?	___	___
55.	Are these analyses used by management to make sure that corrective action is taken when error levels become too high?	___	___
56.	Are these analyses used by management to make sure that corrective action is taken when uncorrected transactions remain on the suspense file too long?	___	___
57.	Are progressively higher levels of management reported to as these conditions worsen?	___	___
58.	Are debit- and credit-type entries (as opposed to delete- or erase-type commands) used to correct rejected transactions on the automated suspense file?	___	___
59.	Is the application designed so that it cannot accept a delete- or an erase-type command?	___	___

	YES	NO
60. Do valid correction transactions purge the automated suspense file of corresponding rejected transactions?	___	___
61. Are invalid correction transactions added to the automated suspense file, along with the corresponding rejected transactions?	___	___
62. Are record counts appropriately adjusted by correction transactions?	___	___
63. Are predetermined control totals appropriately adjusted by correction transactions?	___	___
64. Are all corrections reviewed and approved by supervisors before reentry?	___	___
65. Are procedures for processing corrected transactions the same as those for processing original transactions with the addition of supervisory review and approval before reentry?	___	___
66. Does ultimate responsibility for the completeness and accuracy of all application processing remain with the user?	___	___
ON-LINE--DATA CONVERSION AND ENTRY		
67. Do documented procedures exist that explain the methods for data conversion and entry?	___	___
68. Are duties separated to make sure that no one individual performs more than one of the following operations:		
--Originating data?	___	___
--Inputting data?	___	___
--Processing data?	___	___
--Distributing data?	___	___
69. Is a separate group within the user department responsible for performing data entry operations?	___	___
70. Does the user department's control group independently control data to be entered into the application by using:		

		YES	NO
	--Turnaround transmittal documents?	___	___
	--Batching techniques?	___	___
	--Record counts?	___	___
	--Predetermined control totals?	___	___
	--Logging techniques?	___	___
	--Other? (Describe)	___	___
71.	If the user department's control group does not control data entry, is at least simultaneous entry and recording of source data performed at the point of origination?	___	___
72.	Must all documents entered into the computer application be signed or marked in some way to indicate that they were in fact entered into the system to protect against accidental duplication or reuse of the data?	___	___
73.	Are data entry terminal devices locked in a physically secure room, allowing only query terminal devices to be located outside the secure room?	___	___
74.	Must supervisors sign on each terminal device to initialize terminals before any operators can sign on to begin work?	___	___
75.	Is the work that may be entered on a terminal restricted by the authority level assigned to each terminal device (data entry vs. query)?	___	___
76.	Is password control in existence to prevent unauthorized use of the terminal devices?	___	___
77.	Are nonprinting, nondisplaying, or obliteration facilities used when keying and acknowledging passwords and authorization codes?	___	___
78.	Is an immediate report produced of unauthorized attempts to access the system via terminal devices?	___	___
79.	Does this report include:		
	--Location of the terminal device?	___	___

		YES	NO
	--Date and time of the violation?	___	___
	--Numer of attempts?	___	___
	--Identification of the operator at the time of the violation?	___	___
80.	Is a terminal lockup used to prevent unauthorized access to the terminal device after a certain predetermined number of incorrect attempts to access the system?	___	___
81.	Does the system automatically shut down the terminal in question and allow intervention only by specially assigned data processing department supervisors?	___	___
82.	Is a data access matrix used to restrict use or access levels by checking user identifications (passwords)?	___	___
83.	Is each individual user of the on-line system limited to certain types of application transactions?	___	___
84.	Are master commands that control the operation of the application restricted to a limited number of supervisory data processing personnel and master command terminals only?	___	___
85.	Does top management periodically review the propriety of the terminal authority levels?	___	___
86.	Is top management required to review the propriety of terminal authority levels in the event of a purported or real security violation?	___	___
87.	Are individual's passwords changed periodically?	___	___
88.	Are individual's passwords changed in the event of a purported or real security violation?	___	___
89.	Are passwords deleted once an individual changes his job function, separates, no longer needs the same level of access, or no longer needs access at all?	___	___

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		YES	NO
90.	Is a usage log, or the data access matrix, showing purpose of user accesses reviewed by top management to identify unauthorized usage?	___	___
91.	Has the security officer initiated an aggressive review program to determine that controls are fully operational?	___	___
92.	Do terminal hardware features include the following:		
	--Built-in terminal identifications which automatically validate proper terminal authorization?	___	___
	--Terminal logs which record all transactions processed?	___	___
	--Messages which are automatically date and time stamped for logging purposes?	___	___
	--Record counts which are automatically accumulated for logging purposes?	___	___
93.	Does each message contain an identifying message header that includes:		
	--Message number?	___	___
	--Terminal and user identification?	___	___
	--Date and time?	___	___
	--Transaction code?	___	___
94.	Does each message contain indicators for:		
	--End of message?	___	___
	--End of transmission?	___	___
95.	Is parity checking used to check each character?	___	___
96.	Is parity checking used to check each message or message block?	___	___
97.	Is the message content checked for valid characters?	___	___

TFRA - 3

ON-LINE--DATA VALIDATION AND EDITING

		YES	NO
98.	Are preprogrammed keying formats used to make sure that data is recorded in the proper field, format, etc.?	___	___
99.	Is interactive display used to allow the terminal operator to interact with the system during data entry?	___	___
100.	Are computer-aided instructions, such as prompting, used with on-line dialog to reduce the number of operator errors?	___	___
101.	Are intelligent terminals used to allow front-end validation, editing, and control?	___	___
102.	Is data validation and editing performed as early as possible in the data flow to insure that the application rejects any incorrect transaction before its entry into the system?	___	___
103.	Is data validation and editing performed for all input data fields even though an error may be detected in an earlier field of the same transaction?	___	___
104.	Are the following checked for validity on all input transactions:		
	--Individual and supervisor authorization or approval codes?	___	___
	--Check digits on all identification keys?	___	___
	--Check digits at the end of a string of numeric data that is not subjected to balancing?	___	___
	--Codes?	___	___
	--Characters?	___	___
	--Fields?	___	___
	--Combinations of fields?	___	___
	--Transactions?	___	___
	--Calculations?	___	___

	YES	NO
--Missing data?	___	___
--Extraneous data?	___	___
--Amounts?	___	___
--Units?	___	___
--Composition?	___	___
--Logic decisions?	___	___
--Limit or reasonableness checks?	___	___
--Signs?	___	___
--Record matches?	___	___
--Record mismatches?	___	___
--Sequence?	___	___
--Balancing of quantitative data?	___	___
--Crossfooting of quantitative data?	___	___
105. Are special routines used which automatically validate and edit input transaction dates against a table of cutoff dates?	___	___
106. Are all persons prevented from overriding or bypassing data validation and editing errors?	___	___
107. If not, are the following true:-		
--This overrride capability is restricted to supervisors in a limited number of acceptable circumstances?	___	___
--All system overrides are automatically logged by the application so that these actions can be analyzed for appropriateness and correctness?	___	___
108. Are batch control totals generated by the terminal, concentrator, or application used by the user department control group to validate the completeness of batches received as input data?	___	___

		YES	NO
109.	Are record counts generated by the terminal, concentrator, or application used by the user department control group to validate the completeness of data input?	___	___
110.	Are predetermined control totals generated by the terminal, concentrator, or application used by the user department's control group to validate the completeness of data input?	___	___

ON-LINE--DATA INPUT ERROR HANDLING

111.	Do documented procedures exist that explain the process of identifying, correcting, and reprocessing data rejected by the application?	___	___
112.	Are errors displayed or printed immediately upon detection for immediate terminal operator correction?	___	___
113.	Are error messages displayed with clearly understood cross-referenced corrective actions for each type of error?	___	___
114.	Are error messages produced for each transaction which contains data that does not meet edit requirements?	___	___
115.	Are error messages produced for each input data field which does not meet edit requirements?	___	___
116.	Is all data rejected by the application automatically written on an automated suspense file?	___	___
117.	Does the automated suspense file include:		
	--Codes indicating error type?	___	___
	--Date and time the transaction was entered?	___	___
	--Identity of the user who originated the transaction?	___	___
118.	Are record counts automatically created by suspense file processing to control these rejected transactions?	___	___
119.	Are predetermined control totals automatically created by suspense file processing to control these rejected transactions?	___	___

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		YES	NO
120.	Are rejected transactions caused by data entry errors corrected by the terminal operator?	___	___
121.	Are rejected transactions not caused by data entry errors corrected by the user originating the transaction?	___	___
122.	Does the user department control group independently control data rejected by the application by using:		
	--Turnaround transmittal documents?	___	___
	--Batching techniques?	___	___
	--Record counts?	___	___
	--Predetemined control totals?	___	___
	--Logging techniques?	___	___
	--Other? (Describe)	___	___
123.	Is the automated suspense file used to control followup, correction, and reentry of transactions rejected by the application?	___	___
124.	Is the automated suspense file used to produce, for management review, analysis of the following:		
	--Level of transaction errors?	___	___
	--Status of uncorrected transactions?	___	___
125.	Are these analyses used by management to make sure that corrective action is taken when error levels become too high?	___	___
126.	Are these analyses used by management to make sure that corrective action is taken when uncorrected transactions remain on the suspense file too long?	___	___
127.	Are progressively higher levels of management reported to as these conditions worsen?	___	___
128.	Are debit- and credit-type entries (as opposed to delete- or erase-type commands) used to correct rejected transactions on the suspense file?	___	___

TFRA - 3

		YES	NO
129.	Is the application designed so that it cannot accept a delete- or an erase-type command?	___	___
130.	Do valid correction transactions purge the automated suspense file of corresponding rejected transactions?	___	___
131.	Are invalid correction transactions added to the automated suspense file along with the corresponding rejected transactions?	___	___
132.	Are record counts appropriately adjusted by correction transactions?	___	___
133.	Are predetermined control totals appropriately adjusted by correction transactions?	___	___
134.	Are all corrections reviewed and approved by supervisors before reentry?	___	___
135.	Are the procedures for processing corrected transactions the same as those for processing original transactions, with the addition of supervisory review and approval before reentry?	___	___
136.	Does ultimate responsibility for the completeness and accuracy of all application processing remain with the user?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

TFRA - 4

DATA PROCESSING CONTROLS

Data processing controls are used to insure the accuracy, completeness, and timeliness of data during processing by the computer. These controls apply to application programs and computer operations related to the application. Data processing is usually accomplished in batch or real time. The main areas of control include

--data processing integrity,

--data processing validation and editing, and

--data processing error handling.

Of particular importance are those controls over files and other systems which interface with the application being reviewed.

The auditor should determine the adequacy of controls over data processing, to make sure that data is accurately processed through the application and that no data is added, lost, or altered during processing.

BATCH--DATA PROCESSING INTEGRITY

	YES	NO
Do documented procedures exist to explain the methods for proper data processing of each application program?	___	___
Are duties separated to make sure that no one individual performs more than one of the following operations:		
--Originating data?	___	___
--Inputting data?	___	___
--Processing data?	___	___
--Distributing output?	___	___
Do operator instructions include:		
--System startup procedures?	___	___
--Backup assignments?	___	___
--Emergency procedures?	___	___
--System shutdown procedures?	___	___

TFRA - 4

	YES	NO
--Error message debugging instructions?	___	___
--System and job status reporting instructions?	___	___
4. Do computer program run books include:		
--Definitions of input sources, input data, and data formats?	___	___
--Descriptions of setup procedures?	___	___
--Descriptions of all halt conditions?	___	___
--Descriptions of restart procedures and checkpoints?	___	___
--Descriptions of data storage requirements?	___	___
--Printer carriage control tapes?	___	___
--Descriptions of expected output data and formats?	___	___
--Descriptions of output and file dispositions upon completion?	___	___
--Copies of normal console run sheets?	___	___
--Types of console message instructions?	___	___
--System flowcharts?	___	___
5. Do computer program run books exclude:		
--Program logic charts or block diagrams?	___	___
--Copies of program listings?	___	___
6. Are application programs prevented from accepting data from computer consoles?	___	___
7. Does the system have a history log which is printed on both a line printer and the console?	___	___
8. Does this log include:		
--Hardware failure messages?	___	___
--Software failure messages?	___	___
--Processing halts?	___	___

TFRA - 4

		YES	NO
	--Abnormal terminations of jobs?	___	___
	--Operator interventions?	___	___
	--Error messages?	___	___
	--Unusual occurrences?	___	___
9.	Is the log routinely reviewed by supervisors to determine the causes of problems and the correctness of actions taken?	___	___
10.	Does the data processing department have a schedule, by application, that shows when each application program is to be run and needs to be completed?	___	___
11.	Does the data processing department have a control group responsible for controlling all data processing operations?	___	___
12.	Does the data processing control group limit access to and use of job control cards so that unauthorized programs will not be executed?	___	___
13.	Does the data processing control group independently control data processing by:		
	--Assuring that application schedules are met?	___	___
	--Balancing batch counts of data submitted for processing?	___	___
	--Balancing record counts of data submitted for processing?	___	___
	--Balancing predetermined control totals of data submitted for processing?	___	___
	--Maintaining accurate logs of input/work/ output files used in computer processing?	___	___
	--Assuring that input/work/output files used in computer processing are correct?	___	___
	--Assuring that restarts are performed properly?	___	___
	--Other? (Describe)	___	___
14.	Is there some means of verifying master file contents (samples being periodically drawn from data files and reviewed for accuracy)?	___	___

TFRA - 4

		YES	NO
15.	Does each input transaction have a unique identifier (transaction code) which directs the transaction to the proper application program for processing?	___	___
16.	Do programs positively identify input data as to type (transaction code)?	___	___
17.	Are standardized default options built into computer program logic?	___	___
18.	Are computer-generated control totals (run-to-run totals) automatically reconciled between jobs to check for completeness of processing?	___	___
19.	Where computerized data is entered into the computer application are there controls to verify that proper data is used?	___	___
20.	Where computer files are entered into the computer application, are there controls to verify that the proper version (cycle) of the file is used?	___	___
21.	Do all programs include routines for checking internal file header labels before processing?	___	___
22.	Are controls in place to prevent operators from circumventing file checking routines?	___	___
23.	Are internal trailer labels containing control totals (record counts, predetermined control totals, etc.) generated for all computer files and tested by the application programs to determine that all records have been processed?	___	___
24.	Are file completion checks performed to make sure that application files have been completely processed, including both transaction and master files?	___	___
25.	Do data processing controls make sure that:		
	--Output counts from the system equal input counts to the system?	___	___
	--Program interfaces require that the sending program output counts equal the receiving program input counts?	___	___

	YES	NO
--System interfaces require that:		
--The sending system's output counts equal the receiving system's input counts?	___	___
--Shared files meet the control requirements of both the sending and receiving systems?	___	___

BATCH--DATA PROCESSING VALIDATION AND EDITING

26. Is data validation and editing performed as early as possible in the data flow to insure that the application rejects any incorrect transaction before master file updating?	___	___
27. Is data validation and editing performed for all data fields even through an error may be detected in an earlier field of the transaction?	___	___
28. Are the following checked for validity on all input transactions:		
--Individual and supervisor authorization or approval codes?	___	___
--Check digits on all identification keys?	___	___
--Check digits at the end of a string of numeric data that is not subjected to balancing?	___	___
--Codes?	___	___
--Characters?	___	___
--Fields?	___	___
--Combinations of fields?	___	___
--Transactions?	___	___
--Calculations?	___	___
--Missing data?	___	___
--Extraneous data?	___	___
--Amounts?	___	___

TFRA - 4

	YES	NO
--Units?	___	___
--Composition?	___	___
--Logic decisions?	___	___
--Limit or reasonableness checks?	___	___
--Signs?	___	___
--Record matches?	___	___
--Record mismatches?	___	___
--Sequence?	___	___
--Balancing of quantitative data?	___	___
--Crossfooting of quantitative data?	___	___
29. Is relationship editing performed between input transactions and master files to check for appropriateness and correctness before updating?	___	___
30. Are special routines used which automatically validate and edit input transaction dates against a table of cutoff dates?	___	___
31. Is full data validation and editing (questions 28-30) performed on all files interfacing with the application?	___	___
32. Do the programs that include a table of values have an associated control mechanism to assure accuracy of the table values?	___	___
33. Are all persons prevented from overriding or bypassing data validation and editing problems?	___	___
34. If not are the following true:		
--This override capability is restricted to supervisory personnel in a limited number of acceptable circumstances?	___	___
--All system overrides are automatically logged by the application so that these actions can be analyzed for appropriateness and correctness?	___	___

	YES	NO
35. Are record counts generated by the application used by the data processing control group to validate the completeness of data processed by the system?	___	___
36. Are predetermined control totals generated by the application used by the data processing control group to validate the completeness of data processed by the system?	___	___
37. Does a direct update to files cause:		
--A record to be created and added to a backup file, containing a before and after picture of the record being altered?	___	___
--The transaction to be recorded on the transaction history file together with date and time of entry and the originator's identification?	___	___

BATCH--DATA PROCESSING ERROR HANDLING

38. Do documented procedures exist that explain the process of identifying, correcting, and reprocessing data rejected by the application?	___	___
39. Are error messages displayed with clearly understood corrective actions for each type of error?	___	___
40. Are error messages produced for each transaction which contain data that does not meet edit requirements?	___	___
41. Are error messages produced for each data field which does not meet edit requirements?	___	___
42. Is all data that does not meet edit requirements rejected from further processing by the application?	___	___
43. Is all data rejected by the application automatically written on an automated suspense file?	___	___
44. Does the automated suspense file include:		
--Codes indicating error type?	___	___

TFRA - 4

	YES	NO
--Date and time transaction was entered?	___	___
--Identity of the user who originated the transaction?	___	___
45. Are record counts automatically created by suspense file processing to control these rejected transactions?	___	___
46. Are predetermined control totals automatically created by suspense file processing to control these rejected transactions?	___	___
47. Are rejected transactions transmitted to the users originating them so that corrective action can be taken?	___	___
48. Does the user department control group independently control data rejected by the application system using:		
--Turnaround transmittal documents?	___	___
--Batching techniques?	___	___
--Record counts?	___	___
--Predetermined control totals?	___	___
--Logging techniques?	___	___
--Other? (Describe)	___	___
49. Is the automated suspense file used to control followup, correction, and reentry of transactions rejected by the application?	___	___
50. Is the automated suspense file used to produce, for management review, analysis of:		
--Level of transaction errors?	___	___
--Status of uncorrected transactions?	___	___
51. Are these analyses used by management to make sure that corrective action is taken when error levels become too high?	___	___
52. Are these analyses used by management to make sure that corrective action is taken when uncorrected transactions remain on the suspense file too long?	___	___

		YES	NO
53.	Are progressively higher levels of management reported to as these conditions worsen?	___	___
54.	Are debit- and credit-type entries (as opposed to delete- or erase-type commands) used to correct rejected transactions on the automated suspense file?	___	___
55.	Is the application designed so that it cannot accept a delete- or erase-type command?	___	___
56.	Do valid correction transactions purge the automated suspense file of corresponding rejected transactions?	___	___
57.	Are invalid correction transactions added to the automated suspense file, along with the corresponding rejected transaction?	___	___
58.	Are record counts appropriately adjusted by correction transations?	___	___
59.	Are predetermined control totals appropriately adjusted by correction transactions?	___	___
60.	Are all corrections subject to supervisory review and approval before reentry?	___	___
61.	Are the procedures for processing corrected transactions the same as for processing original transactions, with the addition of supervisory review and approval before reentry?	___	___
62.	Does the ultimate responsibility for completeness and accuracy of all application processing remain with the user?	___	___

REAL-TIME--DATA PROCESSING INTEGRITY

63.	Do documented procedures exist that explain the methods for proper data processing of every application program?	___	___
64.	Are duties separated to make sure that no one individual performs more than one of the following operations:		
	--Originating data?	___	___
	--Inputting data?	___	___

		YES	NO
	--Processing data?	___	___
	--Distributing output?	___	___
65.	Is there a logging type facility (audit trail) in the application to assist in reconstructing data files?	___	___
66.	Can messages and data be traced back to the user or point of origin?	___	___
67.	Does the application protect against concurrent file updates (i.e., does initial access of a record lock out that record so that additional access attempts cannot be made until the initial processing has been completed)?	___	___
68.	Are transactions date and time stamped for logging purposes?	___	___
69.	Are application programs prevented from accepting data from computer consoles?	___	___
70.	Does the system have a history log which is printed on both a line printer and the console?	___	___
71.	Does this log include:		
	--Hardware failure messages?	___	___
	--Software failure messages?	___	___
	--Processing halts?	___	___
	--Abnormal terminations of jobs?	___	___
	--Operator interventions?	___	___
	--Error messages?	___	___
	--Unusual occurrences?	___	___
	--Terminal failure messages?	___	___
	--Terminal startup?	___	___
	--Terminal shutdown?	___	___
	--All input communications messages?	___	___
	--All output communications messages?	___	___

TFRA - 4

		YES	NO
72.	Is the log routinely reviewed by supervisors to determine the causes of problems and the correctness of actions taken?	___	___
73.	Does the data processing department have a control group which is responsible for controlling all data processing operations?	___	___
74.	Does the data processing control group independently control data processing by:		
	--Monitoring terminal activity?	___	___
	--Investigating and correcting any terminal problems that cannot be resolved at the sources?	___	___
	--Investigating and correcting any terminal imbalances or failures?	___	___
	--Investigating any operator intervention actions?	___	___
	--Investigating any operator deviations from the rules?	___	___
	--Assuring that restarts are performed properly?	___	___
	--Balancing batch counts of data processed (as developed during off-line operations)?	___	___
	--Balancing record counts of data processed (as developed during off-line operations)?	___	___
	--Balancing predetermined control totals of data processed (as developed during off-line operations)?	___	___
	--Other? (Describe)	___	___
75.	Are periodic balances taken at fairly short intervals to make sure that data is being processed accurately?	___	___
76.	Is off-line file balancing performed on:		
	--Batch counts?	___	___
	--Record counts?	___	___
	--Predetermined control totals?	___	___

TFRA - 4

		YES	NO
	--Other? (Describe)	___	___
77.	Is there some means of verifying master file contents (e.g., samples being periodically drawn from data files and reviewed for accuracy)?	___	___
78.	Does each input transaction have a unique identifier (transaction code) which directs the transaction to the proper application program for processing?	___	___
79.	Do programs positively identify input data as to type (transaction code)?	___	___
80.	Are standardized default options built into computer program logic?	___	___
81.	Are computer-generated control totals (run-to-run totals) automatically reconciled between jobs to check for completeness of processing?	___	___
82.	Where computerized data is entered into the computer application, are there controls to verify that proper data is used?	___	___
83.	Where computerized files are entered into the computer application, are there controls to verify that the proper version (cycle) of the file is used?	___	___
84.	Do all programs include routines for checking internal file header labels before processing?	___	___
85.	Are controls in place to prevent operators from circumventing file checking routines?	___	___
86.	Are internal trailer labels containing control totals (record counts, predetermined control totals, etc.) generated for all computer files and tested by the application programs to determine that all records have been processed?	___	___
87.	Are file completion checks performed to make sure that application files have been completely processed, including both transaction and master files?	___	___

TFRA - 4

	YES	NO
88. Do data processing controls make sure that:		
--Output counts from the system equal input counts to the system?	___	___
--Program interfaces require that the sending program output counts equal the receiving program input counts?	___	___
--System interfaces require that:		
--The sending system's output counts equal the receiving system's input counts?	___	___
--Shared files meet the control requirements of both the sending and receiving systems?	___	___
REAL-TIME--DATA PROCESSING VALIDATION AND EDITING		
89. Is data validation and editing performed as early as possible in the data flow to insure that the application rejects any incorrect transaction before master file updating?	___	___
90. Is data validation and editing performed for all data fields even through an error may be detected in an earlier field of the transaction?	___	___
91. Are the following checked for validity on all input transactions:		
--Individual and supervisor authorization or approval codes?	___	___
--Check digits on all identification keys?	___	___
--Check digits at the end of a string of numeric data that is not subjected to balancing?	___	___
--Codes?	___	___
--Characters?	___	___
--Fields?	___	___
--Combinations of fields?	___	___
--Transactions?	___	___

TFRA - 4

	YES	NO
--Calculations?	___	___
--Missing data?	___	___
--Extraneous data?	___	___
--Amounts?	___	___
--Units?	___	___
--Composition?	___	___
--Logic decisions?	___	___
--Limit or reasonableness checks?	___	___
--Signs?	___	___
--Record matches?	___	___
--Record mismatches?	___	___
--Sequence?	___	___
--Balancing of quantitative data?	___	___
--Crossfooting of quantitative data?	___	___
92. Is relationship editing performed between input transactions and master files to check for appropriateness and correctness prior to updating?	___	___
93. Are special routines used which automatically validate and edit input transaction dates against a table of cutoff dates?	___	___
94. Is full data validation and editing (questions 91-93) performed on all files interfacing with the application?	___	___
95. Do the programs that include a table of values have a control mechanism to assure accuracy of the table values?	___	___
96. Are all persons prevented from overriding or bypassing data validation and editing problems?	___	___
97. If not, are the following true:		

TFRA - 4

	YES	NO
--This override capability is restricted to supervisory personnel in a limited number of acceptable circumstances?	___	___
--All system overrides are automatically logged by the application so that these actions can be analyzed for appropriateness and correctness?	___	___
98. Are record counts generated by the application used by the data processing control group to validate the completeness of data processed by the system?	___	___
99. Are predetermined control totals generated by the application used by the data processing control group to validate the completeness of data processed by the system?	___	___
100. Does a direct update to files cause:		
--A record to be created and added to a backup file, containing a before and after picture of the record being altered?	___	___
--The transaction to be recorded on the transaction history file together with the date and time of entry and the originator's identification?	___	___

REAL-TIME--DATA PROCESSING ERROR HANDLING

101. Do documented procedures exist that explain the process of identifying, correcting, and reprocessing data rejected by the application?	___	___
102. Are error messages displayed with clearly understood corrective actions for each type of error?	___	___
103. Are error messages produced for each transaction which contains data that does not meet edit requirements?	___	___
104. Are error messages produced for each data field which does not meet edit requirements?	___	___
105. Is all data that does not meet edit requirements rejected from further processing by the application?	___	___

TFRA - 4

		YES	NO
106.	Is all data rejected by the application automatically written on an automated suspense file?	___	___
107.	Does the automated suspense file include:		
	--Codes indicating error type?	___	___
	--Date and time transaction was entered?	___	___
	--Identity of the user who originated the transaction?	___	___
108.	Are record counts automatically created by suspense file processing to control these rejected transactions?	___	___
109.	Are predetermined control totals automatically created by suspense file processing to control these rejected transactions?	___	___
110.	Are rejected transactions transmitted to the users originating them so that corrective action can be taken?	___	___
111.	Does the user department control group independently control data rejected by the application system using:		
	--Turnaround transmittal documents?	___	___
	--Batching techniques?	___	___
	--Record counts?	___	___
	--Predetermined control totals?	___	___
	--Logging techniques?	___	___
	--Other? (Describe)	___	___
112.	Is the automated suspense file used to control followup, correction, and reentry of transactions rejected by the application?	___	___
113.	Is the automated suspense file used to produce, for management review, analysis of:		
	--Level of transaction errors?	___	___
	--Status of uncorrected transactions?	___	___

TFRA - 4

		YES	NO
114.	Are these analyses used by management to make sure that corrective action is taken when error levels become too high?	___	___
115.	Are these analyses used by management to make sure that corrective action is taken when uncorrected transactions remain on the suspense file too long?	___	___
116.	Are progressively higher levels of management reported to as these conditions worsen?	___	___
117.	Are debit- and credit-type entries (as opposed to delete- or erase-type commands) used to correct rejected transactions on the automated suspense file?	___	___
118.	Is the application designed so that it cannot accept a delete- or an erase-type command?	___	___
119.	Do valid correction transactions purge the automated suspense file of corresponding rejected transactions?	___	___
120.	Are invalid correction transactions added to the automated suspense file along with the corresponding rejected transactions?	___	___
121.	Are record counts appropriately adjusted by correction transactions?	___	___
122.	Are predetermined control totals appropriately adjusted by correction transactions?	___	___
123.	Are all corrections subject to supervisory review and approval before reentry?	___	___
124.	Are the procedures for processing corrected transactions the same as for processing original transactions, with the addition of supervisory review and approval before reentry?	___	___
125.	Does the ultimate responsibility for completeness and accuracy of all application processing remain with the user?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

TFRA - 5

DATA OUTPUT CONTROLS

Data output controls are used to insure the integrity of output and the correct and timely distribution of outputs produced. Not only must outputs be accurate, but they must also be received by users in a timely and consistent manner. Outputs can be produced in two different ways: batch and on-line. The main areas of control include

--output balancing and reconciliation,

--output distribution,

--output error handling, and

--handling and retention of output records and accountable documents.

Of critical importance is the interface between the data processing department and the user department.

The auditor should evaluate the adequacy of controls over outputs to make sure that data processing results are reliable, output control totals are accurate, and reports are distributed in a timely manner to users.

	YES	NO
BATCH--OUTPUT BALANCING AND RECONCILIATION		
1. Do documented procedures exist that explain the methods for proper balancing and reconciliation of output products?	___	___
2. Does the data processing department have a control group which is responsible for reviewing all outputs produced by the application?	___	___
3. Does the data processing control group monitor the processing flow to make sure that application programs are being processed according to schedule?	___	___
4. Does the data processing department control group review output products for general acceptability and completeness?	___	___
5. Does the data processing department control group reconcile each output batch total with		

		YES	NO
	input batch totals, before the release of any reports, to ensure that no data was added or lost during data processing?	___	___
6.	Does the data processing department control group reconcile each output record count with input record counts, before the release of any reports, to insure that no data was added or lost during data processing?	___	___
7.	Does the data processing department control group reconcile each output predetermined control total with input predetermined control totals, before the release of any reports, to insure that no data was added or lost during data processing?	___	___
8.	Does the data processing department control group keep a log which summarizes the:		
	--Number of application reports generated?		
	--Number of pages per report?	___	___
	--Number of lines per report?	___	___
	--Number of copies of each report?	___	___
	--Recipient(s) of each report?	___	___
9.	Are system output logs kept to provide an audit trail for the outputs?	___	___
10.	Are output logs reviewed by supervisors to determine the correctness of output production?	___	___
11.	Is a transaction log kept by the application to provide an audit trail for the transactions being processed?	___	___
12.	Is a transaction log kept at each output device to provide an audit trail for the transactions being processed?	___	___
13.	Is the transaction log kept by the application compared regularly with the transaction log kept at each output device to make sure that all transactions have been properly processed to the final output steps?	___	___

QUESTIONNAIRE 13

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		YES	NO
14.	Can transactions be traced forward to the final outputs?	___	___
15.	Can transactions be traced backward to the original source documents?	___	___
16.	On each output product, does the application identify the:		
	--Title or name of product?	___	___
	--Processing program name or number?	___	___
	--Date and time prepared?	___	___
	--Processing period covered?	___	___
	--User name and location?	___	___
	--Counts developed during processing?	___	___
	--End-of-job/file/report indication?	___	___
	--Security classification, if any?	___	___
17.	Does the user department have a control group which is responsible for reviewing all output received from the data processing department?	___	___
18.	Is the user department control group given lists of all changes to the application master file data or programmed data?	___	___
19.	Is the user department control group given lists of all internally generated transactions produced by the application?	___	___
20.	Is the user department control group given lists of all interface transactions processed by the application?	___	___
21.	Is the user department control group given a list of all transactions entered into the application?	___	___
22.	Are all listings (questions 18-21) reviewed by the user department control group to insure completeness of data processed by the application?	___	___

TFRA - 5

	YES	NO
23. Is the user department control group furnished reports produced by the application which shows the:		
--Batch totals?	___	___
--Record counts?	___	___
--Predetermined control totals?	___	___
24. Does the user department control group verify all computer-generated batch totals with its manually developed batch totals?	___	___
25. Does the user department control group verify all computer generated record counts to their manually developed record counts?	___	___
26. Does the user department control group verify all computer-generated predetermined control totals with its manually developed predetermined control totals?	___	___
27. Does the user department control group verify the accuracy and completeness of all outputs?	___	___
28. Does the user department retain ultimate responsibility for the accuracy of all outputs?	___	___
BATCH--OUTPUT DISTRIBUTION		
29. Do documented procedures exist that explain the methods for proper handling and distribution of output products?	___	___
30. Are duties separated to make sure that no one individual performs more than one of the following operations:		
--Originating data?	___	___
--Inputting data?	___	___
--Processing data?	___	___
--Distributing output?	___	___
31. Are users questioned periodically to determine their continued need for the product and the number of copies received?	___	___

TFRA - 5

		YES	NO
32.	Does the cover sheet of every report clearly identify the recipient's name and location?	___	___
33.	Does the data processing department have a control group which is responsible for distributing all output produced by the computer application?	___	___
34.	Does the data processing department control group have a schedule, by application, that shows when output processing will be completed and when output products need to be distributed?	___	___
35.	Has a priority system been established so that critical outputs can be produced on time?	___	___
36.	Does the data processing department control group keep a log, by application, of all output products produced by the system?	___	___
37.	Does this log identify the following for each output product:		
	--Job name?	___	___
	--Time and date of production?	___	___
	--Product name?	___	___
	--Time and date of distribution?	___	___
	--Name(s) of recipient(s)?	___	___
	--Quantity distributed to each recipient?	___	___
	--Security status, if any?	___	___
38.	Is each entry in the data processing department control group's log signed by supervisors to indicate that the reports were in fact produced and transmitted to recipients?	___	___
39.	Does this log include notes on problems that arose with processing (reruns, data checks, etc.)?	___	___

TFRA - 5

		YES	NO
40.	Does the data processing department control group maintain a formalized output distribution checklist to show the disposition of each output product?	___	___
41.	Are turnaround transmittal documents used by the data processing department control group to verify that the output product has been received by the authorized recipient?	___	___
42.	Is the output distribution checklist used to verify the acknowledgment of all turnaround transmittal documents from recipients of output?	___	___
43.	Does the data processing department control group verify that only authorized numbers of copies of outputs are produced?	___	___

BATCH--OUTPUT ERROR HANDLING

44.	Do documented procedures exist that explain data processing department methods for reporting, correcting, and reprocessing output products with errors?	___	___
45.	Is the user department control group notified immediately by the data processing control group of problems in output products?	___	___
46.	Does the data processing department control group keep a control log of output product errors?	___	___
47.	Is this log used to:		
	--Identify the problem?	___	___
	--Note corrective action taken?	___	___
	--Record date and time of resubmission?	___	___
	--Record date and time of transmission to users?	___	___
48.	Do supervisors use this log to make sure that timely resubmissions of jobs are accomplished and corrected reports are expeditiously transmitted to the users?	___	___
49.	Does the data processing department control group develop an independent history file of output products with errors?	___	___

TFRA - 5

		YES	NO
50.	Is this file reviewed periodically by supervisors to identify causes of and trends in output product errors?	___	___
51.	Are users kept apprised of progress being made to correct problems that cause output product errors?	___	___
52.	Are the outputs from rerun jobs subjected to the same quality review as the original output products that were found to be in error?	___	___
53.	Do documented procedures exist that explain the methods for user department reporting and control of output product errors?	___	___
54.	Is the user notified immediately by the user department control group of problems in output products?	___	___
55.	Does the user department control group keep a control log of output product errors?	___	___
56.	Is this log used to:		
	--Identify the problem?	___	___
	--Identify data processing department personnel contacted?	___	___
	--Record date and time of data processing department contact?	___	___
	--Record data processing department corrective action taken?	___	___
	--Record date and time of receipt of corrected output product?	___	___
	--Identify causes and trends of output product errors?	___	___
	--Make sure that output product errors are corrected in a timely manner?	___	___

TFRA - 5

	YES	NO
BATCH--HANDLING AND RETENTION OF OUTPUT RECORDS AND ACCOUNTABLE DOCUMENTS		
57. Have record and document retention periods been established?	___	___
58. Are the periods reasonable for backup and audit purposes?	___	___
59. Are appropriate methods (i.e., degaussing, shredding, etc.) used to dispose of unneeded records and documents?	___	___
60. Is access to records and documents restricted to authorized individuals?	___	___
61. Are periodic reviews made to determine if output products are still needed by the user?	___	___
62. Is the dual custody technique used to control accountable documents (check stock, bond stock, identification card stock, etc.) during the following:		
--In storage?	___	___
--In transit?	___	___
--Waiting to be used by the application?	___	___
--Being used by the application?	___	___
--Waiting for distribution?	___	___
--Waiting for destruction?	___	___
--Waiting for transit back to storage?	___	___
63. Is access to accountable documents restricted to authorized personnel?	___	___
ON-LINE--OUTPUT BALANCING AND RECONCILIATION		
64. Do documented procedures exist that explain the methods for proper balancing and reconciliation of output products?	___	___
65. Does the data processing department have a control group responsible for making sure that output products are accurately processed by data processing and correctly transmitted to user terminal devices?	___	___

TFRA - 5

		YES	NO
66.	Does the data processing department control group have a schedule by application that shows when pre-output processing ends and when output processing begins?	___	___
67.	Does the data processing department control group monitor the processing flow to make sure that application programs are being processed according to schedule?	___	___
68.	Does the data processing department control group reconcile each output batch total with input batch totals, before the transmission of outputs, to insure that no data was added or lost during data processing?	___	___
69.	Does the data processing department control group reconcile each output record count with input record counts, before the transmission of outputs, to insure that no data was added or lost during data processing?	___	___
70.	Does the data processing department control group reconcile output predetermined control totals with input predetermined control totals, before the transmission of outputs, to insure that no data was added or lost during data processing?	___	___
71.	Is a log kept by the application to provide an audit trail for transactions being processed?	___	___
72.	Is a log kept at each output transmission device to provide an audit trail for outputs being transmitted to user terminal devices?	___	___
73.	Is the transaction log kept by the application compared regularly with the transmission log kept at each output transmission device to make sure that all outputs have been properly transmitted to the final users?	___	___
74.	On each output product, does the application system identify:		
	--Title or name of product?	___	___
	--Processing program name or number?	___	___

TFRA - 5

	YES	NO
--Date and time prepared?	___	___
--Processing period covered?	___	___
--User name and location?	___	___
--Counts developed during processing?	___	___
--End-of-job/file/report indication?	___	___
--Security classification, if any?	___	___
75. Do terminal devices automatically disconnect from the computer-based system if they are unused for a certain amount of time?	___	___
76. Do terminal devices need to be logged off at the end of the day so that they will be disconnected from the computer-based system?	___	___
77. Even though teminals are disconnected from the system, can output reports still be transmitted to terminal output devices?	___	___
78. Are output devices located in secure facilities at all times to protect against unauthorized access?	___	___
79. Has a priority system been established so that critical outputs can be transmitted on time?	___	___
80. Are all outputs waiting for transmission placed on a backup log before being put into the transmission queue?	___	___
81. As outputs are transmitted and received, does the terminal output device send a reply that they have been correctly received?	___	___
82. Is the backup log purged when the terminal output device reply has been received?	___	___
83. Does the computer-based system automatically check an output message before displaying, writing, or printing it to make sure that it has not reached the wrong terminal output device?	___	___
84. Is message content validated before displaying, writing, or printing on the terminal output device?	___	___

TFRA - 5

		YES	NO
85.	Can transactions be traced forward to the final output products?	___	___
86.	Can transactions be traced backward to the original source documents?	___	___
87.	Are all the day's activities summarized and printed for each terminal device?	___	___
88.	Are these activity reports used to provide an audit trail for the output products?	___	___
89.	Are these reports reviewed by supervisors to determine the correctness of output production?	___	___
90.	Does the user department have a control group responsible for reviewing all outputs produced by the computer application?	___	___
91.	Does the user department control group reconcile each output batch total with input batch totals, before the release of any reports, to insure that no data was added or lost during data processing?	___	___
92.	Does the user department control group reconcile each output record count with input record counts, before release of any reports, to insure that no data was added or lost during data processing?	___	___
93.	Does the user department control group reconcile output predetermined control totals with input predetermined control totals, before release of any reports, to insure that no data was added or lost during data processing?	___	___
94.	Is the user department control group given lists of all changes to application system master file data or programmed data?	___	___
95.	Is the user department control group given lists of all internally generated transactions produced by the application?	___	___
96.	Is the user department control group given lists of all interface transactions processed by the application?	___	___

TFRA - 5

		YES	NO
97.	Is this user department control group given a list of all transactions entered into the system?	___	___
98.	Are all listings (questions 94-97) reviewed by the user department control group to insure completeness of data processed by the system?	___	___
99.	Does the user department control group verify the accuracy and completeness of all outputs?	___	___
100.	Is the user department ultimately responsibile for the accuracy of all outputs?	___	___

ON-LINE--OUTPUT DISTRIBUTION

101.	Do documented procedures exist that explain the methods for proper handling and distribution of output products?	___	___
102.	Are duties separated to make sure that no one individual performs more than one of the following operations:		
	--Originating data?	___	___
	--Inputting data?	___	___
	--Processing data?	___	___
	--Distributing output?	___	___
103.	Are users questioned periodically to determine their continued need for the products and the number of copies received?	___	___
104.	Does the user department have a control group responsible for distributing all output products produced by the application?	___	___
105.	Does the user department control group have a schedule, by application, that shows when output processing will be completed and when output products need to be distributed?	___	___
106.	Does the user department control group monitor system outputs to make sure that application programs are being processed according to schedule?	___	___

TFRA - 5

		YES	NO
107.	Does the user department control group maintain a formalized output distribution checklist to show the disposition of each output product?	___	___
108.	Are turnaround transmittal documents used by the data processing department control group to verify that the output product has been received by the authorized recipient?	___	___
109.	Is the checklist used to verify the acknowledgment of all turnaround transmittal documents from recipients of outputs?	___	___

ON-LINE--OUTPUT ERROR HANDLING

110.	Do documented procedures exist that explain the methods for user department reporting and control of output errors?	___	___
111.	Is the user notified immediately by the user department control group of problems in outputs?	___	___
112.	Does the user department control group keep a control log of output product errors?	___	___
113.	Is this log used to:		
	--Identify the problem?	___	___
	--Identify data processing department personnel contacted?	___	___
	--Record date and time of data processing department contact?	___	___
	--Record data processing department corrective action taken?	___	___
	--Record date and time of receipt of corrected output product?	___	___
	--Identify causes and trends of output product errors?	___	___
	--Make sure that output product errors are corrected in a timely manner?	___	___

TFRA - 5

	YES	NO
114. Are the outputs from rerun jobs subject to the same quality review as the original output products that were found to be in error?	___	___

ON-LINE--HANDLING AND RETENTION OF OUTPUT RECORDS AND ACCOUNTABLE DOCUMENTS

115. Have record and document retention periods been established?	___	___
116. Are the periods reasonable for backup and audit purposes?	___	___
117. Are appropriate methods (i.e., degaussing, shredding, etc.) used to dispose of unneeded records and documents?	___	___
118. Is access to records and documents restricted to authorized individuals?	___	___
119. Are periodic reviews made to determine if output products are still needed by the user?	___	___
120. Is the dual custody technique used to control accountable documents (check stock, bond stock, identification card stock, etc.) during the following:		
--In storage?	___	___
--In transit?	___	___
--Waiting to be used by the application?	___	___
--Being used by the application?	___	___
--Waiting for distribution?	___	___
--Waiting for destruction?	___	___
--Waiting for transit back to storage?	___	___
121. Is access to accountable documents restricted to authorized personnel only?	___	___

NOTES: Questions should be self-explanatory. Responses will frequently be a simple "yes" or "no." All responses should be indexed to appropriate supporting documents or records of interviews. Explain any "no" answers and identify alternate control procedures.

TFRA - 6

APPLICATION CONTROLS PROFILE

On the basis of questionnaire responses and other information obtained relating to the following control characteristics, how much risk (low, medium or high) do you believe is involved in relying on the agency's application controls to assure accurate and reliable data processing? Refer to appendix II for more information on assessing risk.

Control characteristics	Is the control in place?	Is the control effective?	Is some alternate control in place?	Is the alternate control effective?	Level of potential risk?
DATA ORIGINATION CONTROLS					
Source document origination					
Source document authorization					
Source document data collection and input preparation					
Source document error handling					
Source document retention					
DATA INPUT CONTROLS					
Batch--data conversion and entry					
Batch--data validation and editing					
Batch--data input error handling					
On-line--data conversion and entry					

PROFILE 3

TFRA - 6

APPLICATION CONTROLS PROFILE

Control characteristics	Is the control in place?	Is the control effective?	Is some alternate control in place?	Is the alternate control effective?	Level of potential risk?
On-line--data validation and editing					
On-line--data input error handling					
DATA PROCESSING CONTROLS					
Batch--data processing integrity					
Batch--data processing validation and editing					
Batch--data processing error handling					
Real-time--data processing integrity					
Real-time--data processing validation and editing					
Real-time--data processing error handling					
DATA OUTPUT CONTROLS					
Batch--output balancing and reconciliation					

PROFILE 3

TFRA - 6

APPLICATION CONTROLS PROFILE

Control characteristics	Is the control in place?	Is the control effective?	Is some alternate control in place?	Is the alternate control effective?	Level of potential risk?
Batch--output distribution					
Batch--output error handling					
Batch--handling and retention of output records and accountable documents					
On-line--output balancing and reconciliation					
On-line--output distribution					
On-line--output error handling					
On-line--handling and retention of output records and accountable documents					

TFRA - 6

APPLICATION CONTROLS MATRIX

If the degree of risk determined on the previous profile warrants additional audit work (medium or high risk), the following matrix should help the auidtor select appropriate audit steps to complete the review.

	document the data flow	observe operations	obtain user satisfaction	process test data	perform computer program analysis	perform data retrieval analysis	analyze job accounting data	report deficiencies	suggest additional audit
Data Origination Controls									
Source Document Organization	●	●						●	
Source Document Authorization	●	●						●	
Source Document Collection and Input Preparation	●	●						●	
Source Document Error Handling	●	●						●	
Source Document Handling and Retention	●	●						●	
Data Input Controls									
Batch--Data Conversion and Entry	●	●		●	●	●	●	●	
Batch--Data Validation and Editing	●	●		●	●	●		●	
Batch--Data Input Error Handling	●	●	●	●	●	●		●	
On-Line--Data Conversion and Entry	●	●		●	●	●	●	●	
On-Line--Data Validation and Editing	●	●		●	●	●		●	
On-Line--Data Input Error Handling	●	●	●	●	●	●		●	

MATRIX 3

TFRA - 6

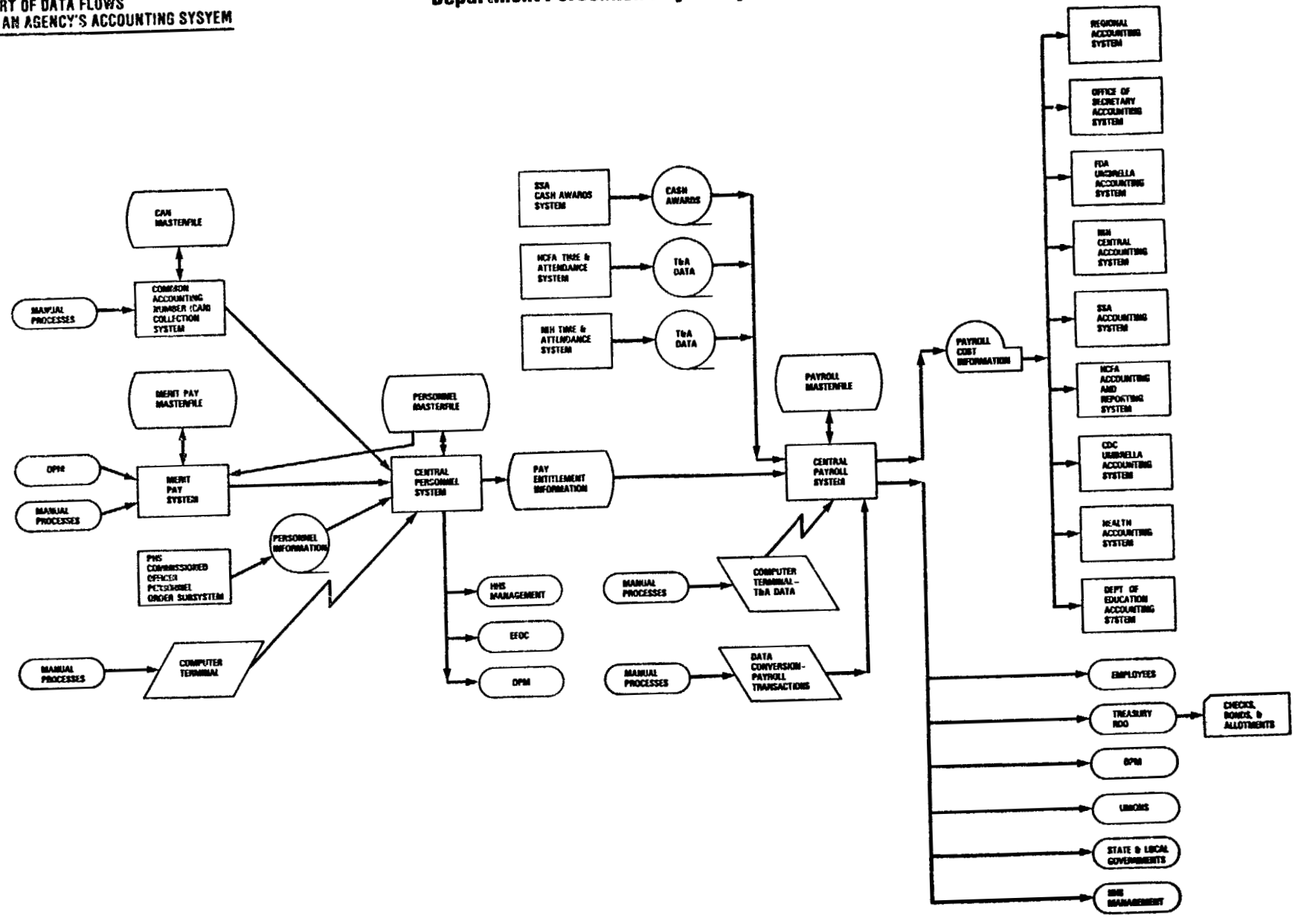
APPLICATION CONTROLS MATRIX

Data Processing Controls	document the data flow	observe operations	obtain user satisfaction	process test data	perform computer program analysis	perform data retrieval analysis	analyze job accounting data	report deficiencies	suggest additional audit
Batch--Data Processing Integrity	●	●		●	●	●		●	
Batch--Data Processing Validation and Editing	●	●		●	●	●		●	
Batch--Data Processing Error Handling	●	●	●	●	●	●		●	
Real Time--Data Processing Integrity	●	●		●	●	●	●	●	
Real Time--Data Processing Validation and Editing	●	●		●	●	●		●	
Real Time--Data Processing Error Handling	●	●	●	●	●	●		●	
Data Output Controls									
Batch--Output Balancing and Reconciliation	●	●		●				●	
Batch--Output Distribution	●	●		●			●	●	
Batch--Output Error Handling	●	●	●	●				●	
Batch--Handling and Retention of Output Records and Accountable Documents	●	●		●				●	
On-Line--Output Balancing and Reconciliation	●	●		●				●	
On-Line--Output Distribution	●	●		●			●	●	
On-Line--Output Error Handling	●	●	●	●				●	
On-Line--Handling and Retention of Output Records and Accountable Documents	●	●		●				●	

FLOWCHART OF DATA FLOWS
THROUGH AN AGENCY'S ACCOUNTING SYSYEM

Department Personnel/Payroll System

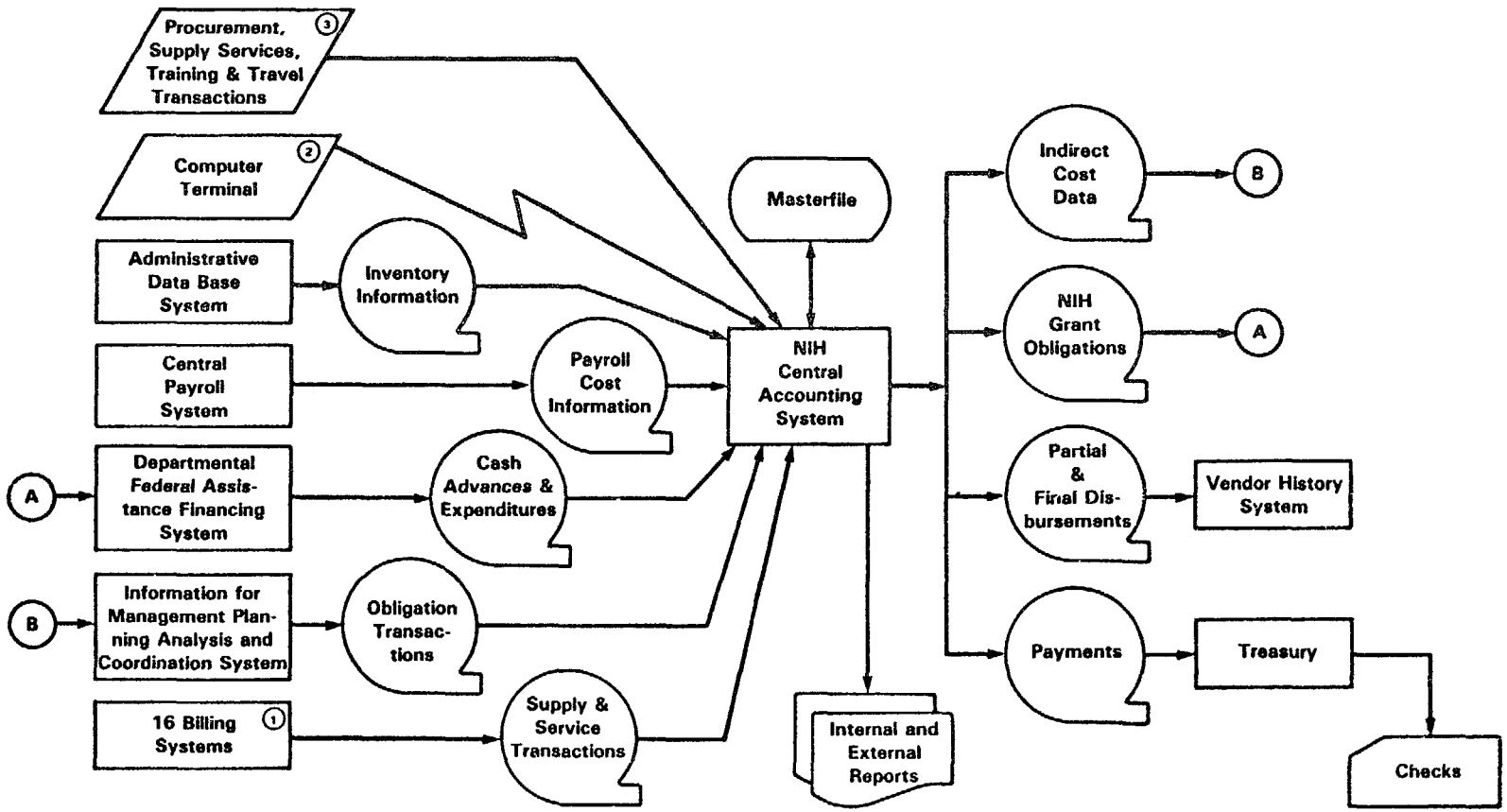
TFRA-7



Financial Management Structure

FLOWCHART OF RELATIONSHIPS
BETWEEN AN AGENCY'S ACCOUNTING SYSTEM

TFRA—8

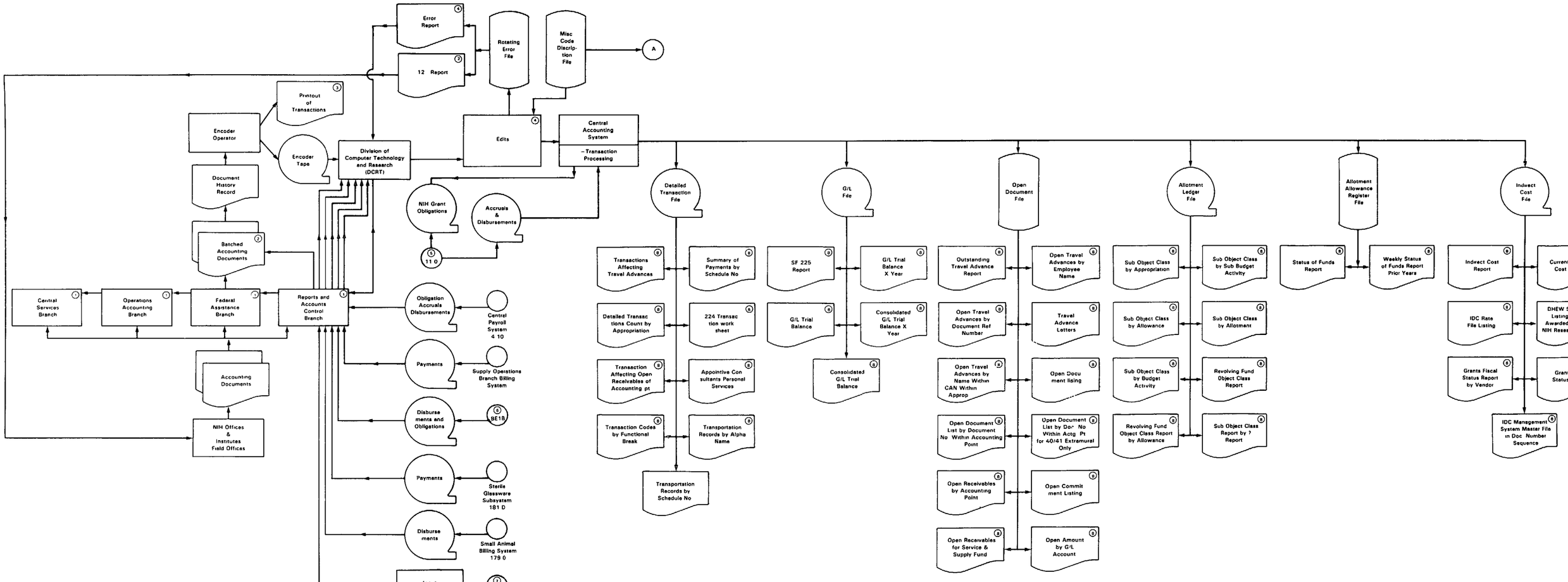


(1) 16 Billing Systems are
- Shops stores billing system
- Supply operations branch billing system
- Postal services billing system
- Biomedical engineering and instrumentation branch billing system
- Division of computer research and technology (DCRT) project accounting system
- Personal property billing system
- Design billing system
- Glassware billing system
- Graphics billing system
- Large research animals billing system
- Photography billing system
- Printing and reproduction billing system
- Scientific equipment rental billing system
- Small animal billing system
- Tissue culture and bacteriological media billing system
- Procurement branch billing system

(2) NIH's field office in Research Triangle Park, North Carolina transmits transaction information via computer terminal to NIH's Bethesda Maryland computer center.

(3) Documents containing these transactions are received in the NIH Division of Financial Management for review and input into the system.

Detailed Flowchart of an Accounting System



(1) These four branches within the Division of Financial Management (DFM) receives all source documents from authorized personnel The first three branches are responsible for batching of data and encoding all data on magnetic tape The Reports and Accounts Central Branch identifies the batches (with and ID No) for input into CAS These branches receives all input into CRS

(2) Documents are batched in groups of no more than 200 live items of transactions Header and trailer records are created for each batch and an adding machine tape of all transactions within the batch is also created and reconciled to the computer total of transactions An item record of each transaction processed is stored on magnetic tape and published weekly as the 12 Report The 12 report is distributed to DFM accoun ting branches and the NIH institutes & offices

(3) The encoder printout provides a permanent audit trail listing for verification of input

(4) DCRT subjects the transactions to edit and validity checks during processing to detect errors Those found in error are written onto a transaction error file at the end of the processing cycle and returned by DCRT to DFM accounting branches for corrections and re submissions as necessary (generally the next cycle)

(5) DFAFS is run on the same computer as the CAS There are two interfaces between the systems

(6) BE1B Biomedical Engineering and Instrumentation Branch

(7) Planning and Control Branch Data Processing large & small animals

(8) See distribution list in W/P

(A) Edits are made against various tables in the MCDF See W/P

Summary For Each Agency System Reviewed

Developed By The Auditor Showing:

(1) Purpose of the system

(2) Use of Available Computer Resources

(30 Inputs, Files, Processing Steps, Outputs, Computer Equipment and Installation

(4) Edits and Validation of Input

(5) Flowchart (Including Interfaces)

(6) Users of Reports

SEGMENT: GENERAL RISK ANALYSIS TASK IV: Initial Risk Rating and Ranking of Systems		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Risk rate and rank the validated inventory of agency financial management systems based on general controls. WORK STEPS:											
4-15	4. Prepare a schedule of the systems listed in the order of their composite reliability scores. Group the systems into three categories: high, medium, and low risk. See section 5, Risk Ranking of Systems for guidance in preparing this schedule.	X	X									
4-15	5. Select the systems for further review.											

SEGMENT: GENERAL RISK ANALYSIS TASK IV: Initial Risk Rating and Ranking of Systems		PERFORM STEPS			MAIN SOURCE FOR INFORMATION						MAIN OUTPUT	APPENDIX VI REFERENCE
		Considering Entire Agency as Entity	Considering Components of Agency	Considering Specific Agency System(s)	Prior FIA Work	Agency Manuals	Budget Requests Appropriations	Prior Audit Reports Such As GAO and IG	ADP Manuals and Documents	Agency Files and Documents		
Page Reference	OBJECTIVE: Risk rank the validated inventory of agency accounting systems.											
	WORK STEPS:											
4-14	1. For each system based on the guidance in section 5, Risk Ranking of Systems, assign a risk rating of low, medium, or high for each of the risk factors.	X	X									
4-15	2. Compute a composite reliability score for each system based on the risk rating assigned and the weighting system discussed in section 5.	X	X									TFRA-14
4-15	3. Prepare a schedule of the risk ratings and composite reliability scores assigned each system.	X	X									

TFRA-11

U.S. GENERAL ACCOUNTING OFFICE

Survey of Users of Accounting Reports

The purpose of this questionnaire is to obtain your opinions on the usefulness, accuracy and timeliness of this report. Your responses will help us to evaluate the effectiveness and need for this report.

The following label has a GAO identification number, the name of the person on the distribution list who receives a copy of the report, and the name of the report. Please complete this questionnaire for the report designated on this label.

Each questionnaire can be completed in about 10 minutes. Most of the questions can be completed either by checking boxes or filling in blanks.

If your office receives only one copy of the report and it is used by several different people in your office, it should be completed by the person who is the primary user of the report or the person who is the most familiar with the report. Only one questionnaire should be filled out for each report used.

Please return the completed questionnaire in the self-addressed envelope within 5 days after receipt, if possible. If you have any questions, please call Darby Smith at (202) 275-1581. Thank you for your cooperation.

If the self-addressed envelope is misplaced, please mail the completed questionnaire to:

Mr. Sam Oliver
U.S. General Accounting Office
441 G Street, N.W., Room 6007
Washington, D.C. 20548

I. Use of the Report

1. Does anyone in your office use this report? (CHECK ONE BOX.)

(9)

1. [ ] Yes...SKIP TO Q. 3
2. [ ] No....CONTINUE TO Q. 2

2. Which of the following reasons best describes why no one in your office uses this report? (CHECK ALL THAT APPLY.)

(10-16)

1. [ ] Information is out-of-date
2. [ ] Information is received too late
3. [ ] Information is inaccurate
4. [ ] Information is incomplete
5. [ ] Information available from a manual system
6. [ ] Information available from an automated system
7. [ ] Other (SPECIFY)

_____

STOP HERE! PLEASE RETURN THE QUESTIONNAIRE IN THE ENCLOSED SELF-ADDRESSED STAMPED ENVELOPE.

3. How frequently does your office receive this report? (CHECK ONE BOX.)

(17)

1. [ ] Daily
2. [ ] Weekly
3. [ ] Monthly
4. [ ] Once every six months
5. [ ] Annually
6. [ ] Don't know
7. [ ] Other (SPECIFY)_____

4. How is the information in this report generally used in your office? (CHECK ALL THAT APPLY.)

(18-26)

1. [ ] Begin actions such as issuing orders for plans, purchases, or projects
2. [ ] Modify existing information in the system
3. [ ] Enter new or retrieve existing information from the system
4. [ ] Maintain security of information in the system
5. [ ] Analyze information from the system to make program decisions or evaluations
6. [ ] Report is for referencing purposes
7. [ ] Report is for making accuracy checks
8. [ ] Don't know
9. [ ] Other uses (SPECIFY)_____

5. Regardless of its form (that is, printed copies, microfiche copies, etc.), how long does your office keep this report? (CHECK ONE BOX.)

(27)

1. [ ] At least one day
2. [ ] At least one week
3. [ ] At least one month
4. [ ] At least one year
5. [ ] Don't know
6. [ ] Other (SPECIFY)_____

6. What type of distribution (if any) does your office make of this report? (CHECK ALL THAT APPLY.)

(28-32)

1. [ ] Report is only used in our office
2. [ ] Report sent to other offices upon request
3. [ ] Report sent to other offices on a regular basis
4. [ ] Don't know
5. [ ] Other distribution

(SPECIFY)_____

7. Including yourself, about how many people in your office use this report?

(33-34)

_____Number of people

16. Overall, how easy or difficult is it to understand the information contained in this report? (CHECK ONE BOX.)

(52)

1. [ ] Very easy to understand
2. [ ] Generally easy to understand, only a few difficult parts
3. [ ] Neither easy nor difficult to understand
4. [ ] Generally difficult to understand, only a few easy parts
5. [ ] Very difficult to understand

17. How timely is the information contained in this report? (That is, is the report available when it is needed?) (CHECK ONE BOX.)

(53)

1. [ ] Always or almost always on time
2. [ ] Generally on time
3. [ ] Sometimes on time and sometimes late
4. [ ] Generally late
5. [ ] Always or almost always late
6. [ ] Don't know

18. In your opinion, how frequently should this report be issued? (CHECK ONE BOX.)

(54)

1. [ ] Daily
2. [ ] Weekly
3. [ ] Monthly
4. [ ] Once every six months
5. [ ] Annually
6. [ ] Don't know

19. In the last year, has your office considered <u>not</u> receiving this report (that is, removing your name from the distribution list)? (CHECK ONE BOX.)

(55)

1. [ ] Yes
2. [ ] No
3. [ ] Don't know

Thank you for your cooperation.

IN THE EVENT THAT WE NEED TO CLARIFY ANY OF YOUR RESPONSES, WE WOULD APPRECIATE IT IF YOU WOULD PROVIDE THE FOLLOWING INFORMATION.

NAME OF PERSON COMPLETING THIS QUESTIONNAIRE

_____

TITLE OF PERSON COMPLETING THIS QUESTIONNAIRE

_____

TELEPHONE NUMBER _____

If you have any comments or suggestions regarding this report, please write your response on the back of this page.

TFRA-12

Summary Of Responses To User Satisfaction Questionnaire

(TFRA-11)

DEVELOPED BY THE AUDITOR

SUMMARY OF CONTROL OBJECTIVES, TECHNIQUES, AND CONTROL STRENGTHS AND WEAKNESSES IN AN AGENCY'S ACCOUNTING SYSTEM

NATIONAL INSTITUTES OF HEALTH--ASSET AND LIABILITY MANAGEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Authorization		
1. Sources of assets and liabilities should be authorized in accordance with laws, regulations, and management policy.	Supplies (including drugs) Obligated transactions are created during the initial entry of purchase orders. The accounting section is responsible for certifying the availability of funds for obligation transactions. Property When purchase orders are received from the Procurement office, the Property Accountability Unit screens each purchase order to determine which contains nonexpendable property. Advances Grant applications are reviewed by an advisory council and initial review group for relevancy before they are approved.	
2. The amounts, timing, and conditions of transactions, should be authorized in accordance with laws, regulations, and management policy.	See cycle control objective 1.	
3. The amounts, timing, and conditions of expenditures of funds should be authorized in accordance with laws, regulations, and management policy.	Supplies When received and entered into the data base, an accounts payable is generated. A clerk in the Accounts Payable Section matches the purchase order data in the system with the invoice. If payable, a payment transaction is generated as input into the accounting system. Property When property is received, an accountability section employee stationed in the supply operations branch receiving area affixes a numerical decal and cites other identifying information on the purchase order. These documents are forwarded to Property Accountability Section where they are entered into the system creating a property record. Each month copies of all property transactions affecting the general ledger are forwarded to the Division of Financial Management.	National Institutes of Health (NIH) does not have one system to control cash advances to contractors and grantees. The NIH Information Management For Planning and Coordination (IMPAC) system authorizes grant awards and office of Secretary's Departmental Federal Assistance Financing System (DFAFS) make award payments. NIH has no asurance that all expenditures are reported.

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

Dear Report Recipient:

The U.S. General Accounting Office is reviewing the effectiveness and need for various accounting and administrative reports used by your agency in carrying out it's work. Since you are a recipient of one or more of the reports, we are requesting you complete and return a questionnaire for each report you receive. Your frank and honest answers on the usefulness, accuracy and timeliness of each report you receive will aid us greatly in our evaluation.

Attached to each questionnaire is a label which indicates the specific report we are examining. The label also displays a GAO identification number and the name of the person on the distribution list who receives the report. If you are the recipient of more than one report, you will find a questionnaire for each report.

If you or your office receives only one copy of the report and it is used by several different people in your office, it should be completed by the person who is the primary user of the report or the person who is the most familiar with the report. Only one questionnaire should be filled out for each report used.

Although each questionnaire should only take about 10 minutes to complete, your answers are vital to this study. So please bear with us and cooperate in our follow-up efforts if we do not receive your completed questionnaire(s).

Please return the completed questionnaire(s) in the self-addressed envelope within 5 days after receipt, if possible. If you have any questions, please call

Thank you for your cooperation.

Sincerely yours,

Enclosure

VI-167 was not used

12. Have you participated in any of the following activities? (CHECK ALL THAT APPLY.)

(43-48)

1. [ ] Helped identify the type of information that would be included in the report
2. [ ] Helped design the format of the report
3. [ ] Offered suggestions for changes to the report
4. [ ] Have been contacted about future changes to the report
5. [ ] Have not participated in any of these activities
6. [ ] Other (SPECIFY)

_____

II. Opinions About This Report

13. When your office receives this report, how up-to-date do you consider the information? (CHECK ONE BOX.)

(49)

1. [ ] All or almost all of the information is up-to-date
2. [ ] Most of the information is up-to-date
3. [ ] About half of the information is up-to-date
4. [ ] Most of the information is out-of-date
5. [ ] All or almost all of the information is out-of-date
6. [ ] Don't know
7. [ ] Other (SPECIFY)

_____

14. How complete do you consider the information in this report that your office uses? (That is, is any additional information needed?) (CHECK ONE BOX.)

(50)

1. [ ] Never or almost never complete
2. [ ] Generally not complete
3. [ ] As much complete as not complete
4. [ ] Generally complete
5. [ ] Always or almost always complete
6. [ ] Don't know
7. [ ] Other (SPECIFY)

_____

15. How much do you like or dislike the format used to display the information in this report? (CHECK ONE BOX.)

(51)

1. [ ] Greatly like the format
2. [ ] Like the format
3. [ ] Neither like nor dislike the format
4. [ ] Dislike the format
5. [ ] Greatly dislike the format

12. Have you participated in any of the following activities? (CHECK ALL THAT APPLY.)

(43-48)

1. [ ] Helped identify the type of information that would be included in the report
2. [ ] Helped design the format of the report
3. [ ] Offered suggestions for changes to the report
4. [ ] Have been contacted about future changes to the report
5. [ ] Have not participated in any of these activities
6. [ ] Other (SPECIFY)

_____

II. Opinions About This Report

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(49)

1. [ ] All or almost all of the information is up-to-date
2. [ ] Most of the information is up-to-date
3. [ ] About half of the information is up-to-date
4. [ ] Most of the information is out-of-date
5. [ ] All or almost all of the information is out-of-date
6. [ ] Don't know
7. [ ] Other (SPECIFY)

_____

14. How complete do you consider the information in this report that your office uses? (That is, is any additional information needed?) (CHECK ONE BOX.)

(50)

1. [ ] Never or almost never complete
2. [ ] Generally not complete
3. [ ] As much complete as not complete
4. [ ] Generally complete
5. [ ] Always or almost always complete
6. [ ] Don't know
7. [ ] Other (SPECIFY)

_____

15. How much do you like or dislike the format used to display the information in this report? (CHECK ONE BOX.)

(51)

1. [ ] Greatly like the format
2. [ ] Like the format
3. [ ] Neither like nor dislike the format
4. [ ] Dislike the format
5. [ ] Greatly dislike the format

8. To what extent, if at all, could the work conducted in your office be completed successfully (as quickly and accurately) if this report was not available? (CHECK ONE BOX.)

(35)

1. [ ] All or almost all of the work could be completed successfully
2. [ ] Most of the work could be completed successfully
3. [ ] Some of the work could be completed successfully, some of the work could not be completed successfully
4. [ ] Most of the work could not be completed successfully
5. [ ] All or almost all of the work could not be completed successfully
6. [ ] Don't know

9. How easy or difficult would it be to derive the information in this report from manual records maintained in your office? (CHECK ONE BOX.)

(36)

1. [ ] No manual records are kept
2. [ ] Very difficult
3. [ ] Difficult
4. [ ] Neither difficult nor easy
5. [ ] Easy
6. [ ] Very easy
7. [ ] Don't know

10. How easy or difficult is it to obtain the information in this report from other reports your office receives? (CHECK ONE BOX.)

(37)

1. [ ] Very difficult
2. [ ] Difficult
3. [ ] Neither easy nor difficult
4. [ ] Easy
5. [ ] Very easy
6. [ ] Don't know

11. Which of the following methods (if any) does your office use to check the accuracy of at least some of the information contained in this report? (CHECK ALL THAT APPLY.)

(38-42)

1. [ ] No accuracy checks are regularly made
2. [ ] Check information against automated systems
3. [ ] Check information against manual systems
4. [ ] Don't know
5. [ ] Other (SPECIFY)

_____

3. How frequently does your office receive this report? (CHECK ONE BOX.)

(17)

1. [ ] Daily
2. [ ] Weekly
3. [ ] Monthly
4. [ ] Once every six months
5. [ ] Annually
6. [ ] Don't know
7. [ ] Other (SPECIFY)_____

4. How is the information in this report generally used in your office? (CHECK ALL THAT APPLY.)

(18-26)

1. [ ] Begin actions such as issuing orders for plans, purchases, or projects
2. [ ] Modify existing information in the system
3. [ ] Enter new or retrieve existing information from the system
4. [ ] Maintain security of information in the system
5. [ ] Analyze information from the system to make program decisions or evaluations
6. [ ] Report is for referencing purposes
7. [ ] Report is for making accuracy checks
8. [ ] Don't know
9. [ ] Other uses (SPECIFY)_____

5. Regardless of its form (that is, printed copies, microfiche copies, etc.), how long does your office keep this report? (CHECK ONE BOX.)

(27)

1. [ ] At least one day
2. [ ] At least one week
3. [ ] At least one month
4. [ ] At least one year
5. [ ] Don't know
6. [ ] Other (SPECIFY)_____

6. What type of distribution (if any) does your office make of this report? (CHECK ALL THAT APPLY.)

(28-32)

1. [ ] Report is only used in our office
2. [ ] Report sent to other offices upon request
3. [ ] Report sent to other offices on a regular basis
4. [ ] Don't know
5. [ ] Other distribution

(SPECIFY)_____

7. Including yourself, about how many people in your office use this report?

(33-34)

_____Number of people

NATIONAL INSTITUTE OF HEALTH--ASSET AND LIABILITY MANAGEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls in Place	Control Weaknesses
4. Adjustments to asset and liability accounts and account distributions should be authorized in accordance with management policy.	See cycle control objective 3.	
5. Asset and liability management procedures should be established and maintained in accordance with management policy.	See cycle control objectives 1, 2, and 3.	
Economy, Efficiency, and Effectiveness		
6. Cycle results should be in accordance with laws, regulations, and mangement policy and plans.	The NIH Material Management System, Property System, and IMPAC system all automatically generate a series of hardcopy reports for management use. Also, a standard chart of accounts is maintained for the Central Accounting System.	The Perpetual Drug Inventory System at NIH accounts for about 1800 items amounting to $3 million annually. This is a manual system; however, automation plans are underway. Also, 2 of the 15 NIH billing systems are manual.
7. Cycle results should be achieved in an economical and efficient manner.	See control objectives 1, 2, 3, and 6.	
8. Processing procedures used to create, recognize, and report events and related transactions should be economical and efficient.	See objectives 1, 2, 3, and 6. An administrative data base is used to process transactions relating to the acquisition of goods and services (including drugs).	
9. Only those requests to buy or sell assets that meet laws, regulations and management policy should be approved.	The buying, selling, transferring, and disposal of assets are documented in the Unexpendable Personal Property System documentation and the Materials Management User's Guide..	See cycle control objective 3.
10. Assets and liabilities acquired should be accurately and promptly reported.	See control objectives 1, 3, and 6. Periodic physical inventories are taken of personal property and drugs.	
11. Retirements or dispositions of assets to outsiders should be accurately and promptly reported.	See control objective 9. Periodic physical inventories are taken of personal property.	

Cycle Control Objectives	Controls in Place	Control Weaknesses
12. Amounts due from or to purchasers and creditors, and the accounting distribution of those amounts, should be computed accurately and promptly recognized as assets or liabilities.	See control objectives 3 and 6. Administrative data base system is used to process transactions.	
13. Changes in values, where required by generally accepted governmental accounting principles, should be computed accurately and recognized promptly.	See control objectives 3 and 6.	
Classification		
14. Amounts due to creditors, and related adjustments, should be accuratley and promptly classified, summarized, and reported.	See control objectives 3 and 6.	
15. Purchases and sales of assets, changes in liabilities, and related adjustments should be accurately applied to the proper subsidiary accounts.	See control objectives 1, 3, and 6.	
16. Journal entries for assets and liabilities acquired and retired, and related adjustments, should be prepared and posted each accounting period.	See control objectives 3 and 6.	
17. Journal entires should summarize and classify economic activities in accordance with management's plan.	See control objectives 3 and 6.	

NATIONAL INSTITUTES OF HEALTH--ASSET AND LIABILITY MANAGEMENT CYCLE INTERNAL CONTROL STRENGTH AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Substantiation and Evaluation	Property	
18. Recorded balances of asset and liability accounts, and related transaction activity, should be periodically substantiated and evaluated.	Property records are periodically reconciled with accounting records. Advances Weekly, all calculations of indirect costs to new awards or adjustments of indirect costs to prior awards within the CAS are mechanically transferred to IMPAC and recorded on a grant-by-grant basis. This weekly transfer process permits the reconciliation of current fiscal-year obligations in each system.	
Physical Safeguards		
19. Physical safeguards should by maintained where assets are stored and transactions are processed.	Not surveyed.	

NATIONAL INSTITUTES OF HEALTH--PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls in Place	Control Weaknesses
Authorization		
1. Vendors should be authorized in accordance with laws, regulations and management policy.	The Reports and Accounts Control Branch maintains an on-line characteristics (vendor) file with the name and address of all vendors and persons that NIH does business with. Each day the Accounts Payable section receives an alphabetical listing of this file. It is the duty of this Section to record the correct number to each payment by the branch.	
2. The types, estimated quantities, and prices and terms of goods and in accordance with laws, regulations, and management policy.	The requestor for goods and services prepares a requisition which is submitted to the purchasing agent. The procurement clerk enters this data into the data base, and a purchase order is generated.	
3. Adjustments should be authorized in accordance with laws, regulations, and management policy.	Adjustments are supported by documents. Unexplained losses are fully documented and reported to the Board of Survey for consideration and disposition.	
4. Procurement cycle processing procedures should be established and maintained in accordance with laws, regulations, and management policy.	The Materials Management Users Guide documents the procurement cycle processing procedures.Data base management system used to process transaction.	
Economy, Efficiency, and Effectiveness		
5. Procurement cycle operations should be in accordance with laws, regulations, and management policy and plans.	Data base management system used to process transaction.	

NATIONAL INSTITUTES OF HEALTH--PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
6. Procurements should be achieved in an economical and efficient manner.		
7. Procurement procedures used should be economical and efficient.	Data base management system used to process transactions.	
Transaction Processing		
8. Only those requests of vendors for goods or services that meet management's criteria should be approved.	See objective 1.	
9. Only requested goods and services should be accepted.	When goods are received, the receiving clerk in the receiving location will reconcile the Purchase order with the receiving report. The delegated receiving officer keys receipt of goods into the data base.	
10. Goods and services accepted should be accurately and promptly reported.	When goods and services are received, the receipt is keyed into the data base at the receiving location.	
11. Amounts due to vendors for goods and services accepted, and the accounting distributions of such amounts, should be computed and recognized as liabilities promptly.	When goods are purchased, the procurement clerk types data into the data base which generates an obligation and a purchase order. When received and entered into the data base, an accounts payable is generated.	

NATIONAL INSTITUTES OF HEALTH--PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
12. Amounts due to vendors should be accurately and promptly classified, summarized, and reported.	The Operations Accounting Branch provides the Procurement Section with a definition or description of each object class. Procurement determines which object class an order should have before ordering items. The Accounting Classification Section validates the object class and has authority to change if necessary. This section receives a listing of each obligation in the data base.	
13. Purchasing adjustments should be accurately and promptly classified, summarized, and reported	See Objective 12	
14. Liabilities incurred, and related adjustments, should be accurately applied to the proper vendors' accounts.	See Objective 1	
15. Journal entries for amounts due to vendors and related adjustments should be prepared each accounting period.	Written chart of accounts containing a description of each account.	
16. Purchasing journal entries should summarize and classify economic activities in accordance with management's plan.		
Substantiation and Evaluation		
17. Recorded balances of accounts payable, and related transaction activity, should be periodically substantiated and evaluated.		

NATIONAL INSTITUTES OF HEALTH--PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls in Place	Control Weaknesses
Physical Safeguards		
18. Access to purchasing, receiving, and disbursement records, critical forms, processing areas, and processing procedures should be permitted only in accordance with management's criteria.	Restricted of access to terminals which generate disbursement transactions.	

Cycle Control Objectives	Controls in Place	Control Weaknesses
Authorization		
1. Grant eligibility requirements should be authorized in accordance with laws, regulations, and management policy.		
2. Information and method used to publicize the program should be authorized in accordance with laws, regulations, and management policy.		
3. Grant application processing procedures should be established and maintained in accordance with laws, regulations, and management policy.		
4. Grantee procedures for control, use, and reporting of grant funded operations should be authorized in accordance with laws, regulations, and management policy.		
Economy, Efficiency and Effectiveness		
5. Grant program results should be in accordance with laws, regulations, and management policy and plans.		

NATIONAL INSTITUTES OF HEALTH-GRANT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
6. Program results should be achieved in an economical and efficient manner.		
7. Procedures used to review, process and report grants and related transactions should be economical and efficient.		
Transaction Processing		
8. Only those grant requests that meet the eligibility requirements should be approved.	All grant applications are reviewed by initial review groups and an advisory council to determine if they are relevant and should be approved.	
9. Resources (personnel, supplies and overhead costs) incurred for grant processing should be accurately and promptly reported.		NIH does not have control over cash advances to contractors and grantees. The NIH IMPAC system authorizes grant awards while the DS DFAFS makes award payments. These two functions should some how be merged into one NIH system.
10. Grants issued should be accurately and promptly reported.		
11. Resources used, program results and related adjustments should be accurately applied to the proper records.		
Classification		
12. Grants and costs of processing should be summarized each period and classified in accordance with management's policy.		

Cycle Control Objectives	Controls In Place	Control Weaknesses
13. Reports should be prepared accurately, promptly and on a consistent basis that adequately presents the information they purport to display.	The IMPAC system automatically generates a series of hardcopy reports.	
Substantiation and Evaluation		
14. Recorded data should be periodically substantiated and evaluated.		
15. The distribution of costs to accounts should be periodically reviewed and evaluated.		
16. Grantee records should be periodically substantiated and evaluated.		
Physical Safeguards		
17. Access to grant and cost accounting records, critical forms, processing areas, and processing procedures should be permitted only in accordance with management policy.	Not surveyed.	

NATIONAL INSTITUTES OF HEALTH-OTHER DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

TFRA-13

Cycle Control Objectives	Controls in Place	Control Weaknesses
Authorization		
1. Disbursements should be authorized in accordance with laws, regulations, and management policy.	The Reports and Accounts Control Branch maintains a vendor file for all vendors including proper identification numers, and addresses.	
2. Adjustments to disbursement and account distributions should be authorized in accordance with laws, regulations, and management policy.	Authorized personnel make a manual check of invoices for adjustments (manual). The only adjustments on an invoice should be for freight charges. These charges should be documented on the invoices and stamped. Because disbursements are a part of the data base, the system will not allow payment above what is on the authorized order.	
3. Disbursement processing procedures should be established and maintained in accordance with laws, regulations,and management policy.	Disbursement processing procedures are documented in the Materials Management User's Guide for the clerks' use.	
Economy, Efficiency, and Effectiveness		
4. Disbursement cycle results should be in accordance with laws, regulations,and management policy and plans.		
5. Disbursements should be made in an economical and efficient manner.	Turn-around time analysis of payments are made. Also, there are inhouse analysis of the cost to process transactions. Workload reports are produced.	
6. Disbursement processing procedures used to create, recognize, and report events and related transactions should be economical and efficient.	See objective 5. Data base management system used to process transactions.	

Cycle Control Objectives	Controls in Place	Control Weaknesses
Transaction Processing		
7. Only those requests for disbursements that meet management policy should be approved.	The Reports and Accounts Control Branch, maintains an on-line characteristics (vendor) file with the name and address of all vendors and persons that NIH does business with. Each day the Acts Payable Section receives an alphabetical listing of this file. It is the duty of this section to record the correct number to each payment by the branch. See objective 1.	
8. Disbursements should be accurately and promptly reported.	The Central Accounting System produces a number of reports on the results of processing transactions which are sent to all levels of management. One such report is the "12" report. This is a report of every transaction processed for the week.	
9. Amounts due to vendors for goods and services accepted, and the accounting distributions of such amounts, should promply be computed and recognized as liabilities.	When purchasing goods, the procurement clerk types data into data base which generates an obligation and a purchase order. When goods are received, the receiving section keys in the receipt to the data base generating an accounts payable.	
10. Each disbursement of cash should be based upon a recognized liability, be accurately prepared, and be appropriately authorized.	Once goods are received, the procurement officer matches the receiving report with his copy of the Purchase order (P/O). At the delegated receiving office, the delegated officer will enter into the terminal what was received and the date of receipt. The invoices are mailed directly to the Acts Payable Section. A clerk in this section will enter into the terminal, an invoice number, P/O number from the copy of the P/O, invoice date, and invoice total. The computer will indicate only those lines on the P/O that are payable. The clerk will actually check the screen against the hardcopy invoice. If payable, a disbursement transaction is generated into the Central Accounting System.	
11. Disbursements should be accurately and promptly classified, summarized, and reported. The CAS generates a number of reports on the results of processing transactions which are sent to all levels of management.	See objective 9.	

NATIONAL INSTITUTES OF HEALTH--OTHER DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls in Place	Control Weaknesses
Classification		
12. Cash disbursements and related adjustments should be accurately and promptly classified, summarized, and reported.	See objective 11.	
13. Liabilities incurred, cash disbursements, and related adjustments should be accurately applied to the proper vendors' accounts.	See objective 7.	
14. Transactions for amounts due to vendors, cash disbursements, and related adjustments should be prepared each period.	Chart of accounts.	
15. Disbursements should be summarized and classified in accordance with management's plan.	See Objective 11. CAS generates a sub object class report which shows how much has been disbursed for each object class.	
Substantiation and Evaluation		
16. Recorded balances of disbursements, and related transaction activity, should be periodically substantiated and evaluated.	Disbursements are reconciled monthly with both the 101 disbursing funds general ledger account series and the Agency Statement of Transactions, SF-224. Each transaction processed is printed out on a weekly detail transaction report ("12" report). This report is distributed to Division of Financial Management (DFM) accounting branches and NIH institutes and offices.	

INTERNAL INSTITUTES OF HEALTH--OTHER DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Physical Safeguards		
17. Access to disbursement records, critical forms, processing areas, and processing procedures should be permitted only in accordance with management policy.	Because disbursements are part of the data base, there are no hardcopy records of disbursements. The only terminals for generating disbursements are in the Accounts Payable Section, which is the only section with the ability to use key words and IDs to generate a disbursement transaction. There is only one terminal for deleting a payment. It is located in the Disbursing Services Section. Everyone can query the system, but not everyone can generate specific data.	
18. Access to purchasing, receiving, and disbursement records, critical forms, processing areas, and processing procedures should be permitted only in accordance with management's criteria.	There is a restriction of access to terminals which generates disbursement transactions.	

NATIONAL INSTITUTES OF HEALTH-REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

TFRA-13

Cycle Control Objectives	Controls in Place	Control Weaknesses
Authorization		
1. Data entered to reporting systems should be authorized in accordance with laws, regulations, and management policy.	The NIH Central Accounting System is an automated system which utilizes a standard chart of accounts.	
2. Reporting system processing procedures should be established and maintained in accordance with laws, regulations, and management policy.	The Central Accounting System generates various reports monthly and annually on the status of funds and the general ledger account balances.	
Economy, Efficiency, and Effectiveness		
3. Reporting should be in accordance with laws, regulations, and management policy and plans.	see cycle control objective 2.	
4. Reporting should be achieved in an economical and efficient manner.		

NATIONAL INSTITUTES OF HEALTH-REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls in Place	Control Weaknesses
5. Reporting procedures used should be economical and efficient.		
Transaction Processing		
6. Only those reports that meet management policy should be approved.	As a result of the user satisfaction questionaire, we found that 156 of the 209 users of management reports generated by the NIH Central Accounting System actually use the reports.	
7. Reports should be prepared accurately and promptly.	Of the 156 users of NIH management reports, 152, or 97 percent reported all or most of information in the reports is accurate.	
8. Relevant disclosure data should be gathered accurately and promptly.	See objectives 2 & 7.	
9. Relevant disclosure data should be accurately summarized and reported.	See cycle control objectives 2 and 7. Also, the Central Accounting System (CAS) utilizes theCommon Account Number (CAN) and the standard chart of accounts to summarize and report data accurately. Internal edit checks such as the common accounting number file are used to edit transactions for valid CAN. If the CAN is invalid, the transaction is rejected by the system and is printed out on a rotating error file.	
10. File and account balances should be accurately and promptly reported.	The data base management system used to process transactions.	
11. Consolidation of reports should be accomplished accurately and promptly.	See objectives 1, 2 & 7.	
Classification		
12. Reporting entries should classify activities in accordance with management's plan.	See objectives 1 and 2.	

NATIONAL INSTITUTES OF HEALTH-REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSE

TFRA-13

Cycle Control Objectives	Controls in Place	Control Weaknesses
13. Reports should be prepared accurately and promptly, be prepared on consistent bases and fairly present the information they purport to display.	See cycle control objectives 1, 2 and 7.	
Substantiation and Evaluation		
14. Recorded balances in the records should be periodically substantiated and evaluated.		Comprehensive audit of the Central Accounting System has not been performed by internal or external staff.
Physical Safeguards		
15. Access to records, critical forms, processing areas, and processing procedures should be permitted only in accordance with management policy.	Not surveyed	

WORKSHEET FOR PREPARING SYSTEMS RISK RANKING SCORES

Factor	Risk (3-high 2-med 1-low)	X	Weight	=	Composite score	Explanation for risk assigned: (use sufficient space to fully describe)
A. Purpose of system	____		4.4		____	
B. System documentation	____		4.3		____	
C Dollar volume controlled by the system	____		4.4		____	
D. Amount of system maintenance	____		3.9		____	
E. Verification of input	____		4.4		____	
F. Degree of automation	____		3.8		____	
G. Number of dependent systems	____		4.5		____	
H. Security of data, software, and hardware	____		3.2		____	
I. Known system problems	____		3.7		____	
J. Recency of audit	____		3.8		____	
K. Statutory requirements met	____		4.5		____	
L. Involvement of users and auditors in system design	____		4.0		____	
TOTAL					====	

TFRA-15

TECHNICAL SUMMARY
FINANCIAL MANAGEMENT PROFILE
OF THE
CENTER FOR DISEASE CONTROL

PREPARED
BY THE STAFF
OF THE
U.S. GENERAL ACCOUNTING OFFICE

GAO/AFMD-84-15-9
AUGUST 10, 1984

Foreword

The Center for Disease Control is an organizational component of the Department of Health and Human Services. In fiscal 1982 it received approximately $350 million in budget authority. The Center is primarily responsible for federal programs to control the spread of communicable diseases, protect the United States population against certain environmental hazards, provide for occupational health and safety in the workplace, and educate the American population on health and safety issues.

This technical summary is one of eleven volumes of detailed information that supports the overall Financial Management Profile for the Department of Health and Human Services (AFMD 84-15, April 9, 1984). The technical summaries provide detailed information on the major organization components of the Department of Health and Human Services (the Department), their financial management systems, and major internal control strengths and weaknesses in these systems.

The financial management profile of the Department and the eleven technical summaries were prepared by GAO as a pilot test of a new audit approach--called Controls and Risk Evaluation (CARE)--for (1) identifying the describing the financial management systems used by an agency, and (2) assessing and ranking the internal control strengths and weaknesses of the systems. This analysis is based on reviews of available systems documentation, discussions with agency personnel, and reviews of prior GAO and Inspector General reports. Tests were not performed on actual information processed by and recorded in the systems, therefore, conclusions cannot be reached about whether the systems' internal controls were actually operating as designed.

The information in this technical summary is intended for use in:

--planning future tests and evaluations of the accounting and financial management systems at the Center for Disease Control,

--monitoring the Center's efforts to implement the Federal Managers' Financial Integrity Act of 1982, and

--supporting and enhancing the understanding and application of the CARE-based methodology by designers, operators and evaluators of agency accounting and financial management systems.

This technical summary provides a description of the financial management structure of the Center for Disease Control. Eleven financial management systems form the financial management structure of the Center. These systems are used to (1) control appropriated funds and other resources; (2) authorize the use of funds and other resources; and (3) capture, record, process, and summarize financial information related to the execution of budget

authority. This summary provides a detailed analysis of nine of the eleven systems and identifies specific internal control strengths and weaknesses within these systems.

During the course of GAO's survey agency officials were briefed. The summary was provided to cognizant agency officials for their review and comment. Agency comments were considered and changes made where appropriate. The assistance and cooperation of agency management enhanced the successful completion of the work. The summary is being provided to the Center to assist it in its continuing efforts to improve financial management.

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CENTER FOR DISEASE CONTROL-- ITS RESPONSIBILITIES, ACTIVITIES, AND FINANCIAL MANAGEMENT STRUCTURE

The Center for Disease Control (CDC) is responsible for federal programs to control the spread of communicable diseases in the United States, reduce the incidence of communicable diseases in the United States, provide protection to the United States population against certain environmental hazards, promote occupational safety and health in the workplace, and educate the American population on health and safety issues. CDC's fiscal 1982 budget authority exceeded $350 million, and it employed more than 4,000 individuals.

Our review of available system documentation and discussions with agency officials disclosed that eleven systems are used to authorize the use of appropriated funds and other resources, make payments, control assets and liabilities, record and control receipts, control appropriated funds, and report on the financial results of program and administrative operations. Taken together, these systems constitute CDC's financial management structure.

In assessing the internal control strengths and weaknesses in CDC's financial management structure, we determined that:

--Controls appeared adequate to ensure the proper recording and reporting of the financial results of program and administrative operations.

--Controls over appropriated funds appeared adequate.

--Controls over travel advances did not appear adequate to ensure that only entitled persons received travel advances.

--Controls over cash receipts did not appear adequate to ensure that all receipts were actually recorded in the accounting system and deposited in the Treasury.

--Controls over about $1.8 million in supplies appeared inadequate to ensure that supplies were only used for authorized purposes.

In addition, we have other concerns about CDC's financial management systems. Specifically, users of CDC's accounting system were not provided with adequate instructions for preparing and entering financial transactions for computer processing; system documentation for its financial management systems was incomplete and out-of-date, and several manual accounting processes could be done more quickly and correctly if they were automated.

Further, in a recently issued report, the Department of Health and Human Services expressed concerns over poor documentation for CDC automated systems, an overall lack of physical security at

CDC's computer facilities, and a lack of an emergency plan to continue computer operations if CDC's main computer facilities were rendered inoperable.

Appendix I discusses the objectives, scope, and methodology used in applying the Controls and Risk Evaluation audit approach to identify and evaluate the financial management structure of the Center for Disease Control. Appendix II lists the internal control strengths and weaknesses we identified in the financial management systems and appendix III shows the interrelationships of these systems.

RESPONSIBILITIES OF THE CENTER FOR DISEASE CONTROL

CDC was initially responsible for controlling malaria at military bases located in the southeastern United States during the Second World War. Since the war, however, CDC's responsibilities have been expanded and today it is responsible for federal programs aimed at preventing chronic disease, promoting the general level of health of the American people, improving health education, improving preventive health services, and improving protection against environmental and occupational health hazards. The authority for CDC's current programs is the Public Health Service Act.

Pursuant to the Public Health Service Act, CDC:

--Identifies major preventable health problems in the United States and identifies steps that can be taken to preclude the unnecessary incidence of disease.

--Collects, records, analyzes, and reports on the incidence of diseases in the United States.

--Develops and implements programs to solve environmental health problems to include federal programs to respond to and deal with environmental, chemical, and nuclear radiation emergencies.

--Conducts research programs to develop and test methods to improve disease prevention, promotes improved health of the general population, and enhances health education programs for the general population. CDC also supports similar programs implemented by states and local governments.

--Develops federal occupational health and safety standards for private businesses engaged in interstate commerce.

--Conducts a national program for improving the performance of clinical laboratories.

--Stimulates the capacity of state and local health agencies to respond to their citizen's health needs.

--Fulfills the federal responsibilities for controlling the introduction and spread of infectious diseases.

--Participates with other nations and international agencies in dealing with diseases and environmental health problems on a global scale.

CENTER FOR DISEASE CONTROL
ORGANIZATIONAL STRUCTURE

The CDC consist of the Office of the Director and nine major operating components. The Office of the Director is responsible for the overall implementation of CDC's programs. The operating components are responsible for the day-to-day operation of CDC programs. A brief description of each component follows.

--Center for Prevention Services assists states and localities, through grants and other mechanisms, in establishing control programs directed toward health problems such as immunizable diseases, sexually transmitted diseases, diabetes, kidney disease and tuberculosis.

--Center for Environmental Health is responsible for responding to environmental, chemical and radiation emergencies occurring outside the workplace. It maintains surveillance of environmentally related health programs, conducts research and epidemiologic studies, and assists states through grants and technical assistance.

--National Institute for Occupational Safety and Health (NIOSH) establishes medical criteria to be followed by employers to ensure that employees will not suffer diminished health as a result of work experience. In addition, NIOSH administers research and training programs and provides technical assistance in the field of occupational safety and health.

--Center for Health Promotion and Education serves as a national focal point for health education and promotion activities. It conducts research and provides grants and technical assistance to states and localities in implementing health promotion, health education and risk reduction efforts. In addition, the center maintains surveillance and evaluates ongoing programs such as nutrition, family planning and abortion programs.

--Center for Professional Development and Training conducts training for public health workers, and conducts research, works with educational institutions, and provides assistance to states to develop and improve education programs related to disease prevention, health promotion, and the transfer of technology.

--Center for Infectious Diseases, provides scientific services in support of CDC laboratory activities, maintains surveillance of infectious diseases and conducts research for production of experimental vaccines and guidelines for their production. It also provides epidemic support and

other technical assistance to states and localities on request.

--Epidemiology Program Office serves as the national focal point for the collection, analysis, and communication of basic disease surveillance information. In addition, it provides epidemic assistance through epidemiologists assigned in the field; and provides consultation on epidemiology and surveillance to other federal agencies, state and local health departments and other nations.

--International Health Program Office provides CDC expertise to international health organizations and developing countries to assist in improving health activities; conducts and evaluates research activities in various global programs; and maintains regular liaison with the Public Health Service's Office of International Health and other related organizations.

--Laboratory Program Office coordinates a comprehensive national laboratory improvement program; develops and recommends standards, regulations and criteria for clinical laboratory licensing and certification; administers a national proficiency testing program for clinical laboratories and a laboratory training program; and offers consulting services to state public health and other laboratories.

FINANCIAL MANAGEMENT STRUCTURE
OF THE CENTER FOR DISEASE CONTROL

There are eleven financial management systems at CDC that authorize payments, control assets, and record the receipt of funds due the government. In essence these systems taken together form the financial management structure of CDC. Included in the survey was one automated system that does not meet the definition of financial management but does allocate computer time and charges. A brief description of each system follows:

--CDC Umbrella Accounting System maintains CDC's general ledger accounts, records the financial results of program and administrative operations, produces internal and external reports, and administratively controls CDC's spending authority.

--Cash Control System records all cash transactions which affect general ledger accounts, and generates data used to manually prepare the monthly Treasury Statement of Transactions.

--Miscellaneous Recurring Obligation File System records recurring obligations and expenses like utilities and building maintenance contracts and provides the Umbrella Accounting System with a magnetic tape record of these obligations.

--Travel Advance System records and controls all travel advances made to employees and produces an aging report and a listing of outstanding advances.

--Accounts Receivable System bills and accounts for collections of money due CDC under operations of its quarantine stations and for reimbursements for nonfederal travel. The system also includes a manual accounts receivable subsidiary ledger for all other receivables due CDC.

--Real Property System is a manual card file system which presently accounts for about $52 million in land, improvements and structures at seven locations in four different states. Cost data is accumulated and reported to HHS headquarters annually.

--Property Management System records two categories of personal property--capitalized items costing $300 or more and noncapitalized items which the agency considers sensitive, such as small desk calculators and camera lenses.

--Warehouse Inventory System is a computerized perpetual inventory system for warehouse supplies. Controlling a total inventory over $750,000, the system allows a requestor to order general supplies directly by computer terminal.

--Property Reconciliation System involves both automated and manual procedures which compare and reconcile all entries made to the Warehouse Inventory, Real Property, and Property Management Systems.

--Engineering Services Control System maintains records for and control over Engineering Service's cupboard stock of about $1.8 million in maintenance supplies.

--Computer Resources Accounting and Billing System records costs of computer usage and Computer Systems Office staff time charged to various programs or offices. The system summarizes the cost of services provided each user of computer equipment or computer system office staff services.

In addition to these eleven systems, CDC operates several other systems to analyze and report financial information for planning purposes. Because these systems do not authorize or account for expenditures, we did not include those systems in our survey.

CDC'S UMBRELLA ACCOUNTING SYSTEM-- THE MAJOR FINANCIAL MANAGEMENT SYSTEM

The Umbrella Accounting System maintains CDC's general ledger accounts and controls the processing and reporting of financial information. The system accounts for funded costs, unfunded costs, expenditures and administratively controls CDC's appropriated funds. For fiscal year 1982, the system controlled CDC's total budget authority of about $350 million. In addition to fulfilling

internal financial information needs, the system produces all financial information required by the Congress, Office of Management and Budget, and Treasury Department.

System overview

The Umbrella Accounting System is run on an IBM 370/computer located at CDC headquarters, Atlanta, Georgia. It receives transaction information from twelve CDC organizational components that initiate accounting transactions which are called accounting points. The two major accounting points are the CDC Financial Management Offices located in Atlanta, Georgia and Cincinnati, Ohio. The remaining ten accounting points are the CDC staff assigned to the Department's regional offices. The Umbrella Accounting System also receives information from and/or sends information to the Departmental Federal Assistance Financing System, Central Personnel/Payroll System, Federal Assistance Reporting System, and Central Registry System.

System inputs

The Umbrella Accounting System receives input information on a daily, bi-weekly, and monthly basis. It operates on a 24-hour turn-around basis: that is, it processes transactions received during the day that night and returns hardcopy reports on processing results to CDC accounting points the following day. Only the Cincinnati accounting point receives information from the Umbrella Accounting System via computer terminal.

Each day, CDC accounting points transmit transaction data via telecommunication lines to the system. CDC's accounting points record obligations, disbursements, collections, etc. on a form called the Document History Record (DHR). DHR's are grouped into batches, and the transaction information in each batch is sent by computer terminal to the Umbrella Accounting System.

Batches consist of a header/trailer document and the detailed transactions. Header/trailer documents provide a record count and total dollar amount of transactions in a batch. Transactions include such documents as vendor invoices and obligation documents. Header/trailer information is used by the Umbrella Accounting System to help ensure that transactions are not lost, added to, or improperly changed during processing.

In addition to CDC's Atlanta and Cincinnati accounting points, the Department's 10 regional offices also initiate transactions that must be processed through the Umbrella Accounting System. Transactions initiated in the regional offices are first processed on a daily basis through the Regional Accounting System. Monthly, the Regional Accounting System provides the Umbrella Accounting System with a magnetic tape that summarizes the transactions initiated by the regional offices during the month.

The Umbrella Accounting System also exchanges information with the Department's Central Personnel/Payroll System and the

Departmental Federal Assistance Financing System. The exchange of information is accomplished by magnetic tape files. The Umbrella Accounting System receives biweekly payroll disbursement and cost data from the Central Personnel/Payroll System. Monthly, the Umbrella Accounting System receives from the Departmental Federal Assistance Financing System information on cash advances made to CDC contractors and grantees and expenditures of advanced cash reported by CDC contractors and grantees.

The Umbrella Accounting System provides information to the Departmental Federal Assistance Financing System, the Departmental Federal Assistance Reporting System and Central Registry System. It provides the Departmental Federal Assistance Financing System with obligation information for new CDC awards of contracts and grants. The Umbrella Accounting System provides Federal Assistance Financing System information on contracts and grants funded by CDC, and it provides the Central Registry System with identification information--name, address, and identification number--for CDC contractors and grantees.

System files

The Umbrella Accounting System's files fall into two groups: transaction level files and status level files. Overall, the Umbrella Accounting System maintains a total of seven major files.

Transaction Level files account for and control transaction information prior to updates of the status files and include the:

--Rotating Error File which accounts for all transactions rejected by edits. It includes rejected transactions until they are corrected, changed, or deleted.

--Weekly Activity Hold File which contains all valid transactions that passed edits and were updated to the Open Obligation Document File. It is used to update the Report Master File and General Ledger Master File.

Status Level files account for and control transactions that passed edits and maintain CDC's general ledger accounts and include the:

--General Ledger Master File which reflects the current status of general ledger accounts by accounting points, appropriation, and region.

--Report Master File which is used for reporting purposes and contains data necessary to prepare financial reports such as the daily status of funds report.

--Open Obligation Document File which controls obligations. It contains data pertaining to each document which is opened and also those closed documents which have not yet been purged. It is used for data validation and fund control

because it records the cumulative status of commitments, obligations, accruals, and disbursements.

--Vendor File which contains data for entities doing business with CDC. It is arranged by entity name and location.

--Miscellaneous Codes and Description File which contains system tables of valid codes used during editing of transaction information.

System processing and reports

The Umbrella Accounting System requires a user password and an accounting point identification code to gain access to and process transactions through the system. It processes transactions, updates its files and generates reports on a daily basis. The system produces about 117 daily, weekly, monthly, and yearly reports. These reports show, among other things, the status of funds, appropriation balances, obligations, and disbursements.

As mentioned earlier transactions are grouped into batches for processing through the Umbrella Accounting System. When transactions enter the system, the system counts the number of transactions in a batch and computes total dollar amounts of transactions in a batch. It records these counts and totals and compares them with the figures shown on the batch header/trailer records. If the two do not agree, the system will reject the batch and print out an error message.

The system edits transactions against information in the Miscellaneous Codes and Description File and the Open Obligation Document File. The system performs about 50 edits on the validity and accuracy of transaction information like object class codes, common accounting numbers (CAN's), and transaction codes. The system rejects transactions that do not pass the edit checks, generates error messages, and produces a daily error report for all transactions it rejects. The system also writes all rejected transactions onto the Rotating Error File.

The system writes error free transactions onto a Weekly Activity Hold File. The Weekly Activity Hold File is used to update the Open Obligation Document File and General Ledger Master File on a weekly basis. The Report Master File is updated on both a daily and weekly basis with information in the Weekly Activity Hold File. Transactions rejected by edit checks are held in the Rotating Error File until they are corrected. The system uses the Report Master File and the Open Obligation Document File to create various internal and external financial reports.

System internal control strengths and weaknesses

The internal controls in the Umbrella Accounting System appear adequate to ensure that financial results of program and administrative operations are completely and accurately recorded in the

general ledger accounts. For example, the system has a user password to identify persons authorized access to enter transactions; it checks transactions entering the system against tables of valid codes, and it uses a rotating error file to help ensure that rejected transactions are corrected and reentered into the system for processing through the computer in a timely manner.

The key internal control strengths in the Umbrella Accounting System, include:

--Requirement that a receiving report, vendor's invoice, and the obligating document--e.g. purchase order--be compared prior to processing to ensure that only goods and services actually received are paid for.

--Rotating error file that keeps account of all error transactions until corrected and generates a daily error report.

--Vendor file to assure that only authorized contractors and grantees are accepted and unauthorized ones rejected by the system.

--Creation of an audit trail for transactions received, processed, and rejected.

We also noted several control weaknesses and operational inefficiencies in the Umbrella Accounting System:

--Lack of written procedures describing the batch processing routine for disbursements, receipts, and obligations.

--Inadequate documentation of the system. The draft accounting manual contains a description of several system files which have actually been consolidated or are simply not used at CDC. In response to our inquiry CDC representatives provided descriptions of the system as it currently operates. The descriptions do not adequately document the entire system, but do provide an overview.

--Maintenance of manual files of payments to vendors and related information. Therefore, CDC has to look in several places in order to obtain the necessary information for responding to an inquiry. This is an involved process. The computer could easily capture this information and generate a hardcopy documents that the staff could use to respond to vendor inquiries more timely.

System enhancement projects underway

In its fiscal 1983 computer programming needs plan, CDC's Financial Management Office requested that CDC's Computer Systems Office modify and upgrade existing financial reports and modify the Umbrella Accounting System. For example, the Computer System Office was requested to develop a subsidiary accounts receivable

system that could process transactions entered into the Umbrella Accounting System. The Computer System Office has also been requested to develop a vendor inquiry system to maintain a master file of all transactions processed by the Umbrella Accounting System for a particular vendor and develop an automated reconciliation system for the Umbrella Accounting System's general ledger accounts with related subsidiary ledger detailed accounts.

SUBSIDIARY LEDGER SYSTEMS THAT SUPPORT CDC'S UMBRELLA ACCOUNTING SYSTEM

The Umbrella Accounting System is supported by four systems that maintain detailed subsidiary ledger detailed accounts which support summary financial information in general ledger accounts maintained by the Umbrella Accounting System. These four systems are the Miscellaneous Recurring Obligation File, the Cash Control, Travel Advance and Accounts Receivable systems. Each operates on the IBM 370/computer at CDC headquarters in Atlanta.

Miscellaneous Recurring Obligation File System

This system accounts for and controls recurring obligations--utilities and maintenance contracts for example--and reports them to the Umbrella Accounting System for entry in the general ledger accounts. At the beginning of each month, the system provides a magnetic tape file of recurring obligations to the Umbrella Accounting System and produces hardcopy reports summarizing all recurring obligations for the month.

At the beginning of the fiscal year, CDC lists all its recurring obligations and enters this information into the Miscellaneous Recurring Obligation File System. During the year, the Financial Management Office prepares monthly lists of updates or changes to the original list of recurring obligations. These updates and changes are entered into the system.

At the beginning of each month, the Miscellaneous Recurring Obligation File System produces a magnetic tape file of the month's recurring obligations for entry into the Umbrella Accounting System. Upon entry to the Umbrella Accounting System, the information on the tape is edited. For example, recurring obligations are checked against the Common Accounting Number table for validity. Transactions including errors are rejected from further processing and are reported on the daily error report of the Umbrella Accounting System and kept in its Rotating Error File until corrected.

Recurring Obligations rejected by edits in the Umbrella Accounting System are sent to the Financial Management Office which distributes them to the program offices and centers for review, correction, and reprocessing through the Miscellaneous Recurring Obligation File System the following month.

Our survey of the Miscellaneous Recurring Obligation File System did not disclose any obvious internal accounting control

weaknesses. However, we observed that CDC lacks adequate documentation to describe the system's operations.

Cash Control System

The Cash Control System separately accounts for all transactions affecting the general ledger cash accounts maintained by the Umbrella Accounting System. This system is used to independently verify cash account balances. It produces seven reports, one of which is used to support the manual preparation of the monthly Treasury SF-224 report--Statement of Transactions Report.

The Umbrella Accounting System maintains the general ledger cash accounts based on individual cash disbursement and collection documents processed through the system. The Cash Control System maintains its cash accounts based on (1) Vouchers and Schedules of Payments sent to the Treasury Department to initiate the issuance of checks and (2) on schedules of collections sent to the Treasury Department to report cash receipts.

Inputs to the Cash Collection System are disbursement and collection schedules produced and sent to the Treasury Department each week that summarize individual cash transactions posted to general ledger accounts. Information on payment and collection schedules is recorded on a code sheet and the code sheets, in turn, are keypunched and are entered into the Cash Collection System. The Cash Collection System also receives weekly extracts from the general ledger cash accounts on a magnetic tape file.

The Cash Collection System creates several masterfiles of cash collection and disbursement transactions. The system then compares the masterfiles it created with the magnetic tape file of the extracts of general ledger cash accounts maintained by the Umbrella Accounting System to identify and report any differences in cash balances.

To do its job, the Cash Control System maintains eight masterfiles. They are the:

--Cash Transaction Input File contains all transactions entering the system.

--Accumulated Cash Control File is an update of the previous day's activity with the current day's activity.

--Unreconciled Cash Transaction File contains all cash transactions with a balance other than zero.

--Unreconciled General Ledger Transaction File contains all general ledger cash transactions with a balance other than zero.

--Updated Cash Transaction File includes all current cash transactions.

--Updated General Ledger File contains all selected current general ledger cash accounts.

--Invalid Cash Transactions File maintains all transactions in error.

--Valid Cash Transactions File accounts for all error free cash transactions.

The Cash Control system performs three processing functions. They are the edit, update, and report generation functions.

The edit function validates transaction data based on nine predetermined numeric criteria. For example, the system checks for a batch number, date, amount, transaction type, and transaction code for each transaction record. If an error is identified in input information, an error message is printed-out. The edit function produces an error listing, writes rejected input information on an error file, and writes error free input information on a valid transaction file. The valid transaction file is used by the update function to maintain the system's masterfiles listed above.

Input information rejected by edits in the Cash Control System is placed in a "hold" state pending correction of rejected transactions by the Financial Management Office. The error lists produced by the edit function are sent to the Financial Management Office for correction of errors and resubmission of the corrected input information for reprocessing by the Cash Control System. This process may be repeated as often as necessary until all errors have been corrected.

The Cash Control System's update function updates the system's eight masterfiles. It is based on information in the valid transaction file created by the edit function and the magnetic tape file of general ledger cash accounts maintained by the Umbrella Accounting System. The files updated by the update function are the inputs to the report generation function.

The report generation function, based on information in the Cash Control System's masterfiles, produces seven reports and listings showing weekly cash transactions and comparisons between the weekly cash transactions and the general ledger cash accounts. These reports go to the Financial Management Office for retention and preparation of the monthly Treasury report.

We did not observe any internal accounting control weaknesses in the Cash Control System. This system does not authorize any transactions but serves as a control to reconcile the general ledger cash accounts with cash disbursement and receipt information sent to Treasury.

Travel Advance System

The Travel Advance System accounts for and controls all travel advances made to CDC employees and refunds of advances received

from them. It maintains travel advance information in automated files and produces three reports with subsidiary listings in various formats.

Inputs to the Travel Advance System are (1) standard travel advance cards (SF-1138) for each employee for travel advances and (2) collection schedules and travel vouchers for refunds of travel advances received from employees. Input information is processed on a daily basis.

The Travel Advance System consists of three functions: the edit, update, and report generation functions. These functions use four automated masterfiles to record, process, and report travel advance information. The four masterfiles are the:

--Daily Transaction Input File contains all transactions submitted for entry to the system. Transactions remain in this file until processing is completed.

--Valid Transaction File includes all transactions that passed edits.

--Invalid Transaction File includes all transactions that did not pass the edits.

--Updated Transaction File includes status of all valid transactions by employee showing all advances and refunds by employee.

The edit function validates transaction data based on six predetermined numeric criteria. For example, one edit check involves the transaction code. Only two transaction codes are used by the system--one for a travel advance and one for a refund of an advance. If a transaction fails any one of the six edits it is rejected and an error message is produced. The system writes transactions that passed edits on the Valid Transaction File and the Daily Transaction Input File and rejected transactions onto the Invalid Transaction File.

Rejected transactions and related error messages are sent to the Financial Management Office for correction and resubmission for processing through the Travel Advance System. This process may be repeated as often as necessary to ensure that all errors are corrected.

The update function uses the Daily Transaction Input File as the source of information for processing. The system sorts transactions by employee name and social security number, computes balances for each employee, and updates the Updated Transaction File.

The report generation function uses the Updated Transaction File as an input and produces two weekly reports and one monthly report that are sent to the Financial Management Office. The major report produced is the travel advance subsidiary report which shows total outstanding advances by employee.

The key internal control strengths in the Travel Advance System are:

--Use of predetermined numeric criteria to edit transactions.

--Use of system edits to ensure only valid transactions update the system files.

--Edit listing of accepted and rejected transactions.

The key internal control weaknesses and inefficiencies in the Travel Advance System are that:

--An automated error suspense file is not maintained to account for and control rejected transactions until corrected.

--A list of all employees' social security numbers is not maintained to ensure that only bona-fide employees receive advances.

Accounts Receivable Systems

CDC uses a manual and an automated system to account for, control, and maintain detailed subsidiary ledger accounts for accounts receivable. The detailed subsidiary ledger accounts support summary financial accounts in the general ledger.

CDC routinely processes six classes of accounts receivable. These classes of receivables and the system they are processed through follow.

Automated Accounts Receivable System	--Reimbursements of Foreign Quarrantine Overtime Pay
	--Non-federal reimbursable Travel
Manual Accounts Receivable System	--Miscellaneous Refunds
	--Transportation Request Refunds
	--Reimbursement Training
	--Reimbursement Agreements

The operations of the two accounts receivable systems are briefly discussed below.

Automated Accounts Receivable System

This system accounts for, controls and maintains detailed subsidiary ledger accounts for receivables for reimbursements of foreign quarantine overtime pay and non-federal reimbursable

travel. This system processes transactions on a monthly basis because of the small volume of billings and collections.

The Automated Accounts Receivable System processes accounts receivable transaction batches once a month. It produces three reports. At the completion of monthly processing, detailed subsidiary ledger accounts are manually reconciled with summary general ledger accounts maintained by the Umbrella Accounting System.

Billing and collection documents are the inputs to the automated Accounts Receivable System. These same documents are summarized on a separate document which is used to enter summary billing and collection information into the Umbrella Accounting System. The billing and collection documents are grouped into batches, and the information on the documents in the batches is keypunched onto machine media records. The machine media records are entered into the automated Accounts Receivable System for processing through the computer.

The automated Accounts Receivable System consists of three functions: editing, updating, and reporting functions. The system uses four automated masterfiles in processing billing and collection information:

--Invalid Transaction File.

--Valid Transaction file.

--Weekly Activity File.

--Month-to-Date Activity File.

The editing function accepts billing and collection information and performs 12 edit checks of this information. For example, the system verifies the number of items in each batch, the date of the individual transaction, transaction code, and bill number. The system will reject any transaction that fails to pass any one edit check and writes this transaction onto the Invalid Transaction File. The Invalid Transaction File is used to prepare an error listing which is sent to CDC's Financial Management Office. All transactions passing all edit checks are written onto the Valid Transaction File which is the input for the updating function.

CDC's Financial Management Office is responsible for investigating, correcting, and resubmitting for processing all billing and collection transactions that are rejected by edit checks in the automated Accounts Receivable System. Corrected transactions are reprocessed through the system's editing function.

CDC's Financial Management Office is responsible for investigating, correcting, and resubmitting for processing all billing and collection transactions that are rejected by edit checks in the automated Accounts Receivable System. Corrected transactions are reprocessed through the system's editing function.

The Valid Transaction File is used by the updating function to update the two detailed accounts receivable subsidiary ledgers maintained by the system: the Weekly Activity File and the Month-to-Date Activity File. The upating function computes current accounts receivable balances based on the billing and collection information entered into the system and posts these balances to the appropriate masterfile. The Weekly Activity and Month-to-Date Activity files are the inputs to the reporting function.

The Weekly Activity and Month-to-Date Activity Files are used by the reporting function to produce three reports. These reports show detailed accounts receivable transactions for the month, current balances for each account receivable, and an aging of all accounts receivable. The three reports are sent to CDC's Financial Management Office. The Office uses the reports to monitor the collection of accounts receivable and to reconcile detailed subsidiary ledger accounts receivable accounts with summary financial control accounts for receivables in the general ledger maintained by the Umbrella Accounting System. This reconciliation is done manually.

We noted some internal control strengths in the automated accounts receivable system, and we also observed some apparent control weaknesses. The internal control strengths in the Automated Accounts Receivables System are:

--Predetermined numeric criteria is used to accept or reject transactions for processing.

--System allows only valid transactions to update the system files and be used by the report generating function.

--Financial Management Office reconciles the system's balance with the general ledger.

We also observed the following internal control weaknesses and operation inefficiencies in the Automated Accounts Receivable System:

--CDC does not maintain a receipt log book, listing of checks received, nor does it endorse checks upon receipt.

--The system does not have an automated error suspense file to account for transactions rejected by the system.

--Financial Management Office lacks sufficient documentation to describe the system and its operations.

Manual Accounts Receivables Ledgers

The manual Accounts Receivable Ledgers account for, control, and maintain detailed subsidiary ledgers accounts for receivables arising out of miscellaneous refunds, transportation request refunds, reimbursable training, and reimbursement agreements. Billing and collection information is processed on a daily basis. Monthly, the detailed subsidiary ledger accounts are reconciled

with summary general ledger accounts maintained by the Umbrella Accounting System.

Billing and collection documents are the inputs to the manual Accounts Receivable System. These same documents are summarized on a separate document which is used to enter summary billing and collection information into the Umbrella Accounting System. The manual Accounts Receivable System consists of manually maintained billing and collection registers for each account receivable. Billing and collection information is posted to the billing and collection registers as the information is received.

Each month, the manually maintained billing and collection registers are reconciled with summary financial control accounts for receivables in the general ledger maintained by the Umbrella Accounting System. Quarterly, an aging report is prepared from the information in the billing and collection registers.

We did not identify any internal control weaknesses in the manual accounts receivable ledgers. CDC should consider automating ledgers and save time currently spent in maintaining and using these manual records.

OTHER FINANCIAL MANAGEMENT SYSTEMS

In addition to the four systems that maintain subsidiary ledger accounts to support general ledger accounts maintained by the Umbrella Accounting System, CDC operates six other financial management systems. These systems account for, control, and report on its investment in personal property and supplies and the costs it incurs to operate its computer center. CDC's six other financial management systems are the:

--Real Property System

--Property Management System

--Warehouse Inventory System

--Property Reconciliation System

--Engineering Services Control System

--Computer Resources Accounting and Billing System.

Real Property System

CDC owns and operates seven building complexes located in four states which cost--including major improvements--about $52 million. The Real Property System accounts for, controls, and reports on this $52 million investment. The system is an antiquated manual card file system which contains (1) the original cost of the property and (2) the cost of any project which would involve major repair or improvement to an existing structure.

Transactions involving real property--acquiring new property, disposing of old property or making improvements to existing property--are independently recorded in three systems. Obligations and disbursements for new property, or improvements to existing property and transactions related to disposing of old property are recorded in the general ledger asset accounts maintained by the Umbrella Accounting System. In addition, entries for these obligations, disbursements, and transactions are also made in the Real Property System and the Property Reconciliation System.

CDC's Real Property Office receives source documentation for any purchase of property, disposition of property, or construction of repair work to be performed on any CDC-owned building or other facility. A property specialist decides whether to enter the transaction in the capitalized or non-capitalized accounts and records the appropriate amounts in the Real Property System. Annually, the Real Property Office forwards to the Department of Health and Human Service's, Office of the Secretary copies of all source documents involving acquisition, disposition, or modification of real property. This information is entered ito the Department-wide Real Property System operated by the Office of the Secretary.

Copies of source documents covering real property transactions are also sent to the Financial Management Office for independent entry into the general ledger asset accounts of the Umbrella Accounting System. The information in the general ledger asset accounts maintain--in summary form--financial accountability and control for CDC's investment in real property. In addition, the Financial Management Office also enters real property transactions into the Automated Property Reconciliation System.

The Real Property System essentially consists of a manually maintained card file which is CDC's detailed permanent record of real property. Monthly, the Department-wide Real Property System, operated by the Office of the Secretary, provides the CDC Real Property Office with a list of CDC entries in the Department-wide system for reconciliation with the Real Property System and for verification and correction if needed.

All decisions to capitalize a real property transaction by CDC's Real Property Office are reviewed by the Financial Management Office. Because of this built in control, CDC is assured that any marginal decision has at least been reviewed by two different individuals.

Property Management System

CDC operates its automated Property Management System to account for, control, and report on all personal property costing $300 or more and about 4,000 'sensitive' equipment items costing less than $300--like hand-held electronic calculators. CDC's total investment in personal property exceeds $60 million.

Transactions involving personal property--acquisition of new property and disposition of excess property--are independently recorded in three CDC financial management systems. Obligations and

disbursements for acquisition of new property and transactions for dispositions of excess property are recorded in the general ledger accounts maintained by the Umbrella Accounting System. Similar entries are also made in the Property Management System and the Property Reconciliation System.

All transactions involving purchases of personal property are initiated in CDC's operating components through preparation of a purchase requisition. Purchase requisitions are sent to CDC's Procurement Branch which, after reviewing and approving the requisition, prepares and issues a purchase order. Copies of purchase orders are sent to CDC's Personal Property Office. The Personal Property Office holds the purchase orders until the corresponding receiving reports are received from CDC's operating components. Once both documents are received, the Personal Property Office (1) decides whether or not each item should be capitalized and (2) prepares a computer coding sheet--called a document history record (DHR)--to enter items of personal property that should be capitalized into the automated Property Management System.

Similarly, CDC operating components will notify CDC's Personal Property Office of excess property. The Personal Property Office will first determine whether the excess property can be used by any CDC operating component. If the excess property cannot be used within CDC, the Property Office will offer the excess property to other operating components in the Department of Health and Human Services. If the property is not needed within the Department, the Property Office will contact the General Services Administration for disposition instructions. Once disposition of excess property has been decided upon and disposition instructions are received, the CDC Personal Property Office will prepare a DHR to record the disposition transaction in the automated Property Management System.

Copies of source documents processed by the Personal Property Office--purchase orders, receiving reports, and disposition instructions for excess personal property--are forwarded to CDC's Financial Management Office for entry into the Umbrella Accounting System and the Property Reconciliation System.

The Personal Property Office also records all DHR's in a manually maintained property voucher log as a back-up record to the automated files maintained by the automated Property Management System and keypunches the DHR's onto machine media records which are entered into the Property Management System.

The Property Management System processing involves the computer receiving data input, arranging that data into various formats and totalling cost figures. Although the system performs only limited edits, it does perform a file search to ensure that no duplicate entries are made to the property records. When duplicate entries occur, which are infrequent, the computer rejects the second entry and prints an exception report for corrective action to be taken. After data input, an edit run is made. Reports are sent to the Personal Property Office where a manual edit is also

performed. Corrections are reprocessed through the automated Property Management System.

Although the controls presently in place adequately control CDC personal property, increased computer edits would reduce staff time spent reviewing edit reports. The system can reconcile each month's balances to the previous month's balances and to the balances in the general ledger accounts maintained by the Umbrella Accounting System.

Warehouse Inventory System

The Warehouse Inventory System accounts for, controls, and reports on various office and warehouse supplies along with laboratory glassware and some special control items. The system controls a total inventory of about $730,000.

The Automated Warehouse Inventory System automatically provides management with all information, on a timely bases, needed to control and account for supplies. Specifically, system features include on-line information retrieval, automatic update of inventory records, preset reorder levels, monitoring of inventory levels and usage, the ability to print a catalogue of items and inventory lists, and on-line printing of documentation required for the Umbrella Accounting and Property Reconciliation systems.

Transactions involving office, warehouse, and laboratory supplies are independently recorded in three CDC financial managment systems: Obligations and disbursements for the acquisition of supplies and costs for supplies used in operations are recorded in the general ledger accounts maintained by CDC's Umbrella Accounting System. These transactions are also recorded in the Warehouse Inventory System and Property Reconciliation System.

Transaction information is entered into the Warehouse Inventory System by Computer terminal. The system recognizes two transaction codes: one code for issuing supplies and another code for purchasing supplies. The Warehouse Inventory System includes two processing cycles: the issuing cycle and the purchasing cycle.

Personnel in CDC operating components that need supplies enter their requests, via computer terminal into the Warehouse Inventory System. The system identifies requestors of supplies by the requestors' system passwords, CDC location codes, telephone numbers, and Common Accounting Numbers (CAN'S). A CAN identifies a CDC organizational component and program.

Once the Warehouse Inventory System identifies a requestor as a proper system user, it will accept the supply requisition, and, if the supplies are in stock, produce, by computer terminal, an instruction to the warehouse to issue the supplies. The system also produces a hardcopy report and magnetic tape file of all supply issues. **These outputs are sent to CDC's Financial** Management Office for entry into the Property Reconciliation and Umbrella Accounting Systems respectively.

If requested supplies are not on-hand, the Warehouse Inventory System will allow the requestor to initiate a purchase requisition for the needed supplies. If the requestor wants to initiate a purchase requisition, the system can provide the requestor with useful information. For example, if the requestor enters a CDC catalogue number for an item, the system will display detailed information about the item to help the requestor in deciding if the item is what he or she wants. The information includes a narrative description of the item, its unit price, current inventory level and the accounting code. If the item is what the requestor wants, an order can be made by simply entering the catalogue number and quantity requested. The computer will then perform certain tasks and edits such as adjusting the inventory balance, edit for items reaching the reorder level, assign a requisition number, and print the purchase requisition.

The Warehouse Inventory System maintains individual item perpetual inventory balances and flags each item record when the stock item reaches a predesignated reorder point. Periodically, usually every few days, the warehouse will have a list printed containing reorder items. That list constitutes a warehouse purchase requisition.

Purchase requisitions prepared by the Warehouse Inventory System are sent to CDC's Financial Management Office for preparation of needed purchase orders. The purchase orders initiate an entry into CDC's Umbrella Accounting System to establish an obligation for the ordered supplies.

When a vendor delivers a shipment to the warehouse and after the quantities are verified, a shipment number is assigned and entered into the warehouse tally log--a manually maintained chronological record of shipments received. That log, among other things contains the shipment number, the vendor, a brief narrative of what was received, the applicable purchase order, and whether that purchase order was partially or completely filled. The warehouse enters the receiving information into the Warehouse Inventory System by computer terminal. The system then assigns a tally number to that shipment, using the CDC inventory number, records the location in the warehouse; recomputes average unit cost based on the quantity received and total cost; and finally prints a hard copy receiving report.

The hardcopy receiving reports are sent to CDC's Financial Management Office. When the Financial Management Office receives vendor invoices, they are matched with the corresponding purchase requisitions and receiving reports, and the Financial Management Office enters the invoices into the Umbrella Accounting System to record the expenditures and initiate payments to the respective vendors. The invoices are also entered into the Property Reconciliation System.

The Warehouse Inventory System produces about 20 different reports available in several different formats. In addition to

inventory lists and catalogues, the system generates such information as the value of inventory receipts, issuances and stock on hand, reorder lists, activity reports including a report of items having no activity, and various order status reports.

Only one copy of a users manual was prepared when the system was designed, and it has since disappeared. The result has been that several reports listed in the inventory are not being used and information is being obtained through other, more complicated means.

Property Reconciliation System

The Property Reconciliation System is the link between the detailed records maintained by the Real Property, Property Management, and Warehouse Inventory systems and the summary financial accounts maintained by the Umbrella Accounting System. The system reconciles the property systems' detailed accounts with general ledger accounts maintained by the Umbrella Accounting System and produces three reports on request.

As discussed previously all property related transactions are independently recorded in the Real Property, Property Management, Warehouse Inventory, Umbrella Accounting, and Property Reconciliation systems. Property transactions are recorded onto a standard code sheet which includes the cost, appropriation number and general ledger account. Once the code sheet is prepared it is keypunched onto a machine media record and is processed through the Property Reconciliation System. The system also receives information on selected accounts in the general ledger from the Umbrella Accounting System.

This system uses several files to reconcile amounts recorded in the detailed property records with amounts recorded in the general ledger property accounts. These files are the:

--Property Transactions Input File which contains all transactions entering the system for a month.

--Valid Property Transactions File which contains only error free transactions that passed the edit function.

--Invalid Property Transactions File which contains all rejected transactions.

--Updated Property Records File which consists of last month's activity plus the current month's activity.

--End-of-the-Month Non-Zero Document Records File which contains all property transactions without a zero balance.

--Selected Records from General Ledger Transactions File which contains selected property records from the Umbrella Accounting System.

--Accumulated General Ledger Transactions File which includes the cumulative property accounting data for the selected general ledger property accounts.

--Appropriation Balances File which includes ending property balances for each appropriation.

Upon request, this system reconciles property accounting transactions with selected general ledger accounts. It uses four automated functions: the selection and accumulation, edit, update, and report generation functions.

The selection and accumulation function selects general ledger property account records from the magnetic tape file produced by the Umbrella Accounting System. It transfers this data onto another magnetic tape file, thereby, creating a general ledger work file that is used during the update and report generating functions.

Once all general ledger transactions for the month have been accumulated and monthly property transactions entered, the monthly property transactions are processed through the edit function. The edit function validates data according to about eight predetermined criteria such as date, amount, and batch number. Transactions that do not pass edits are rejected from further processing and are printed onto an error report. The error reports are sent to CDC's Financial Management Office for correction of errors and resubmission of the corrected transactions for processing through the system. The Property Reconciliation System does not have a rotating error file.

Transaction information that passes edits enters the update function which matches the information in general ledger asset accounts with the detailed property transactions by account, appropriation, and document numbers. It identifies and prints out for investigation and correction any general ledger asset accounts and detail property records that do not match and posts the correct transactions to the Updated Property Records File. The system then uses the Updated Property Records File during the report generation function.

The report generation function produces about three reports. The main report produced is the property reconciliation report which shows the general ledger records and property transactions that passed the edit function and updated the system, and denotes any differences between the two.

Our survey of the Property Reconciliaton System disclosed several internal control strengths such as the:

--Edit function which accepts and rejects transactions that do not meet certain predetermined numeric criteria, and

--An edit listing identifying transactions rejected by the system.

While we did not observe any apparent internal control weaknesses, we did note an apparent operating inefficiency. The system processes transactions already processed by the Real Property, Property Management, and Warehouse Inventory systems as well as the Umbrella Accounting Systems.

Engineering Services Control System

The Engineering Services Control System (1) schedules periodic maintenance required for CDC's real and personal property and (2) accounts for, controls, and reports on CDC's inventory of maintenance supplies. The system also compiles time charges and computes costs for individual maintenance projects to allow CDC's Engineering Services office to monitor individual project costs and timeframes.

In surveying the operations of the Engineering Services Control System we focused on those aspects of system operations that pertained to accounting for, controlling, and reporting on CDC's inventory of maintenance supplies. We did not focus on those aspects of system operations relating to (1) scheduling periodic maintenance projects and (2) compiling costs and time changes for individual maintenance projects.

The Engineering Services Control System accounts for, controls, and reports on supplies inventory used for maintenance projects. These supplies constitute a "cupboard stock"--that is items expected to be consumed within a 30-day period. The estimated value of supplies on hand at any point in time is about $1.8 million.

Purchase requisitions for maintenance supplies are initiated in the Engineering Services Office and are sent to CDC's Financial Management Office. The Financial Management Office issues a purchase order for the requested supplies and enters the transaction into CDC's Umbrella Accounting System.

Vendor shipments of maintenance supplies are received at CDC's Engineering Services building. Upon receipt of supplies a receiving report is prepared. One copy of the report is sent to the Financial Management Office to be matched with the related purchase order and vendor invoice and for processing through the Umbrella Accounting System to record the cost of supplies and to initiate payment to the vendor. Another copy of the report is sent to the Engineering Services Office to enter the supplies received into the inventory records maintained by the Engineering Services Control System. Entry into the system is made by computer terminal.

Issuances of maintenance supplies for specific maintenance projects are signed for and charged to an active maintenance project number. Issuances of supplies are recorded on a supply coding sheet. The information on these sheets is subsequently entered into the Engineering Services Control System by computer terminal.

The system performs routine edit checks such as verifying the CAN number and stock number. It is not designed to verify the

quantity or unit cost of inventory entries. Any data entry errors are reported on a daily error report. The system also compares quantity balances on hand during each run to predetermined reorder levels, and stores that information until requested. The system can also recall at any time, items which have had no activity over a given period. The Engineering Services Control System produces a standard inventory listing, a detailed transaction register, a listing of items having reached a predesignated reorder level, and a list of inactive inventory items.

The Engineering Services Office does have in place a good set of manual controls over the receipt and issuance of supply items. The maintenance supplies, however, are not routinely inventoried and reconciled with the records maintained by the Engineering Services Control System. Consequently, there is no assurance that the inventory balances reported by the system are accurate.

Computer Resource Accounting
And Billing System

The Computer Resource Accounting and Billing System maintains detailed records and information about the users of computer resources, Computer Systems Office personnel costs associated with operational support, and programming costs. The Computer Resource Accounting and Billing System processes four types of input information. The four types of input information are:

--ADP equipment and personnel unit cost factors.

--Actual time charges by Computer Systems Office personnel.

--Computer and other equipment resource usage.

--Direct charges from the Computer Operations Branch.

Annually the Computer Systems Office manually computes unit costs for various programming services and computer usage. These unit costs include hourly rates for different levels of programmers, charges for computer time, computer printouts, and charges for keypunching services and photocopying of copies of reports. These unit costs are estimated on the basis of estimates of annual computer usage and the Computer Systems Office's operating budget.

Computer System Office personnel record and report the time they spend on specific projects. These time records are the bases for inputs into the system regarding actual time charges for Computer System Office personnel.

Computer and other equipment resource usage is provided by standard reports produced by the operating systems that control the operations of CDC's computer equipment. Operating systems are complex computer programs that are supplied by the manufacturer of the computer equipment itself. Operating systems actually control the operations of the computer equipment and produce reports which detail the amount of computer resource used by each job done by the computer.

Direct charges from the Computer Operations Branch for services like keypunching and photocopying services are accumulated on manual logs by project number. These logs become the source for entering information into the Computer Resource Accounting and Billing System.

The four types of input information are entered into the Computer Resources Accounting and Billing System by computer terminal. The system, based on input information computes project costs and updates the system's workload control file. The system performs no substantive edits, and as long as input information is entered according to required formats, it will be accepted and processed.

The workload control file is used to produce two monthly reports, a computer resource cost and utilization summary, and a computer billing report. The cost and utilization report breaks out monthly charges to each organizational component and reports charges by individual users. The computer billing report is a detailed report which breaks down organization charges by which programs were run, how many times they were run, the time required for each run, and the total applicable cost. Only one copy of each report is prepared and it is used by the Computer Systems Office for planning and reporting purposes. In addition to these, the system can generate four other infrequently used reports on request.

OTHER CONCERNS

In addition to the specific systems weaknesses discussed in the preceding sections, our survey disclosed concerns with the security over CDC's computer equipment and files. According to a recently issued Office of Inspector General report, security for ADP systems at CDC was generally inadequate because management placed little emphasis on protecting computer hardware or stored data. The OIG also found that documentation for computer systems was either absent or incomplete. Specifically, OIG had the following major criticisms:

--Emphasis on ADP security was not sufficient to ensure ADP production.

--Contingency plans were not in place to ensure continuity of data processing in the case of an emergency.

--Physical security at CDC computer facilities was inadequate.

--Documentation of computer application systems was poor.

OBJECTIVES, SCOPE, AND METHODOLOGY

This survey viewed the Center for Disease Control as a financial entity and focused on identifying its financial management structure, related systems, and internal control strengths and weaknesses in these systems. The survey applied GAO's Controls and Risk Evaluation (CARE) audit approach.

SURVEY OBJECTIVES

Our survey objectives were to (1) document all manual and automated systems at the Center for Disease Control that process financial transactions from the time they are authorized through final reporting of these transactions in internal and external reports, (2) identify the relationships between these systems, that is, the flow of information among different systems, and (3) identify and document internal control strengths and weaknesses in the systems.

SURVEY SCOPE

This survey viewed the Center for Disease Control as a single financial entity. Therefore, we identified and surveyed the financial management systems in the various organizational components of the Center. Survey work was performed at Headquarters, Center for Disease Control, Atlanta, Georgia.

We documented the financial management systems in operation and identified, based on available system documentation and through discussions with agency accounting, ADP systems, and program officials, and review of prior GAO, Inspector General and special system study group reports, the internal control strengths and weaknesses in these systems. We did not perform any tests of system operations or actual financial information and transactions. The following sections present the definitions of a financial management system, internal control, and an agency system of internal control used in this survey.

DEFINITION OF A FINANCIAL MANAGEMENT SYSTEM

In consonance with GAO's Policy and Procedures Manual for Guidance for Federal Agencies (Titles 2 through 8), we defined a financial management system for this survey, as the manual and/or automated systems that capture, record, summarize, and/or report financial and related quantitative information related to the:

--Authorization of the use of resources.

--Management of liabilities.

--Receipt of revenue.

--Disbursement of funds.

--Control of assets.

--Control of appropriated funds.

--Development and issuance of reports on the financial status of assets, liabilities, and appropriated funds and the financial results of program and administrative operations.

In an April 18, 1983, letter to the heads of Departments and Agencies, the Comptroller General announced changes to GAO's procedures for approving agency accounting systems. In this letter, the Comptroller General reiterated the definition of an accounting system in GAO's Policy and Procedures Manual for Guidance of Federal Agencies.

DEFINITION OF INTERNAL CONTROLS

On June 16, 1983, the Comptroller General issued the standards for internal controls in the federal government to be followed by agencies in establishing and maintaining systems of internal controls. The standards define systems of internal control as

"The plan of organization and methods and procedures adopted by management to ensure that resource use is consistent with laws, regulations, and policies; that resources are safeguarded against waste, loss, and misuse; and that reliable data are obtained, maintained, and fairly disclosed in reports."

Processing procedures are those manual and/or automated procedures that govern capturing, recording, processing, summarizing, and reporting of financial and related quantitive information. Internal control procedures and independent procedures provide evidence that processing procedures have, in fact, been followed.

DEFINITION OF AN AGENCY'S SYSTEM OF INTERNAL CONTROL

Most agencies operate several financial management systems that process different types of financial transactions and provide information to each other. The individual financial management systems--taken together--form the agency's overall financial, accounting, control, and reporting system. For example, most agencies have a general ledger/administrative control of funds system, and a subsidiary system that, for example, process transactions relating to personnel/payroll actions, personal property, disbursements, receipts, loans, accounts receivable, and accounts payable. These systems--taken together--are the agency's overall financial accounting, control, and reporting system.

The financial management systems that make up an agency's overall financial, accounting, control, and reporting system include both processing procedures and independent internal control procedures, as defined in the preceding two sections. For this

survey, we defined an agency's system of internal control as all the internal control procedures--taken together--that are included in all the financial management systems that comprise the overall financial accounting, control, and reporting system.

CENTER FOR DISEASE CONTROL FINANCIAL MANAGEMENT SYSTEMS INCLUDED IN OUR SURVEY

Based on the foregoing definitions, we included in our survey all manual and automated systems in the Center that:

--Maintain general ledger accounts and produce financial reports.

--Control appropriated funds.

--Validate information from subsidiary financial management systems that feed information to general ledger systems.

--Determine eligibility for, and authorize the making of payments to vendors.

--Authorize acquisition of resources.

--Record and account for assets and liabilities.

SURVEY METHODOLOGY

Our survey followed the requirements of GAO's Controls and Risk Evaluation (CARE) survey approach. Accordingly, our survey included identification and documentation of the Center's:

--Organizational stucture and major organizational components and the mission of each component.

--Accounting and related financial management systems, as previously discussed, and the interrelationships beween these systems.

--Internal control strengths and weaknesses in the Center's systems based on the internal control strengths and weaknesses identified during the survey.

In consonance with the CARE audit approach our work entailed identification and documentation of the operations and related internal control strengths and weaknesses of the Center's financial management systems based on (1) available agency system documentation, (2) discussions with cognizant agency accounting, program, and ADP systems officials, and (3) prior issued GAO, Inspector General, and special study group reports. Our survey was made in accordance with our current "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions," except that no tests were performed of system operations or of information processed by and recorded in these systems.

CENTER FOR DISEASE CONTROL - DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Authorization		
1. Disbursements should be authorized in accordance with laws, regulations, and management's policy.	The CDC umbrella accounting system includes a vendor file which contains grantees and contractors authorized to enter into agreement with CDC. CDC receives input from the Central Registry System via magnetic tape for updates to the system. The system is designed so that only authorized entities on file will update the system files. Additionally, CDC uses a separate automated file to authorize and store miscellaneous recurring obligations such as utility expenses. For each disbursement, CDC requires that obligating, invoicing, and receiving documents be on file prior to forwarding a disbursement schedule to Treasury for payment. This disbursement schedule should be certified by the certifying officer and be based upon original documents. The procurement office maintains a manual file for vendors authorized through other obligating documents such as a purchase order.	CDC lacks documentation to describe the miscellaneous recurring obligation file.
2. Adjustments to disbursements and account distributions should be authorized in accordance with laws, regulations, and management's policy.	CDC requires the FMO to make necessary adjustments via a journal voucher, interoffice transfer, etc. These documents should be approved by the authorizing official, usually the Chief of the accounts control section. This includes adjustments due from overpayments to vendors, contractors, etc.	

APPENDIX II

CENTER FOR DISEASE CONTROL - DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
3. Disbursement processing procedures should be established in accordance with laws, regulations, and management's policy.	While CDC uses the Department's Voucher Examiners Manual which explains procedures for examining vouchers, it orally instructs its staff on batch processing procedures as part of on-the-job training and supervision. Prior to forwarding a disbursement schedule to Treasury for payment, CDC records entries on a document history record (DHR) by transaction codes and object class codes and indicates whether the payment is in full or partial. Entries on a DHR show the actual amount of the purchase less any discounts and/or freight charges. This data is keyed via computer terminal and transmitted to the umbrella accounting system. Additionally, CDC must complete Treasury report SF-224 by the third working day following the month end. To assist in preparing this report, CDC created the automated Cash Control System. The umbrella accounting system has processing controls built within computer programs such as record counts, hash totals, etc. It also contains edits and generates an error listing and an audit trail printout. The miscellaneous recurring obligation system uses the same edits as the umbrella accounting system. The cash control system has predetermined numeric criteria used to ascertain the accuracy of transactions processed by the system.	Lack of written procedures for describing the batch processing routine. Incomplete and not up-to-date documentation of the operation and functions of the umbrella accounting system. For example, the CDC draft accounting manual contains descriptions of several files that are not used by or have been combined in the umbrella accounting system. To illustrate, CDC combined the Allotment Allowance and the Common Accounting Number (CAN) files described in the draft accounting manual into the Report Master file the system uses for financial reporting.

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CENTER FOR DISEASE CONTROL - DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Economy, Efficiency, and Effectiveness		
4. Disbursement cycle results should be in accordance with laws, regulations, and management's policy and plans.	Procedures are in place that require accounting personnel to process vendor invoices only for goods and services received. Prior to certifying disbursement schedules for payment by Treasury, the FMO is required to compare the obligating document, vendor's invoice, and receiving report to ensure receipt of goods and services. The FMO accounts control section is responsible for reviewing each batch of transactions prior to its entry to the accounting system and forwarding the schedule to Treasury. CDC requires the FMO to process invoices within 30 days after receipt and include the invoice due date on the face of the schedule in accordance with Treasury requirements.	CDC lacks recent internal audit coverage to ensure the system complies with laws, regulations and management's policy.
5. Disbursement should be made in an economical and efficient manner.	CDC uses the batch processing method for entering transactions into the accounting systems. Daily, CDC enters transactions in the system files prior to receiving confirmation from Treasury that the payment has actually been made.	
6. Disbursement processing procedures used to create, recognize, and report events and related transactions should be economical and efficient.	See cycle control objectives 3 and 5. Also, the FMO assigns vouchers for processing to the voucher examiners by document, thereby, clearly stating who is responsible for what. The FMO manually keeps records on the number of vouchers processed and on hand at month end as well as discounts earned and lost. Preparation of hash totals, record counts, and batch balancing are integral steps in the batch process at CDC.	

APPENDIX II

CENTER FOR DISEASE CONTROL - DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Transaction Processing		
7. Only those requests for disbursements that meet management's policy should be approved.	See cycle control objective 1.	
8. Disbursements should be accurately and promptly reported.	See cycle control objectives 4 and 5. Also, CDC uses the rotating error file concept in processing transactions through the umbrella accounting system which accounts for error corrections until they are corrected. The umbrella accounting system produces daily, weekly, monthly, and yearly financial reports such as the daily error and status of funds reports.	
9. Amounts due to vendors for goods and services, and the accounting distributions of such amounts should be computed and recognized as liabilities promptly.	CDC records entries on a DHR showing the actual amount of the purchase less any discounts and plus or minus any freight charges. In essence, these entries de-obligate the initial obligated amount by the amount forwarded to Treasury for payment. Also see cycle control objective 13.	See cycle control objective 13.
10. Each disbursement of cash should be based upon a recognized liability, accurately prepared, and appropriately authorized.	See cycle control objectives 1 and 9.	
11. Disbursements should be accurately and promptly classified, summarized, and reported.	See cycle control objective 8.	
12. Cash disbursements and related adjustments should be accurately and promptly classified, summarized, and reported.	See cycle control objectives 8 and 2.	

CENTER FOR DISEASE CONTROL - DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
13. Liabilities incurred, cash disbursements and related adjustments should be accurartely applied to the vendor's accounts.	The umbrella accounting system accounts for obligations incurred and payments to vendors by document number. As such, liabilities are not recognized at CDC until all documents required for voucher processing have been received and processed through the system. In effect, the amount shown as obligated in the system represents the liability. The FMO also records any related adjustment in the detailed vendor records. See cycle control objectives 1 and 4 also.	CDC maintains manual files of payments to vendors and related information. Thus, upon vendor inquiry, staff has to look in several places to obtain the information necessary to respond to the inquiry. For example, if a vendor wanted to know the date a check was mailed to her/him, the staff would have to look up the vendors purchase order number, check the payment control document history record for the date the payment was processed to Treasury, check the related disbursement schedule for the date Treasury mailed the check, and then inform the inquirer of the status of the payment. This is an involved process. The computer could capture this information and generate a hardcopy document that the staff could use to respond to vendor inquiries more timely.

APPENDIX II

CENTER FOR DISEASE CONTROL - DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Classification		
14. Transactions for amounts due to vendors, cash disbursements, and related adjustments should be prepared each period.	See cycle control objectives 2 and 13.	
15. Disbursements should be summarized and classified in accordance with management's plan.	See cycle control objective 8.	See cycle control objective 4. CDC manually reconciles the general ledger account balance with the subsidiary ledgers' balances. This appears an inefficient use of its resources since the computer could be programmed to perform this function.
16. Recorded balances of disbursements and related transaction activity should be periodically substantiated and evaluated.	CDC must complete Treasury SF-224, Statement of Transactions, showing disbursements and receipts for each month and report it by the third working day following month end. CDC also reconciles the general ledger balance of the umbrella accounting system with the balance of the subsidiaries (travel advance, accounts receivable, etc.). The CDC component organizations, e.g., Center for Infectious Disease, are expected to review the reports received, investigate any differences, and notify the FMO of any discrepancies noted.	

CENTER FOR DISEASE CONTROL - DISBURSEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Physical Safeguards		
17. Access to disbursement records, critical forms, processing areas, and processing procedures should be permitted in accordance with management's policy.	The FMO maintains processed documents in a central file room. Documents pending processing are kept in a suspense file at the responsible staff person's desk. Transactions processed through the system are maintained in the system files along with back files maintained in a fire proof vault. Only authorized staff in the computer system office have access to the systems via system passwords (i.e., a special code that the system recognizes for entry).	The Inspector General's office of the Public Health Service office recently issued an audit report that's critical of CDC's physical security controls over access to the computer and its contingency plans in case of an emergency.

APPENDIX II

CENTER FOR DISEASE CONTROL - RECEIPT CYCLE INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Authorization		
1. Receipts should be accepted from only those parties authorized in accordance with laws, regulations, and management's policy.	CDC accepts funds from only those sources that have a written agreement with the agency. The exception to this practice is donations from citizens, etc. CDC maintains accounts receivable subsidiary ledgers to record monies due to and collected by CDC. CDC requires its staff to document their communication with vendors regarding overpayments, return of goods etc.	Upon entry of transactions into the travel advance system, the computer does not maintain a list of employee's social security numbers to identify and assure that only bona fide employees received travel advances made at CDC.
2. The amounts of receipts (license fees, tax rates, etc.) should be authorized in accordance with laws, regulations, and management's policy.	See above.	
Adjustments to receipts, receivables, and other accounts should be authorized in accordance with laws, regulations, and management's policy.	CDC requires certain documents to make adjustments to receipts, receivables, etc. In the case of overpayments, the related disbursement is adjusted via a journal voucher with supporting documentation such as a copy of the collection schedule.	
4. Receipt processing procedures should be established and maintained in accordance with laws, regulations, and management's policy.	The FMO has written procedures that require separate personnel to account for the receipt of monies and to make bank deposits. Also maintenance of the accounts receivable ledgers and the general ledger functions is performed by separate employees.	CDC does not have written procedures describing the receipt processing procedure for transactions entering the general ledger nor the subsidiaries. CDC does not log receipts in when received at the mail desk. Usually, CDC staff places the receipts in a safe or gives them to the staff responsible for remittances control who then log them in a log book. Not logging receipts in at the mail desk enhances the likelihood that remittances may be misplaced, lost, stolen, etc. without documentation of receipt by the agency.

CENTER FOR DISEASE CONTROL - RECEIPT CYCLE INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Economy, Efficiency, and Effectivness		
5. Receipt cycle results should be in accordance with laws, regulations, and management's policy and plans.	See cycle control objective 1.	
6. Receipts should be collected in an economical and efficient manner.	The FMO requires staff to make deposits on a daily basis to ensure that monies received are not lost, stolen, misplaced, etc.	Although CDC maintains a remittance log book, it does not date stamp receipts nor record the actual date received in a log book at the mail desk, thus not ensuring that receipts are timely deposited. See the above cycle weaknesses.
7. Receipt processing procedures used should be economical and efficient.	See cycle control objective 4.	CDC had not documented the automated accounts receivable system prior to our inquiry. During our work, however, CDC provided an overview describing the system, but still has not sufficiently documented the system. CDC stops the entire transaction processing for the travel advance subsidiary error transactions since the system does not have an automated rotating error file.
8. Only those receipts that meet management's policy should be approved.	See cycle control objective 1.	The travel advance system accepts a dummy travel order without tracking the disposition of such transactions. See cycle control objective 1.
9. Each receipt should be prepared accurately and promptly.	The umbrella accounting system and the receivable ledgers (i.e. accounts receivable systems and the travel advance system) contain edits and predetermined numeric criteria to ensure the accuracy and validity of transactions entering the systems. The systems generate reports such as edit listings and provide them to the FMO the following day.	

APPENDIX II

CENTER FOR DISEASE CONTROL - RECEIPT CYCLE INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Economy, Efficiency, and Effectivness		
10. Accountability for cash items should be established before the cash can be misdirected.	CDC requires an employee other than the one who prepared the collection schedule to compare the completed schedule with the manual receipt log book and to investigate any differences after the deposit has been made. The FMO created the cash control system which alerts them to any cash items not accounted for but should have been.	See cycle control objectives 4 and 6.
11. Cash items received should be accurately and promptly classified, summarized, and reported.	See cycle control objective 9.	
12. Adjustments to receipts, receivables, and other accounts should be accurately and promptly classified, summarized, and reported.	The umbrella accounting system and the subsidiary systems contain edits to verify the accuracy of transactions and functions to control financial information for generating reports. CDC processes transactions through the umbrella system and the travel advance sytem daily, and the accounts receivable system at least weekly.	
13. Receipts, collection on account and related adjustments should be accurately applied to the proper receivable account.	See cycle control objectives 4 and 17. Also, on a monthly basis CDC manually reconciles the receivables with the general ledger.	CDC's manual reconciliation of the general ledger account balance with the subsidiaries appears to be an inefficient use of its resources.
14. Journal entries should be prepared each accounting period for receipts and related adjustments.	See cycle control objective 15.	
15. Revenue journal entries should summarize and classify receipts in accordance with management's plan.	CDC uses the common accounting number (CAN), appropriation number, object class, etc. to summarize and classify transactions. Each of these items are contained within system tables of the umbrella accounting system and are automatically produced during transaction processing.	

CENTER FOR DISEASE CONTROL - RECEIPT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Substantiation and Evaluation		
16. Recorded balances of receipts, accounts receivables, and related transaction activity should be periodically substantiated and evaluated.	See cycle control objective 13.	

APPENDIX II

CENTER FOR DISEASE CONTROL - RECEIPT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Physical Safeguards		
17. Access to cash and cash items received should be permitted only in accordance with management's criteria until control is turned over to the asset management cycle.	The person assigned responsibility for the cash receipt function is required to provide each person responsible for an accounts receivable ledger a copy of the completed collection schedule. It should be used to record data in the related account. CDC uses a safe to safeguard monies received. The safe's location permits visibility by supervisors.	The safe remains unlocked during the day and staff in the FMO frequent the files including those responsible for the receivables. Although CDC does restrictively endorse remittances prior to depositing them, it does not do so upon receipt at the mail desk and recording them in the log book.
18. Access to receipts and receivables records, critical forms, processing areas, and processing procedures should be permitted only in accordance with management's criteria.	See cycle control objectives 4 and 9.	The Inspector General's office of the Public Health Service office recently issued an audit report that is critical of CDC's physical security controls over access to the computer and the lack of a contingency plan in the case of an emergency.

CENTER FOR DISEASE CONTROL - REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Authorization		
1. Data entered to reporting systems should be authorized in accordance with laws, regulations and management's policy.	The CDC umbrella accounting system contains a Report Master file that is used for generating reports. The subsystems contain a report generating function within a computer program of each system. The systems permit only those transactions that passed the systems' edit functions to enter their report generating functions.	
2. Reporting system processing procedures should be established and maintained in accordance with laws, regulations, and management's policy.	The system analyst responsible for the accounting systems appears to understand how the systems process reports thereby enabling the person to respond to inquiries about the systems' report processing procedures. Additionally, the computer operators have written instructions for processing reports.	

APPENDIX II

CENTER FOR DISEASE CONTROL - REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Authorization		
3. Reporting should be in accordance with laws, regulations, and management's policy and plans.	See cycle control objective 1. Also, the program offices and centers at CDC are responsible for reviewing reports and providing feedback to the FMO on the accuracy, etc. of the reports.	Lack of recent internal audit coverage.
4. Reporting should be achieved in an economical and efficient manner.	The accounting systems at CDC have specific system files for generating reports and arranging financial information. The system may create reports daily, weekly, etc. or as required to satisfy user needs. The systems use only error free transactions for reporting purposes.	
5. Reporting procedures used should be economical and efficient.	The systems maintain reporting procedures within computer programs and use specific system files to generate reports.	

CENTER FOR DISEASE CONTROL - REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Transaction Processing		
6. Only those reports that meet management's policy should be approved.	The systems generate reports only with those authorized transactions that passed the systems' edits. CDC requires the FMO, program offices, etc. to submit a request for data processing services form to the computer system office for any additions, changes, etc. to reports. The form should be signed by an authorizing official.	
7. Reports should be prepared accurately and promptly.	The accounting systems permit transactions that passed the systems' edits to update the systems' files on a daily, weekly, and monthly basis with reports generated accordingly, as well as yearly and as required. The systems compute control totals to provide reasonable assurance that all entries have been recorded in the systems files and that no unauthorized transactions entered the systems.	
8. Relevant disclosure data should be gathered accurately and promptly.	This cycle control objective was not surveyed.	
9. Relevant disclosure data should be accurately summarized and reported.	This cycle control objective was not surveyed.	
10. File and account balances should be accurately and promptly reported.	CDC requires the program offices and centers to check reports upon receipt for accuracy, omissions, etc.	
11. Consolidation of reports should be accomplished accurately and promptly.	This cycle control objective was not surveyed.	

APPENDIX II

CENTER FOR DISEASE CONTROL - REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Classification		
12. Reporting entries should classify activities in accordance with management's plan.	CDC has agency-wide coding instructions for accounting transactions. For example, each transaction must contain an appropriation number, common accounting number, transaction code, etc. See cycle control objective 10 above.	See cycle control objective 10 above.
13. Reports should be prepared accurately and promptly, be prepared on consistent basis and fairly present the information they purport to display.	See cycle control objectives 4 and 7.	See cycle control objective 3.

CENTER FOR DISEASE CONTROL - REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Substantiation and Evaluation		
14. Recorded balances in the records should be periodically substantiated and evaluated.	See cycle control objective 7. Also, the FMO monthly reconciles the general ledger balance with the subsidiary ledgers.	

APPENDIX II

CENTER FOR DISEASE CONTROL - REPORTING CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Physical Safeguards		
15. Access to records, critical forms, processing areas, and processing procedures should be permitted only in accordance with management's policy.	The FMO maintains processed documents in a central file room. Documents pending processing are kept in a supsense file at the responsible staff person's desk. Transactions processed through the system are maintained in the system files along with backup maintained in a fire proof vault. Only authorized staff in the computer system office have access to the systems via system passwords (i.e. a special code that the system recognizes for entry). The FMO is responsible for distributing financial reports sent by the computer staff. CDC maintains a mailing list of persons authorized to receive financial reports.	The Inspector General's office recently issued an audit report that is critical of CDC's physical security controls over access to the computer and its contingency plans in case of an emergency.

CENTER FOR DISEASE CONTROL - PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Authorization		
1. Vendors should be authorized in accordance with laws, regulations and management's policy.	A manual vendor file is maintained at CDC. Purchase orders all originate from the procurement section that maintains that file. It has not been automated because of the large number of open market vendors designated locally and the high frequency of changes in those vendors. For capital expenditures or improvements, established procedures exist for bidding or negotiating contracts.	
2. The types, estimated quantities, and prices and terms of goods and services needed should be authorized in accordance with laws, regulations, and management's policy.	The requesting agency initiates a purchase requisition which goes to Procurement and Grants Office where the purchase order is prepared.	
3. Adjustments should be authorized in accordance with laws, regulations and management's policy.	Receiving documents are forwarded to the procurement branch and the Financial Management Office for full or partial receipts. Invoices go from the vendor directly to the Office of Financial Management for the accounting entry. If the order amount is increased by the requestor, a change order must be approved by the procurement branch.	
4. Procurement cycle processing procedures should be established and maintained in accordance with laws, regulations and management's policy.	All purchase orders go through the property sections for a decision about capitalizing the entry. All inventory and property purchase documents go to the Financial Management Office for reconciliation of amounts recorded by the receiving agency and the amount recorded in the accounting transactions. FMO also reviews the purchase order for a capitalization decision. Legal compliance was not surveyed.	

APPENDIX II

CENTER FOR DISEASE CONTROL - PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Economy, Efficiency, and Effectiveness		
5. Procurement cycle operations should be in accordance with laws, regulations and management's policy and plans.	See cycle control objective 4.	
6. Procurements should be achieved in an economical and efficient manner.	Procedures are in place for CDC to screen available surplus property to fill a request before a purchase order is prepared. This is done centrally at the Procurement and Grants Office. Also see cycle control objective 4.	
7. Procurement procedures used should be economical and efficient.	Purchase requests go to a central location where all purchase orders are initiated.	The entire procurement process, beginning with the preparation of the purchase order through the submission of a payment schedule to the U.S.Treasury, is a manual one. With this agency's ADP capabilities much of that process could be automated, saving considerable staff time.

CENTER FOR DISEASE CONTROL - PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Transaction Processing		
8. Only those requests of vendors for goods or services that meet management's criteria should be approved.	All purchase orders are screened by property sections for a decision on capitalization.	
9. Only requested goods and services should be accepted.	See cycle control objective 3.	There is no centralized receiving point at CDC. Inventories are located in three different places, and controlled by three separate systems. Although strengths within the procurement cycle appear to control proper receipt of incoming shipments, central receiving is a more efficient alternative.
10. Goods and services accepted should be accurately and promptly reported.	All incoming warehouse inventory shipments are recorded in a logbook at the receiving point. Receiving reports are processed for partial receipts of personal property or inventory orders. OFM records entries upon direct receipt of an invoice and then reconciles the reported entry to the inventory/property records with the actual recorded expenditures. Capital improvement project work-in-progress is usually not recorded in a property asset account until the project is completed.	Incorrect cost entries can be made to the warehouse inventory system, because it does not have an edit for reasonable cost. Engineering Services expenses all its purchases; and FMO does not reconcile the reported inventory valuation and actual invoice payments.
11. Amounts due to vendors for goods and services accepted, and the accounting distributions of such amounts, should be computed and recognized as liabilities promptly.	Accounting branch records an obligation from a purchase order, and later records the actual expenditure from the invoice after both it and a receiving document have been received.	CDC does not routinely record all accounting transactions in an accounts payable account.
12. Amounts due to vendors should be accurately and promptly classified, summarized and reported.	Invoices go directly to the Office of Financial Management. Once the invoice is matched with the receiving report, payment is authorized. Also see the umbrella accounting system cycles.	

AP ENDIX II

CENTER FOR DISEASE CONTROL - PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
13. Purchasing adjustments should be accurately and promptly classified, summarized and reported.	When a request is adjusted for the warehouse system, the computer stores both reports and entries. Thus, when the daily transaction activity is reconciled by FMO, an adjustment document is necessary to reconcile the inventory balance with accounting entries.	The Engineering Services inventory can be adjusted from daily error reports produced from the system. The error file does not, however, keep errors in memory for more than one report cycle. If an error is not reentered correctly, it may never be corrected. Also, there has been no independent physical inventory in the recent past, even though the inventory balance is reported as $1.8 million.
14. Liabilities incurred, and related adjustments, should be accurately applied to the proper vendors' accounts.	See cycle control objective 11.	

CENTER FOR DISEASE CONTROL - PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Classification		
15. Journal entries for amounts due to vendors and related adjustments should be prepared each accounting period.	See umbrella accounting system, disbursement cycle objectives 2 and 3.	See cycle control objective 11.
16. Purchasing journal entries should summarize and classify economic activities in accordance with management's plan.	See cycle control objective 11; and the umbrella accounting system, disbursement cycle objectives 1, 2, 3.	

APPENDIX II

CENTER FOR DISEASE CONTROL - PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Substantiation and Evaluation		
17. Recorded balances of accounts payable, and related transaction activity, should be periodically substantiated and evaluated.	Property and most inventory transaction activity is reviewed daily and account balances reconciled monthly through the property reconciliation system.	The Engineering Services' cupboard stock is not included in the FMO reconciliation process; and no independent physical inventory is taken. Because of its large carrying value and the nature of several of the items, capitalization of the inventory balance appears warranted.

CENTER FOR DISEASE CONTROL - PROCUREMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Physical Safeguards		
18. Access to purchasing, receiving and disbursement records; critical forms; processing areas; and processing procedures should be permitted only in accordance with management's criteria.	A card key is required for entry to computer facility, and individual identification codes authorize predetermined information access to the computer.	ADP security at CDC, according to an OIG report, was generally inadequate. CDC emphasis on ADP security was insufficient to ensure that ADP facilities were protected against damage, unauthorized use, fire, natural disasters or theft.

APPENDIX II

CENTER FOR DISEASE CONTROL - ASSETS AND LIABILITY MANAGEMENT CYCLE INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Authorization		
1. Sources of assets and liabilities should be authorized in accordance with laws, regulations and management's policy.	All purchase orders are initiated from one central procurement office which maintains listings of current authorized vendors. The responsibility is with that one office to ensure the list is current. An automated vendor file is contained in the umbrella accounting system and is discussed in that system's cycle control objectives.	
2. The amounts, timing and conditions of transactions should be authorized in accordance with laws, regulations and management's policy.	See procurement cycle authorization objectives.	
3. The amounts, timing and conditions of expenditures of funds should be authorized in accordance with laws, regulations and management's policy.	See procurement cycle objectives 2, 3 and 11. Also, HHS regulations outline criteria for those inventory items which may be expensed.	Engineering Services has a large stock of supplies which may not meet the Department definition which allows items to be expensed. If not in compliance, these items should be capitalized as are other smaller agency inventory balances.
4. Adjustments to asset and liability accounts and account distributions should be authorized in accordance with management's policy.	During the monthly reconciliation of property and inventory account balances, items requiring an adjustment are returned to the originating agency with an FMO recommendation for action. When the decision is made, it is approved by an authorized official, and returned to FMO where an adjusting journal voucher is prepared for entry into the system.	
5. Asset and liability management procedures should be established and maintained in accordance with management's policy.	CDC maintains property listings for (1) real property; (2) capitalized personal property with a cost of at least $300; and (3) non-capitalized sensitive items costing under $300, such as camera lenses or desk calculators.	

CENTER FOR DISEASE CONTROL - ASSET AND LIABILITY MANAGEMENT CYCLE INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Economy, Efficiency, and Effectiveness		
6. Cycle results should be in accordance with laws, regulations and management's policy and plans.	Agency budgets generally control the amount of purchases for property items. That information is available not only to approving officials at each center, but also to those responsible officials in property and procurement areas who review the requests for expenditures.	
7. Cycle results should be achieved in an economical and efficient manner.	Property/inventory purchase entries include (1) an entry to the property system from the purchase order; (2) an entry to the property reconciliation system from the same source documentation; and (3) an entry to the accounting system after receipt of an invoice and receiving documents.	There have been no audits of CDC financial management systems by HHS's Office of Inspector General in the past 3 years. Also, the property reconciliation system could be used to provide data for printing automated real property reports.
8. Processing procedures used to create, recognize and report events and related transactions should be economical and efficient.		Property and inventory systems have no edits and insufficient documentation to ensure the reliability of entered data.

APPENDIX II

CENTER FOR DISEASE CONTROL - ASSET AND LIABILITY MANAGEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Transaction Processing		
9. Only those requests to buy or sell assets that meet laws, regulations and management's policy should be approved.	Compliance is the responsibility of the applicable property or inventory office and all requests to buy or sell are reviewed and approved by those offices.	
10. Assets and liabilities acquired should be accurately and promptly reported.	Procedures involving matching receiving documents with invoices are adequate to assure timely recording of acquisition of property.	
11. Retirements or dispositions of assets to outsiders should be accurately and promptly reported.	Regulations dictate the handling of property for disposal or write-off. See cycle control objective 1.	
12. Amounts due from or to purchasers and creditors, and the accounting distribution of those amounts should be computed accurately and promptly recognized as assets or liabilities.	See procurement cycle control objective 11.	CDC does not record payables.
13. Changes in values should, where required by generally accepted governmental accounting principles, be computed accurately and recognized promptly.	Records reporting useful asset life and imputed depreciation are maintained for internal use in scheduling replacement. Capital assets are carried on the books at original cost or assigned value.	

CENTER FOR DISEASE CONTROL - ASSET AND LIABILITY MANAGEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Classification		
14. Amounts due to creditors, and related adjustments, should be accurately and promptly classified, summarized and reported.	See cycle control objectivs 6 and 9. Also see procurement cycle control objectives 2, 3 and 11.	
15. Purchases and sales of assets, changes in liabilities and related adjustments should be accurately applied to the proper subsidiary accounts.	See cycle control objectives 11 and 14.	
16. Journal entries for assets and liabilities acquired and retired, and related adjustments, should be prepared and posted each accounting period.	See cycle control objectives 6 and 9.	
17. Journal entries should summarize and classify economic activities in accordance with management's plan.	See cycle control objective 6 and 7.	

APPENDIX II

CENTER FOR DISEASE CONTROL - ASSET AND LIABILITY MANAGEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Substantiation and Evaluation		
18. Recorded balances of asset and liability accounts, and related transaction activity, should be periodically substantiated and evaluated.	See procurement cycle objective 4. Physical inventories are conducted annually for capitalized inventory balances by FMO. Through random sampling, the property section verifies existence of personal property items each year.	CDC does not capitalize its supplies inventory of about $1.8 million. Consequently, this balance escapes the scrutiny of the FMO reconciliation process and physical counts.

CENTER FOR DISEASE CONTROL - ASSET AND LIABILITY MANAGEMENT CYCLE
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls In Place	Control Weaknesses
Physical Safeguards		
19. Physical security safeguards should be maintained where assets are stored and transactions processed.	Inventories are well secured physically, and, with the exception noted to the right, they are inventoried under the direction of FMO at fiscal year end. In addition to the routine personal property custodial reports filled out annually, the property section performs random property counts each year to verify the accuracy of the custodial report balances.	Engineering Services maintains an internal perpetual inventory balance, but there is no physical inventory to verify that balance.

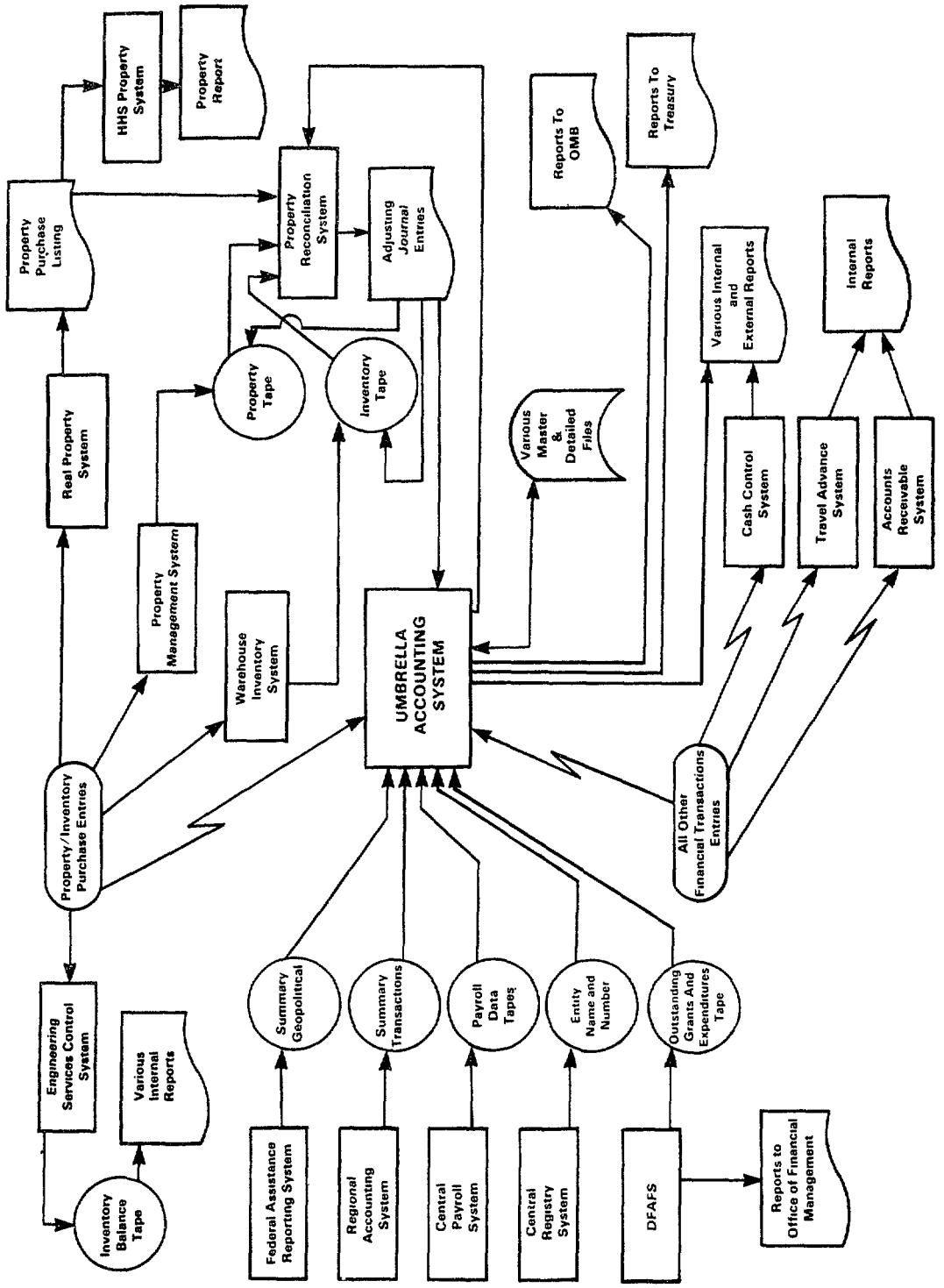
CENTER FOR DISEASE CONTROL - GRANT
INTERNAL CONTROL STRENGTHS AND WEAKNESSES

Cycle Control Objectives	Controls in Place	Control Weaknesses
Grant Cycle		

We did not survey this cycle due to its small dollar portion of CDC's total fiscal year 1983 budget authority. Additionally, most of the grants awarded through CDC's grant management office are research and training grants for CDC's National Institute of Occupational Safety and Health (NIOSH)--about $10.5 million.

APPENDIX III

CENTER FOR DISEASE CONTROL
FINANCIAL MANAGEMENT STRUCTURE



TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

CTA-1

		How a system with effective controls will handle the transactions						
Nature of test transactions	Purpose or explanation of test transaction	Reject	Print error message	Reject in certain circum-stances	Reduce to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
1. Leave a mandatory field blank on a new employee's master record.	To determine whether the system will accept a master record with essential data missing. If missing data will cause an incorrect payment, the master record should be rejected with appropriate warning. If missing data is for administrative purposes only, the condition should be flagged by an error message.		X	X				

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

		How a system with effective controls will handle the transactions						
Nature of test transactions	Purpose or explanation of test transaction	Reject	Print error message	Reject in certain circum-stances	Reduce to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
2. Enter erroneous codes, such as charity, life insurance, union dues, marital status, etc. (Note--one erroneous code per master record.)	To determine whether the system will accept invalid data into employees' master records. The program should print error messages to identify invalid data and reject further processing of such transactions.		X	X				
3. Enter an invalid annual leave category.	To determine whether the system will accept an invalid annual leave category. Federal regulations have established annual leave categories as 4, 6, or 8 depending on the amount of creditable service.	X	X					

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

CTA-1

		How a system with effective controls will handle the transactions						
Nature of test transactions	Purpose or explanation of test transaction	Reject	Print error message	Reject in certain circum-stances	Reduce to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
4. Change a field in an inactive master record.	To determine whether it is possible to change fields in inactive master records and whether adequate controls exist over such changes. Processing of inactive records should be separated from the normal processing of active records to eliminate the possibility of unearned salary payments or the manipulation of records for persons who are not in a pay status.	X	X					

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
5. Change an employee's annual leave category before it is due to be changed.	To determine whether the system will reject invalid updates. The annual leave category is based on the amount of creditable service an employee has, computed from the employee's service computation data. Employees with less than 3 years of service are in category 4; employees with 3 to 15 years of service are in category 6; employees with more than 15 years of service are in category 8. The program should reject any attempt to change a leave category before it is due to be changed.	X	X					

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

		How a system with effective controls will handle the transactions						
Nature of test transactions	Purpose or explanation of test transaction	Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
6. Promote a general schedule (GS) employee above grade 5 before 1 year in grade has passed.	To determine whether the system rejects an invalid transaction. Federal regulations state that GS employees above grade 5 must be in grade at least 1 year before they can be promoted.	X	X					
7. Give a GS employee a within-grade salary increase before 1 year in grade has passed.	To determine how the system handles this transaction. Federal regulations state that a GS employee must be in grade at least 1 year before being eligible for a within-grade salary increase. The system should "flag" the transaction as being a quality step increase (which has the same effect as a within-grade increase but can occur without the employee's having been in grade for 1 year).		X					

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

		How a system with effective controls will handle the transactions						
Nature of test transactions	Purpose or explanation of test transaction	Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
8. Change an employee's grade or annual salary so that the grade/step and annual salary rate are incompatible.	To determine whether the system accepts incompatible data. The program should have salary and grade controls which will reject transactions of this type from further processing (except for payments under the Civil Service "retained rate" provision, which allows certain downgraded employees to retain their old salaries for a time).	X	X					
9. Change an employee's service computation date to indicate that leave category is due to change.	To determine whether the annual leave category is correctly changed, with a message printed to indicate the change. If the leave category is not automatically changed, a message should be printed.		X					

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

		How a system with effective controls will handle the transactions						
Nature of test transactions	Purpose or explanation of test transaction	Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
10. Pay an inactive employee.	To determine whether the system will compute pay for an inactive employee (an employee who has been seperated but whose record is maintained in the same master file used for active employees).	X	X					
11. Pay a non-existent employee.	To determine whether the system will compute pay for an employee with no record in the master file.	X	X					
12. Input two time and attendance cards for the same employee.	To determine whether the system will compute pay twice for the same employee.	X	X					

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

		How a system with effective controls will handle the transactions						
Nature of test transactions	Purpose or explanation of test transaction	Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
13. Pay a GS employee for 80 hours work on a second-shift entitlement for a wage board (WB) employee.	To determine whether the system rejects WB entitlements for GS employees.	X	X					
14. Pay a GS employee for 80 hours work on a third-shift entitlement for a WB employee.	Same as above.	X	X					
15. Pay a WB employee for 80 hours work on a night differen-tial entitlement for a GS em-ployee.	To determine whether the system rejects a GS entitlements for WB employees.	X	X					

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
16. Pay a WB employee for 20 hours of overtime.	To verify the accuracy of premium (overtime) pay computation. Overtime pay is 1-1/2 times regular pay.						X	
17. Pay a GS employee for 20 hours of night-differential pay.	Same as above. Premium = 10 percent.						X	
18. Pay a WB employee for 80 hours on second shift.	Same as above. Premium = 7 1/2 percent.						X	
19. Pay a WB employee for 80 hours on third shift.	Same as above. Premium = 10 percent.						X	

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
20. Pay a GS employee for 8 hours of holiday pay.	Same as above. Holiday Pay is double regular pay.						X	
21. Pay a WB employee for 8 hours of holiday pay.	Same as above.						X	
22. Pay a GS employee for 8 hours of Sunday pay (for Sunday work that is not overtime work).	Same as above. Sunday premium is 25 percent of regular pay if Sunday is a regularly scheduled workday.						X	
23. Pay a WB employee for 8 hours of Sunday pay.	Same as above.						X	

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

CTA-1

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
24. Pay GS employees for 10 hours of environmental pay at the following premium: a. 4% b. 8% c. 25% d. 50%	Same as above.						X	
25. Pay WB employees for 10 hours of environmental pay at the following a. 4% b. 8% c. 25% d. 50%	Same as above.						X	

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
26. Pay a GS-1, 2, 3, 4, 5, 6, or 7 employee for 10 hours of overtime.	To verify accuracy of premium pay computation. For GS employees whose basic pay rate does not exceed the salary of a GS-10/1, the overtime rate is 1-1/2 times the basic pay rate. (FPM 550-5)						X	
27. Pay a GS-10, 11, 12, or 13 employee for 10 hours of overtime.	Same as above. For a GS employee whose basic pay rate is equal to or exceeds the rate of a GS-10/1, the overtime rate is 1-1/2 time the hourly rate for a GS-10/1. (FPM 550-5)						X	

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowabl maximum	Process without cut back	Automat-fically compute correct amount	Automat-fically adjust leave records
28. Pay a GS-14 employee enough overtime pay to exceed the maximum salary limitation.	To test maximum salary limitation. Additional pay such as overtime, night-differential, holiday, and Sunday pay, may be paid to the extent that it does not cause the aggregate pay for a bi-weekly period to exceed the rate of a GS-15/10. (FPM, 550. 105) The program should cut back pay to this maximum.		X		X			
29. Pay a GS-14 employee enough environmental pay to exceed the maximum salary limitation.	Same as above. Program should not cut back environmental pay because it is not subject to the maximum salary limitation.					X		

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-fically compute correct amount	Automat-fically adjust leave records
30. Pay a WB employee enough premium pay to exceed the maximum salary limitation.	Same as above. Program should not cut back pay because WB employees have no maximum salary limitation.					X		
31. Pay a GS employee for 1 hour of holiday Pay.	To determine whether the system will pay less than the 2-hour minimum of holiday pay. (FPM-990-1)		X				X	
32. Pay a WB employee for 1 hour of holiday pay.	Same as above.		X				X	
33. Pay a GS employee for 40 hours of Sunday pay.	To determine whether the system limits Sunday pay to 32 hours maximum allowed. (FPM-990-2)		X		X			

TYPICAL PAYROLL TRANSACTIONS
TO BE INCLUDED IN A TEST DECK

CTA-1

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
34. Pay a WB employee for 80 hours on second shift and 10 hours for overtime into the third shift.	To verify the accuracy of premium pay. Federal regulations state that overtime pay for an employee regularly working the second or third shift will be computed at 1-1/2 times the second or third shift rate, repectively. (FPM 532-1)						X	
35. Pay a WB employee for 80 hours on third shift and 10 hours for overtime into the first shift.	Same as above.						X	

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
36. Charge a full-time employee for 80 hours of leave without pay (LWOP).	To determine whether sick and annual leave will accrue when a full-time employee charges 80 hours LWOP. The sick leave credit should be reduced by 4 hours and the annual leave credit should be reduced by 4, 6, or 8 hours, depending on the annual leave category.							X
37. Charge a full-time employee for more annual leave than the employee has.	To determine whether excess annual leave is charged to LWOP. (The system should automatically reduce employee's pay for LWOP.)		X				X	X

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
38. Charge a full-time employee for more sick leave than the employee has.	To determine whether excess sick leave is charged to annual leave or LWOP. (The system should automatically adjust leave records and reduce pay for LWOP, if required.)		X				X	X
39. Charge a full-time employee for 99 hours of annual leave (19 hours more than a regular biweekly period).	To determine whether the system will cut back to the maximum of 80 hours for regular pay in a pay period.		X		X			
40. Charge a full-time employee for 99 hours of sick leave.	Same as above.		X		X			

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
41. Charge a full-time employee for 80 hours of regular pay and 80 hours of annual leave in the same pay period.	Same as above. Total hours of work and leave cannot exceed 80 in a pay period.	X	X					
42. Charge a full-time employee for enough hours of military leave to exceed 120 hours total.	To determine whether the system flags military leave in excess of 120 hours. Federal regulations state that an employee cannot charge more than 120 hours to military leave in a pay year. Because there are certain exceptions (such as duty in the District of Columbia National Guard) which permit military leave to exceed 120 hours the		X					

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
42. cont'd	system should alert payroll clerks to the excess but should not reject or cut back the transaction.							
43. Make a lump-sum annual leave payment to a separated employee in excess of annual leave balance.	To determine whether the system appropriately excludes excess annual leave in a lump-sum leave payment.		X		X			

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
44. Pay a GS part-time employee for 32 hours of regular pay.	To determine whether the system correctly accrues annual and sick leave for part-time employees. For each 20 hours worked, a part time employee receives 1 hour of sick leave. If in leave category 4, an employee needs 20 hours of work to earn 1 hour of annual leave; if in leave category 6, the employee needs 15 hours worked to earn 1 hour of annual leave; and if in leave category 8, the employee needs 10 hours worked to earn 1 hour of annual leave.							X

Nature of test transactions	Purpose or explanation of test transaction	How a system with effective controls will handle the transactions						
		Reject	Print error message	Reject in certain circum-stances	Cut back to allowable maximum	Process without cut back	Automat-ically compute correct amount	Automat-ically adjust leave records
45. Make a lump-sum annual leave payment to an active employee.	To determine whether the system will make a lump-sum annual leave payment to an active employee. These payments should be made only to separated employees.	X	X					

APPENDIX VII

Control Objectives And Techniques

CONTROL OBJECTIVES AND TECHNIQUES FOR MAINTAINING GENERAL LEDGER ACCOUNTS AND FOR REPORTING THE FINANCIAL RESULTS OF PROGRAM AND ADMINISTRATIVE OPERATIONS AND THE FINANCIAL STATUS OF APPROPRIATED FUNDS AND OTHER RESOURCES

CONTROL OBJECTIVES	CONTROL TECHNIQUES
1. Agency transactions should be authorized pursuant to laws, regulations, and management policy.	a. Laws, regulations, and management policy are readily available to agency officials and staff, GAO, and inspector general auditors for review. b. Documented management-approved procedures for initiating, reviewing, approving, and preparing transactions. c. Periodic inspection of used critical forms for proper completion and authorized signature. d. Executive management approval for each of certain types of transactions (such as reimbursements of unusually large amounts or, capital expenditures). e. Use of standard prenumbered critical forms and accountability for such forms. f. Periodic internal audit of required authorizations. g. Procedures exist to assure compliance with Prompt Payment Act. h. Procedures exist to take available discounts if economically advantageous to the government. i. Some type of internal document is used to record an overpayment at the time the overpayment is discovered. j. Laws and policy are documented and communicated throughout the agency.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
2. Adjustments should be authorized in accordance with management's criteria.	a. Prenumbered and controlled standard forms requiring specific approval. b. Separate personnel to investigate the need for and to initiate adjustments. c. Clear statements of criteria and policies for adjustments including types allowed, and authorization required. d. Documented procedures for processing adjustments. e. Supervisory review of adjustments. f. Regular reporting and periodic analyses of trends in amounts and types of adjustment. g. Independent review (including internal audit) to determine that adjustments contain proper approval. h. Authorization of adjustment forms by a specified manager in absence of, or in contradiction of, established written policies. i. Routine preparation of standardized adjustment registers combined with exception reporting of adjustments over a stated amount. j. Written approval of all account distribution adjustments by a specified executive or supervisor.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
	k. Management policy guidance providing that, --returns must be approved before acceptance, --credit memos be based on incoming inspection reports and receiving reports, and --that certain amounts be approved by designated officials.
3. Transactions should be recorded in the accounts during the period in which they are incurred.	a. Written agency policy identifying the events or circumstances for recognizing transactions, conforming to the principles and standards prescribed by the Comptroller General.
	b. Prenumbered, and controlled and/or standard critical forms to document transactions.
	c. Documented processing, cutoff, and period-endclosing schedules and procedures.
	d. Maintenance of logs at input document receiving locations.
	e. Forms designated to facilitate processing.
	f. Established procedures for recording, safeguarding, and promptly depositing cash receipts.
	g. All cash sales recorded in cash register at time of sale. h. All cash sales reported daily.
4. Responsibility should be specifically assigned and appropriately separated to assure transactions are processed in accordance with management's requirements.	a. Central mail room that lists incoming cash items for subsequent reconciliation to deposits by an employee who is independent of the cash receipts and account/loans receivable functions.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
4. Continued	b. The mail opening and listing of collections are checked or supervised by a responsible official.
	c. Segregation of duties between those who handle and list cash receipts and those responsible for posting customer remittances to individual customer accounts, and posting cash receipts to general ledger accounts.
	d. Prices on sales invoices are checked to approved price lists or other management determinations of prices by persons other than those who prepare the invoices or are involved in the sales functions.
	e. The accounting system documentation reflects the assignments of responsibility for each organization involved in the transaction. Responsibility within an organization is further delineated by functions which provide for a separation of duties.
	f. Transaction documents are independently checked periodically against accounting records and the reasons for any unrecorded transactions are determined.
	g. Closely supervised central receiving locations that are separate from shipping, purchasing, and storage functions.
	h. Detailed comparison of goods received to a copy of the purchase order.
	i. Independent checks on the accuracy of accounting records through periodic physical count, weight, or other measurement.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
4a. Subdivisions of fund authorizations for budgetary control purposes should be established at the highest practical level, be consistent with assignments of responsibility, and be limited in the number of those necessary for effective control.	a. Written agency administrative control of funds regulation approved by OMB. b. Listing by title or position of individuals charged with responsibility for administrative control of funds, to include the specific responsibilities of each. c. Allotment and suballotment procedures documented.
5. Transactions are recorded in the proper amount.	a. Reference to prior or related transactions for conformity. b. Validation tests to verify postings to detail accounts. c. Periodic reconciling of subsidiaries, external statements (such as from banks or creditors) and control accounts. d. Each reconciliation is reviewed and approved by a responsible official. e. Confirmation of balances with third parties (such as debtors, creditors, or custodians of investments). f. Periodic reviews of methods and formulas used for accruals, write-offs, amortizations, etc. g. Management has established specific written criteria in the pricing of goods and services to be furnished. h. Periodic review of pricing guidance is made, and changes are authorized by management. i. Prices and items not covered by policy guidance must be approved by management. j. Integrated cost accounting system for collecting and distributing cost related to the furnishing of goods and services.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
5. Continued	k. Shipping logs are maintained listing each shipment sequentially by order number. At the end of each accounting period, the orders received and orders shipped are reconciled with the orders in backlog.
	l. Reconciliation of sales ledger balances to accounts receivable and cash sales journals on a regularly scheduled basis.
	m. Reference to obligation records to assure that the liability conforms to the established obligation.
	n. References to receiving report(s) to assure that the goods or services were received and were accepted.
	o. Validation tests to verify posting to detail accounts.
	p. Periodic reconciling of subsidiaries, external statements (such as from banks or creditors) and control accounts.
	q. Each reconciliation reviewed and approved by responsible official.
	r. Confirmation of balances with third parties (such as debtors, creditors, or custodians of investments).
	s. Periodic reviews of methods and formulas used for accruals, write-offs, amortizations, etc.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
6. All transactions must be recorded in the accounts promptly and accurately.	a. Prenumbered standard forms and accountability for such forms.
	b. Documented processing, cutoff, and period closing procedures.
	c. Standard journal entry register to assure that all required journal entries were prepared.
	d. Prenumbered journal entry forms and related accountability for all numbers each period.
	e. Supervisory review of processing documents with source documents and reported results.
	f. Periodic refootings of registers and journals.
	g. Programmed edits to assure accuracy of data.
	h. Batch totaling and logging of input documents, and reconciling batch totals to output.
	i. Review and follow-up of suspense files of rejected data.
	j. Reconciling manually determined control totals to recorded results.
	k. Prenumbered transmittal slips.
	l. Transmittal logs.
	m. Recipient verification that data transmitted agrees with transmittal slip.
	n. Recipient acknowledges to the originator that transmittals were received.
	o. Program or processing controls to prevent or detect duplicate posting of a transaction.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
	p. Written coding instructions.
	q. Periodic review of "open" items, (such as commitments, undelivered orders, advances, or payables,) to determine those outstanding for unreasonable periods of time and reasons thereof.
6a. All violations of the Anti-Deficiency Act (RS 3679) or nonstatutory limitations imposed by the agency, regardless of amount, should be reported immediately upon discovery.	a. Procedures should specify the who, what, and where of reporting.
	b. The responsibilities of each position with regard to investigations, reporting, and following up on violations are documented.
	c. Provide for immediate reporting of violations through the Director of the Office of Management and Budget to the President and the Congress.
7. Assets, records, and prenumbered (or otherwise controlled) blank forms and documents should be safeguarded against waste and misuse.	a. Only authorized personnel have access to records, assets, controlled blank forms and documents, and processing areas.
	b. Records of quantities and physical locations are kept.
	c. Periodic physical inventories of assets and controlled forms, and reconciliation to controls.
	d. Use of security devices, safes, locked cabinets, etc.
	e. Authorization procedures to remove assets, records, controlled forms, etc., from premises.
	f. Examination of waste and salvage material prior to disposal.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
7a. Unliquidated obligations should be reviewed periodically.	a. Periodic inventory of obligations performed and document files reconciled to related listings and reports.
	b. All unliquidated obligations are supported by source documents.
	c. Responsibilities for annual section 1311 certification of unliquidated obligations is documented.
8. Amounts disbursed are for the proper amounts.	a. Procedures to take available discounts if economically advantageous to the government.
	b. Reference to accounts payable or obligation records to assure that the disbursement conforms to the established liability or obligation.
	c. Verification of invoiced or vouchered quantities, prices, and terms by reference to the purchase or travel order, receiving report and related documents prior to disbursement (or within prescribed time limits after disbursement in the case of fast pay), and documentation of the verification.
	d. Verification of extensions and footings of invoices and vouchers, and documentation thereof.
	e. Vouchers approved by a designated certifying officer.
9. Reports, including cathode ray tube (CRT) displays, should be designed and produced to meet the needs of all parties served by the system.	a. A listing of all users of financial information is maintained.
	b. The information required by each user has been identified.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
9. Continued	c. Report formats are maintained showing how each user's need is to be met or is being met. The user's concurrence with the report format is obtained and on file.
	d. Responsibility is assigned for keeping current on changing requirements from external sources.
	e. Written instructions contain the policies and procedures for initiating and approving request for financial information.
	f. Periodic reviews to ensure the reports' continued usefulness.
10. Relevant disclosure data should be gathered and reflected in the financial reports.	a. Early identification of each supplemental disclosure made by reference to prior reports, review of the new Comptroller General decisions, established requirements, and discussions with legal counsel, auditors, agency management, and others.
	b. Assignment of responsibility for gathering required data to specific individuals.
	c. Sample reports reflecting illustrative data elements for headings, captions, dates, etc.
	d. Written commentary on significant variations from prior period and deviations from management's plans and budgets.
	e. Review of disclosure data by knowledgeable personnel.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
11. Reports should be prepared accurately and promptly, prepared on a consistent basis, and fairly present the information reported.	a. Documented policies and standard journal preparation of all financial reports.
	b. Detailed procedures and standard journal entries for updating the accounts and records prior to preparing the reports.
	c. Preparation of reports by designated individuals knowledgeable of the reporting requirements.
	d. Listing of reports maintained by recipient and due date.
	e. Established procedures for checking reported information to source documentation and verifying clerical accuracy by an individual who did not actively participate in gathering or summarizing the underlying data.
	f. Approved cutoff dates established and communicated throughout the agency.
	g. Reports produced from information maintained in the accounting system.
12. Reports should be delivered timely in accordance with external requirements or dates agreed to by report users.	a. Reporting schedule and due date maintained.
	b. Responsibility assigned to individual for report distribution.

CONTROL OBJECTIVES	CONTROL TECHNIQUES
	c. Control listing of reports maintained and checkoff of reports as issued.
13. Access to reports and other financial information should be permitted only in accordance with management policies.	a. Classified and nonclassified material maintained in accordance with written policies and procedures approved by management.
	b. Designated personnel assigned to assure compliance with management instructions.
	c. Control areas are established and restricted to authorized personnel.
	d. Reports, files, and other records secured in appropriate safekeeping devices and off-site backup storage of critical materials maintained.
14. The account structure and classification coding should enable the accumulation and recording of all transactions in all categories required by both internal and external managers.	a. A written chart of accounts with a description of each account is maintained. This includes a listing and description of all subsidiary accounts.
	b. Classification codes published in agency manuals.
	c. Description of books of original entry is kept.
	d. Written procedures exist for requesting and approving changes to the accounts and coding structure.

CONTROL OBJECTIVES AND TECHNIQUES FOR PROCESSING, ACCOUNTING FOR, AND REPORTING ALL TRANSACTIONS RELATING TO PAY, LEAVE, AND ALLOWANCES

CONTROL OBJECTIVE	CONTROL TECHNIQUE
1. Additions, deletions, and other changes in employment status are valid and conform with personnel ceilings and other applicable criteria.	a. Identification of the organizational structure or functions to be served by the system.
	b. Identification of the location and organizational levels where source documents will originate and be maintained.
	c. Documentation describing how the agency acquires employees.
2. Compensation rates, leave accrual, and payroll deductions should be authorized by management, law, regulation, or the employee, as appropriate.	a. Written documentation as to how payroll deductions are authorized, changed, or canceled is available and current. (6 GAO 18.0, 18.1)*
	b. Agency pay scales and leave procedures are published.
	c. Documentation of how step or merit raises are awarded is available and current.
	d. Leave accrual rates are properly determined and applied. (6 GAO 20.6)
	e. All non-statutory deductions and allotments or assignments of pay are authorized in writing by the employee. (6 GAO 18.0)
	f. Statutory deductions for income taxes are supported by a certification by each employee of the number of exemptions claimed. (6 GAO 18.1)
	g. The authorization form for each type of deduction or allotment contains sufficient information to establish the deduction and enable proper payment of amounts deducted. (6 GAO 18.0, 18.1)
	h. All changes or cancellations of an authorization are made in writing by the employee (except for employee separations. (6 GAO 18.1)

* Title 6, GAO Policy and Procedures Manual for Guidance of Federal Agencies, Section 18.

CONTROL OBJECTIVE	CONTROL TECHNIQUE
	f. All authorization documents are maintained in current files to support each deduction. (6 GAO 18.1)
	j. Regulations have been established for the collection of erroneous payments and are readily available in some form. (6 GAO 18.1)
	k. Controls are in place for the following types of transactions. --The granting and paying of differentials and allowances to employees stationed at foreign posts. (6 GAO 7, 21.1) --Quarters and other services provided civilian employees. (6 GAO 21.2) --Entitlement to leave rations (6 GAO 20.6)
	l. The appropriate provisions of the Fair Labor Standards Act are implemented. (6 GAO 13)
3. Adjustments to payroll disbursements, employee acounts, leave accounts, and account distribution should be authorized in accordance with management criteria, law, and regulation.	Corrections of data in official records are approved by an appropriate individual. (6 GAO 20.10)
4. Payroll and leave processing procedures should be established and maintained in accordance with management criteria.	a. Confirmation of the uniformity of procedures in --processing pay, leave, and allowances, --reporting time and attendence, --computing pay and allowance, --maintaining records, and --other payroll related operations (6 GAO 7 and 15)
	b. Process flow charts and narratives describe flow of information through the system.
	c. Planned methods for testing the logic and reliability of the system are described.

CONTROL OBJECTIVE	CONTROL TECHNIQUE
	d. Procedures exist for correcting errors in a timely manner. (6 GAO 20.10)
	e. Procedures exist for review of leave records of employees terminating employment, and for adjustment of pay for unearned advanced leave, accumulated leave, and leave ration credited in the pay records. (6 GAO 20.6)
	f. Reasonable cutoff dates are established for payroll processing and payment of the payroll. (6 GAO 16.5, 17.2, 19)
	g. Procedures exist for payment of employees during emergency evacuation. (6 GAO 24)
	h. A listing or outline of the subsidiary records that provide information needed to comply with prescribed requirements of other agencies and for management purposes is available. (6 GAO 18.3, 20.1)
	i. Procedures exist for accrual of personal services costs between the end of the pay period and month-end for accounting and reporting purposes.
5. Only transactions that meet management criteria should be approved.	a. Feedback is provided to personnel of common data elements which are compared between the two systems and conflicts are resolved. (6 GAO 17.0)
	b. Authorizing documents must be signed by designated officials. (6 GAO 16.3, 17.0, 17.2, 20.4)
	c. Supervisors approve leave taken and certify the time and attendence (T&As) reports. (6 GAO 17.2, 20.3, 20.4)

CONTROL OBJECTIVE	CONTROL TECHNIQUE
	d. Transactions recorded in the pay, leave, and allowance records are adequately supported by properly authorized documents. (6 GAO 17.0)
6. Each payroll related disbursement of cash should be based upon proper computation, be accurately prepared, be appropriately authorized, and be certified.	a. Employees are not permitted to approve or certify their own T&As or their own leave (unless specifically authorized in writing by the head of the agency or his designee). (6 GAO 17.2)
	b. Designated employees, who have no part in preparing the payroll, maintain T&As. (6 GAO 17.2)
	c. Officials who sign authorizing or certifying documents are not permitted to participate in the preparation of the payroll. (6 GAO 9, 16.3)
7. Access to personnel, payroll, and disbursement records; critical forms; processing areas; and processing procedures should be permitted only in accordance with management's criteria.	a. Files are maintained to accumulate the authorizing pay, leave, and allowance documents for each individual. (6 GAO 20)
	b. Document retention schedules are in accordance with GAO approved fiscal records program and GSA retention schedule. (6 GAO 17.2, 23)
	c. Controls are provided to prevent unauthorized use of blank military pay records and documents. (6 GAO 20.2)
	d. Responsibility for carrying out the various functions pertaining to pay, leave, and allowances have been clearly assigned to specific organizational segments. (6 GAO 8)
	e. The functions of cash payment and receipt of checks and bonds from the disbursing office and their delivery or mailing to payee are performed by designated persons who do not have other payroll responsibilities. (6 GAO 16.4, 16.6)

CONTROL OBJECTIVE	CONTROL TECHNIQUE
	f. Responsibility for assigned duties and functions have been appropriately segregated. (6 GAO-9)
	g. Employees engaged in preparation and maintenance of documents authorizing or evidencing payments do not service their own individual pay account. (6 GAO 16.1)
	h. Provision is made for compliance with the Privacy Act of 1974. (6 GAO 25)
8. Leave and labor should be accurately and properly reported.	a. The T&A record shows --duty hours and number of hours, of duty, and --the nature and length of absences (exact times if less than one day) (6 GAO 17.2)
	b. A leave record is maintained for each employee. (6 GAO 20.6)
	c. Leave records show amounts earned and used, and the balance available by type of leave. (6 GAO 20.6)
	d. For civilian employees, absences and leave taken are supported by a signed or initialed application. (6 GAO 17.2)
	e. Overtime reported is approved in writing prior to its occurrence. (6 GAO 17.2)
9. Amounts due to, or on behalf of employees should be accurately and promptly classified, summarized, and reported.	a. Subsidiary payroll accounts or records are maintained to provide detailed data on payroll deductions.
	b. Retirement records are maintained in conformance with Office of Personnel Management requirements. (6 GAO 18.3)

CONTROL OBJECTIVE	CONTROL TECHNIQUE
	c. U.S. savings bonds record includes the amount deducted, purchases, refunds, and unapplied balances for each employee. (6 GAO 18.3)
	d. Health benefit records show the number of employees and the deduction and agency contribution by each enrollment code. (6 GAO 18.3)
10. Payroll disbursements and payroll-related adjustments should be accurately and promptly classified, summarized, and reported.	a. Amounts deducted or contributed by the agency are paid to the applicable payee. (6 GAO 18.3)
	b. The system provides for the prompt recording and collection of indebtedness due to erroneous payments. (6 GAO 18.1)
	c. The system contains provision for ensuring the order of precedence for deductions is followed in accordance with 6 GAO 18.4.
	d. Adjustments to payroll accounts are approved by supervisors and contain a justification for the adjustment.
11. Compensation for labor services, payroll disbursements, and related adjustments should be accurately applied to the proper employees' accounts and related subsidiary ledger accounts.	a. A record is maintained for every individual, showing the pay, leave, allowances, deductions, and allotments to which the individual is entitled and payments that have been made. (6 GAO 20)
	b. The above record provides for information necessary to: --properly pay each individual, --meet budgeting and reporting requirements, --establish a permanent record of the actions taken, --compute the amount and distribution of the dollar pool for merit pay employees.

CONTROL OBJECTIVE	CONTROL TECHNIQUE
	c. Amounts due military members from prior periods are checked against prior-period records before payment. (6 GAO 20.2)
12. Leave and amounts due to, or on behalf of, employees and the accounting distribution of such amounts should be computed accurately.	a. Controls are provided over the entitlements to special pay (military). (6 GAO 20.2)
	b. Piecework, attendance, and leave data which affect the computation of pay are properly considered in the pay process to prevent inappropriate payments. (6 GAO 17.2)
	c. Payments for reserve military training sessions are made on the basis of documents authorizing the sessions and properly certified attendance records. (6 GAO 20.4)
	d. Accumulated leave balances of employees transferring between organizations are supported by signed reports from the transferring agency. (6 GAO 20.6)
	e. Leave advances are properly supported and within amounts legally permissible. (6 GAO 20.6)
	f. Each leave record is reviewed at the beginning of the leave year, and all amounts in excess of statutory limits are reduced. (6 GAO 20.6, 20.8)
	g. Controls are in place to assure receipt and accuracy of documents to be used in payroll computations, processing, recording, and reporting.

CONTROL OBJECTIVE	CONTROL TECHNIQUE
13. Journal entries for amounts due to employees, payroll disbursements, and related adjustments should be prepared each accounting period. The obligation of these amounts should also be promptly liquidated.	a. A description of the controls (both during the fiscal year and at fiscal year-end) to ensure that employee's salary, benefits and allowances, and employer's contributions are charged to the applicable appropriation of fund. (6 GAO 21.22)
	b. Standard forms with preprinted account titles are used for recurring entries.
	c. An automated payroll system which automatically produces and distributes direct labor cost is installed.
	d. Payroll amounts are classified as expended appropriations at the same time as cost is distributed.
14. Payroll journal entries should summarize and classify economic activities in accordance with management's plan.	a. A clear explanation describes how payroll data is summarized for recording in the general ledger accounts.
	b. Preprinted forms for recurring journal entries are used.
	c. A checklist is maintained of entries to be made on a recurring basis.
	d. Documentation which describes accounts and their contents is current and available.
15. Payroll data, including tax information, employee holdings, and related retirement information, should be accurately and promptly reported.	a. A listing exists by title and form number of recurring payroll reports which includes the frequency, purpose, and period covered by each report.
	b. Samples exist of each payroll report, showing illustrative data elements and pro-forma data. (6 GAO 18.3 and 20:)

CONTROL OBJECTIVE	CONTROL TECHNIQUE
	c. Employees receive written notice of all changes in pay except those which are governmentwide in scope. (6 GAO 17.1)
	d. Employees are furnished annual tax withholding statements which agree with the total withheld (6 GAO 18.3, 20.1)
16. Recorded balances of leave, payroll, and related accounts should be periodically substantiated and evaluated.	a. A particular element in the files can be traced backward to the source and forward to the report
	b. Audit trails enable tracing recorded data to: --authorizing documents, --documents supporting attendance and leave data, --deduction, allotment, and assignment documents, and --the source documents, records, accounts, and reports.
	c. Each individual retirement account balance is periodically reconciled with the total shown on the earnings record. The total of all balances must agree with the control account.
	d. Savings bond records of unapplied balances are periodically reconciled to the control account.
	e. Amounts recorded on individual pay records are reconciled quarterly to the control account. (6 GAO 20.1)
	f. The planned methods for testing the logic and reliability of the system are described.
	g. If the system has already been tested, then --the results have been evaluated, and --identified problems have been corrected.

APPENDIX VIII

Examples of Control Objectives, and Control Techniques

APPENDIX VIII

EXAMPLE OF CONTROL OBJECTIVES AND CONTROL TECHNIQUES DEVELOPED, BASED ON THE REQUIREMENTS SET IN LEGISLATION THAT AUTHORIZED A SPECIFIC PROGRAM

Appendix VIII presents the control objectives and techniques related to the Comptroller General's accounting principles and standards as presented in GAO's Policy and Procedures Manual for Guidance of Federal Agencies (titles 2 through 8). In addition to the Comptroller General's accounting principles and standards, agency accounting systems must also satisfy the specific criteria for authorizing use of federal resources included in the individual laws that authorize individual federal programs like the Social Security Administration's Old Age, Survivors, and Disability Insurance Program, Agriculture's Farm Products Price Support Program, and Veterans Administration's Compensation and Pension Programs. Control objectives and control techniques have to be developed for each program, based on the enabling legislation, so the operations of the accounting system that supports each program can be reviewed and evaluated in terms of the specific requirements in the appropriate statutes. Agencies should have developed control objectives and techniques for the programs they are responsible for as part of their work under the Federal Managers' Financial Integrity Act of 1982. If an agency has developed control objectives and techniques for its programs, then the audit staff reviewing its accounting system(s) should only have to review and evaluate the control objectives and techniques for completeness. If the agency has not developed control objectives and techniques for its programs, then the audit staff reviewing its accounting system(s) must develop control objectives and techniques for the agency's programs based on the laws that authorized the programs. This appendix presents control objectives and techniques, for the Veterans Administration's Compensation and Pension Programs as an example.

CONTROL OBJECTIVES AND TECHNIQUES FOR SPECIFIC STATUTORY REQUIREMENTS FOR THE VETERANS ADMINISTRATION'S COMPENSATION AND PENSION (C&P) PROGRAMS

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
AUTHORIZATION OF BENEFIT PAYMENTS		
1. Award eligibility requirements should be established and maintained in accordance with current laws. regulations, and management policy.	1.a. Written statements of processing policies and procedures prepared by appropriate management staff detailing eligibility guidelines and criteria.	1.a Unauthorized awards may be made.
	b. Clear statement of criteria for award requests.	b. Eligible claimants may be denied benefits.
	c. Detailed written eligibility requirements used in the claims processing cycle are approved by management.	
2. Information and methods used to publicize the C&P programs should be authorized in accordance with laws, regulations, and management policy.	2.a. C&P program information provided by public is approved by management.	2.a. Eligible claimants may not apply for benefits.
	b. Management approved publicity methods.	b. Ineligible claimants may apply for benefits.
		c. Unauthorized publicity may occur.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
3. Claims processing procedures should be established and maintained in accordance with laws, regulations, and management policy, as well as properly communicated to operating personnel.	3.a. Clear statement of procedures, such as policy manuals, procedure manuals, training routines, and supervisory requirements.	3.a. The section/unit may be reorganized and personnel assigned in ways that reduce separation of duties.
	b. Periodic verification of the required management and user approvals of new procedures and changes in procedures.	b. Procedures may be implemented that circumvent existing internal control techniques.
	c. Periodic verification of required supervisory approvals for reassignment of responsibilities, changes in forms, and changes in filing systems.	c. Computer programs may be modified to circumvent controls.
	d. Periodic verification of tests, approvals, and documentation of changes to computer program.	d. Flow of information may be altered to withhold data from personnel entitled to receive it or to provide data to unauthorized personnel.
	e. Periodic comparison of actual processing procedures and documentation, and authorizations for computer programs.	e. Claims may be processed incorrectly or by the wrong person(s).
	f. Internal review of computer system operations and computer program changes.	

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
4. Procedures and requirements for accessing, correcting and updating data base management systems (DBMS) should be established and maintained in accordance with management policy.	4.a. Segregation of responsibilities and restriction of access. For example, segregation of computer programming and documentation activities and computer processing activities; limiting on-line access to computer files through the use of passwords terminal locks, or data base management system facilities. b. Signature files for authorized personnel.	4. Unauthorized personnel may misuse or alter records to the detriment of the Veterans Administration.
ECONOMY, EFFICIENCY, AND EFFECTIVENESS		
1. C&P program results should be in accordance with laws, regulations, and management policy and plans.	1.a. Documented procedures for monitoring and reviewing program results. b. Periodic management reviews of program results. c. Periodic audits of program results. d. Quality control reviews. e. Alternative claims processing procedures are periodically considered.	1.a. Ineligible veterans and their survivors or dependents may benefit from the C&P programs. b. Excessive costs may be incurred in operating the claims processing and reporting systems. c. Adverse publicity.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
C&P program operations should be economical and efficient. Procedures used to review, process, and report C&P awards and related transactions should be economical and efficient	f. Comparisons of C&P claims processing costs to those of similar federal programs. g. Up-to-date computer systems. h. Forms are designed to expedite processing. i. Elimination of unnecessary clerical steps. j. Accurate determination and reporting of claims processing costs.	
TRANSACTION PROCESSING		
1. Pending claims for compensation, death and indemnity compensation (DIC), or pension benefits should only be established based on the submission by an eligible veteran, surviving spouse. child or dependent parent, or a specific claim in the form prescribed by the VA.	1.a. Documented procedures for initiating claims. b. Proper application or claim form.	1.a. Improper claims may be established. b. Eligible claims may be denied.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
	c. Inspection of application or claim form for proper completion and signature. d. Management designation of certain individuals to establish claims. e. Limiting access to computer based files or data through the use of DBMS facilities or through passwords or physical controls over on-line terminals. f. Close supervision of employees and files by supervisory personnel.	
2. A compensation claim should only be established for a person who meets the basic VA eligibility requirements. Veterans - Claim should only be established for a veteran whose service was terminated under conditions other than dishonorable. Survivors - Death compensation or DIC claim should only be	2. Documented procedures for the preparation, review, and approval of benefit requests.	2.a. Claims for benefits that do not meet established criteria may be approved. b. Eligible benefit claims may be denied.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
established for eligible survivors of veterans who died in the line of duty from service-connected causes, not the result of willful misconduct, or who died after release from active duty service terminating under conditions other than honorable conditions.		
3. A compensation award should be established only for a veteran whose request meets established eligibility criteria, such as for a veteran who has a service-connected disability.	3.a. Documented procedures for the preparation, review, and approval of benefit request based on eligibility requirements.	3.a. Compensation awards that do not meet eligibility requirements may be approved. b. Eligible compensation awards may be denied.
4. An approved rating decision should be required for a veteran before compensation benefits are provided.	4.a. Documented rating procedures for reviewing and approving disability claims. b. Signature files for authorized personnel. c. Authorized approval signatures on rating-board forms.	4. Benefits may be approved for disbursement without appropriate supporting documents.
5. Disability reevaluations for veterans receiving compensation benefits should be periodically scheduled to assess their continuing eligibility.	5.a. Documented procedures for establishing reevaluations. b. Notification and follow-up procedures to assure reevaluations are performed.	5. Incorrect benefits may be approved for disbursement.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
	c. Rating-board decisions. d. Recomputation of benefits. e. Supervisory review and approval.	
6. Survivor's death compensation or DIC should be established only for a person whose relationship to the veteran meets VA requirements for surviving spouse, children, or dependent parent. Service-connected death --Death compensation claim should be established only if the veteran's service-connected death occured before January 1, 1957. --DIC claim should be established only if the veteran's service-connected death occurred either on or after January 1, 1957, or before January 1, 1957, and the eligible claimant elected to receive DIC in lieu of death compensation. Non-service connected death --DIC claim should be established only for a	6.a. Documented procedures for the preparation, review, and approval of benefit requests. b. Documentary evidence to support entitlement. c. Documentary evidence to support election of DIC. d. Supervisory review of processing results.	6.a. Benefits authorized for payment to ineligible individuals. b. Eligible individuals may be denied benefits.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
surviving spouse or child of a totally service-connected disabled veteran whose death was not the result of such disability provided that (1) the death was not due to willful misconduct and (2) the veteran was receiving or entitled to receive compensation for a service-connected disability that was continuously rated as totally disabling.		
7. Disability pension claims should only be established for a person who meets the basic VA eligibility requirements. Veteran's disability pension claim should only be established for a veteran who: --has served at least 90 days during one or more periods of war, --was discharged from service under conditions other than dishonorable, or --meets the applicable family income and net worth requirements.	See item 2, p. VIII-6.	See item 2, p. VIII-6.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
Surivior's death pension claim should only be established for an eligible surviving spouse or child because of the veteran's nonservice-connected death provided that: --the veteran served at least 90 days during one or more periods of war, or --the veteran died in active service and had completed at least two years honorable military, naval, or air service, and --the surviving spouse or child meets the applicable income or net worth requirements.		
8. Disability pension award should be established only for a veteran whose request meets established eligibility/ entitlement criteria. For example, the veteran must be permanently and totally disabled --from a nonservice-connected disability not resulting from the veteran's willful misconduct,	8. See item 3, p. VIII-7.	See item 3, p. VIII-7.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
--by having attained age 65, --by having become unemployable after age 65, or --due to discharge or release from wartime service of less than 90 days because of service-connected disability.		
9. An approved rating decision should be required of the veteran before disability pension benefits are provided.	9. See item 4, p. VIII-7.	9. See item 4, p. VIII-7.
10. Survivor's death pension claim should be established only for a person whose relationship to the veteran meets VA requirements for either surviving spouse or child.	10. See item 6, p. VIII-8.	10. See item 6, p. VIII-8.
11. Survivor's death pension claim should be established for a surviving spouse or child of a veteran who has less than 90 days wartime service but at the time of death was receiving or entitled to receive compensation or retired pay for a service-connected disability resulting from wartime service.	11. See item 6, p. VIII-8.	11. See item 6, p. VIII-8.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
Compensation benefit amounts payable		
12. An approved request should be required before benefits are provided.	12. a. Documented procedures for the preparation, review, and approval of benefit requests. b. Established procedures for the preparation of benefit disbursements and related forms. c. Segregation of duties. d. Supervisory reviews and approvals. e. Management reviews. f. Audits of approved benefit payments.	12. a. Wrong amount of funds may be disbursed. b. Funds may be distributed fraudulently. c. Duplicate benefit payments may be made. d. Benefits may be disbursed without appropriate supporting documents. e. Benefit disbursements may be recorded inaccurately or not recorded at all.
13. Monthly disability compensation benefits for veterans should be established in accordance with approved rate tables which are based on the veteran's disability evaluation.	13. a. Established procedures for the composition of award amounts and related approvals. b. Management designation of individuals authorized to initiate benefit amounts (access to "target system").	13. Incorrect benefits may be approved for disbursement.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
	c. Supervisory review of benefit amount calculations and processing results.	
	d. Management review and approval of large or unusual award amounts.	
14. Current awards of compensation benefits to veterans should be increased, reduced, or discontinued based on changes in the veteran's disability evaluations and changes in marital or dependency status.	14. a. Management policies for assessment of ongoing awards.	14. Incorrect benefits may be disbursed.
	b. Rating board decisions on reevaluations and comparison of award amounts to approved rates.	
	c. Documentary evidence to support entitlement.	
	d. Supervisory review of benefit applications and processing results.	
	e. Management review and approval of changes or unusual processing results.	
	f. Audit of processing results.	

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
15. Compensation benefits payable to the veteran should be increased by an additional allowance for dependents or dependent parent(s) provided the veteran's disability is evaluated at 30 percent or more. Amounts due to the veteran for compensation benefits should be increased by an additional allowance if the veteran's spouse is either in a nursing home or requires regular aid and attendance, provided the veteran's disability is evaluated at 30 percent or more.	15. a. Documented problems and procedures for additional allowances. b. Rating policy decisions on reevaluations. c. Comparison of award amounts to approved rates. d. Documentary evidence to support entitlement. e. Supervisory review of benefit calculations and processing results.	15. Same as 14.
16. Compensation benefits payable to the veteran should be offset or reduced by the benefit amounts received from other federal programs such as military retirement pay, severance pay, federal employees compensation act benefits, as well as by active service pay.	16. a. Documented policies and procedures for precluding payment of concurrent benefits for the same disability. b. Supervisory review of benefit calculations and processing results.	16. Same as 14.
17. Documented policies and procedures for reducing benefits when veterans are hospitalized at government expense.	17. a. Documented policies and procedures for reducing benefits when veterans are hospitalized at government expense.	17. Same as 14.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
	b. Comparisons of awarded rates to tables of amounts of reduced rates.	
18. Monthly survivors death compensation benefits for an eligible surviving spouse, child (children), or dependent parent(s) should be established in accordance with prescribed rate tables. Monthly survivors DIC benefits for a surviving spouse should be established at prescribed rates based upon the deceased veteran's pay grade. Monthly survivors DIC benefits for dependent children should be established in accordance with prescribed rate tables if there is no surviving spouse entitled. Monthly survivors DIC benefits for dependent parents should be established in accordance with approved rate schedules which are subject to annual income limitations.	18. a. Same as 17. b. Annual eligibility questionnaire.	18. Same as 14.
19. Current awards of survivor's death compensation or DIC benefits should be increased, reduced, or discontinued based on changes in income and/or marital or dependency status.	19. a. Same as item 14, except for rating board decisions.	19. Same as 14.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
20. Survivor's death compensation benefits otherwise payable should be increased by an additional allowance if either --a surviving spouse or dependent parent(s) is/are in a nursing home or requires regular aid and attendance, or --dependent children are residing with a surviving spouse. Survivor's DIC amounts otherwise due should be increased by an additional allowance if --a surviving spouse is either housebound, in a nursing home, or requires regular aid and attendance; --a suriviving spouse has one or more dependent children or helpless children of the deceased veteran; or --a dependent parent is either in a nursing home or requires regular aid and attendance.	20. Same as 19.	20. Same as 19.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
21. Survivor's DIC benefits otherwise payable to a surviving spouse or children as a result of the veteran's nonservice-connected death should be offset or reduced by the amount of money received and the fair market value of any property received from a judicial or administrative proceeding, settlement, or compromise.	21. a. Documented policies and procedures for reducing or suspending and subsequently resuming benefits payabe to surviving spouse or children due to the veteran's nonservice-connected death. b. Supervisory review of benefit calculations and processing results.	21. Same as 14.
22. Compensation and DIC benefits payable should be reduced to the prescribed rate, or apportioned to dependents, for any beneficiary imprisoned in a federal, state, or local penal institution as a result of conviction of a felony beginning 61 days after imprisonment begins and ending when imprisonment ends.	22 a. Documented policies and procedures for reducing and subsequently resuming benefits payable to veterans or survivors who are imprisoned due to a felony conviction. b. Supervisory review of benefit calculations and processing results. c. Annual eligibility questionnaire.	22. Same as 14.
Pension benefit amounts payable		
23. An approved request should be required before benefits are provided.	23. See item 12, p. VIII-12.	23. See item 12, p. VIII-12.
24. Pension benefits payable to veterans should be established in accordance with the maximum	24. See item 17, p. VIII-14.	24. Incorrect benefits may be disbursed.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
amounts set forth in the prescribed rate tables and reduced by the countable income of the veteran, spouse, and dependent children, where applicable.		
25. Pension benefits payable, including the household rate, to veterans having neither spouse nor child should be reduced to a specific amount effective the first of either (1) the third month after admission to a VA domiciliary, (2) the fourth month after admission to a VA medical facility or nursing home, or (3) the seventh month after admission to a VA hospital. Pension benefits payable to veterans at the aid and attendance rate will be reduced to the household rate at the end of the month following admission to a VA institution.	25. See item 17, p. VIII-14.	25. Same as 24.
26. Current awards of pension benefits payable to veterans should be increased, reduced, or discontinued based upon changes in income and marital or dependency status.	26. a. See item 17, p. VIII-14 except for review board decisions on reevluations. b. Annual eligibility questionnaire.	26. Same as 24.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
27. Death pension benefits payable to survivors should be established in accordance with the maximum rates set forth in prescribed rate tables and reduced by the countable income of the surviving spouse and/or dependent children, as applicable.	27. See item 14, p. VIII-13.	27. Same as 24.
28. Current awards of death pension benefits payable to survivors should be increased, reduced, or discontinued based upon changes in income or dependency status.	28. a. See item 14, p. VIII-13 except for rating board decisions on reevaluations. b. Annual income questionnaire.	28. Same as 24.
29. Pension benefits should be discontinued, or apportioned to dependents, for any beneficiary imprisoned in a federal, state, or local penal institution as a result of a conviction of a felony or misdemeanor beginning 61 days after imprisonment begins and ending when imprisonment ends.	29. a. Documented policies and procedures for discontinuing or apportioning and subsequently resuming benefits payable to incarcerated veterans or survivors. b. Supervisory review of benefit applications and processing results. c. Annual eligibility questionnaire.	29. Same as 24.
Compensation, DIC, and pension benenfit amounts payable		
30. Compensation or pension benefits payable to a veteran who is rated incompetent by the VA due to mental illness,	30. a. Documented policies and procedures for reducing, discontinuing, and resuming benefits payable	30. Same as 24.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
who has neither dependent spouse, child, nor parent, and who is hospitalized by the VA at government expense should be reduced or discontinued in accordance with VA regulations.	to veterans rated incompetent by the VA. b. Supervisory review of benefit calculations and processing results.	
31. Pension, compensation, or DIC benefits should not be authorized after a child has elected to receive VA educational assistance (38 USC 35) or if the child is totally supported in an educational program at federal government expense.	31. a. Documented policies and procedures for precluding the payment of benefits to dependent children who are receiving VA educational assistance. b. Supervisory review of benefit calculations and processing results. c. Annual eligibility questionnaire.	31. Same as 24.
32. The effective dates of compensation, DIC, and pension awards, changes in awards, and discontinuances of awards should be established in accordance with prescribed regulations and policies.	32. a. Documented policies and procedures for reviewing and approving benefit applications. b. Documentary evidence to support effective entitlement areas. c. Supervisory review of processing results. d. Quality control reviews.	32. Same as 24.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
	e. Annual eligibility questionnaire.	
33. Amounts due for compensation, DIC, and pension benefits should be accurately and promptly reported.	33. a. Limited access to data files. b. Review of benefit payment calculations. c. Supervisory review of processing and reporting results. d. Defined reporting procedures. e. Trained personnel. f. Management review of program results. g. Quality control of program results.	33. Same as 24.
CLASSIFICATION		
1. Claim transactions and adjustments should be summarized each period and classified for reporting in accordance with payment policies. Reports should be prepared accurately and promptly, and on a consistent basis that	1. a. Defined processing procedures. b. Processing schedule timetable. c. Supervisory and management reviews of reports.	1. a. Unreported benefit payments. b. Program reports may be misstated due to incorrectly coded transactions, improper processing cutoff dates, and omitted or duplicate claim transactions.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
adequately presents the information the reports purport to display.	d. Automated program reporting system.	c. Budgetary controls may be weakened.
2. Recorded balances of compensation and pension benefits payable, as well as adjustments, should be periodically substantiated and evaluated.	2. a. Policy should provide the procedures and the organizational structure, and/or other instructions that describe how the substantiations and evaluations should be performed. b. Comparison of recorded amounts with subsequent transactions and predicted amounts. c. Quality control reviews.	2. Errors or omissions may go undetected or uncorrected.
PHYSICAL SAFEGUARDS		
1. Access to compensation and pension claim files, records, and critical forms should be adequately controlled and permitted only in accordance with management policy. Also, access to processing areas and processing procedures should be permitted only in accordance with management's criteria to preclude the unauthorized establishment of, or	1. a. Clear statements of criteria and policies. b. Segregation of responsibilities. c. Restriction of access to the data base such as limiting on-line access to computer files through the	1. a. Records may be destroyed or lost. b. Unauthorized personnel may misuse or alter records to the detriment of the VA.

CONTROL OBJECTIVES	CONTROL TECHNIQUES	RISKS RESULTING FROM FAILURE TO ACHIEVE CONTROL OBJECTIVES
changes made to claims and benefit payments.	use of passwords, terminal locks, or data base management systems facilitates. d. Periodic internal compliance audits. e. Signature files for authorized personnel. f. Provisions for reasonable protection against compromise of records in data processing facilities.	

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