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American Institute of Certified Public Accountants. Auditing Standards Board

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EXPOSURE DRAFT

PROPOSED STATEMENT ON

AUDITING STANDARDS

THE EFFECTS OF COMPUTER PROCESSING ON THE

EXAMINATION OF FINANCIAL STATEMENTS

SEPTEMBER 13, 1983

September 13, 1983

Accompanying this letter is an exposure draft of a proposed Statement on Auditing Standards entitled The Effects of Computer Processing on the Examination of Financial Statements. A summary of the proposed SAS also accompanies this letter.

Comments or suggestions on any aspect of this exposure draft will be appreciated. The AICPA Auditing Standards Board's consideration of responses will be helped if the comments refer to the specific paragraph numbers and include supporting reasons for any suggestions or comments.

In developing guidance, the AICPA Auditing Standards Board considers the relationship between the cost imposed and the benefits reasonably expected to be derived from audits. It also considers differences that the auditor may encounter in the audit of the financial statements of small businesses and, when appropriate, makes special provisions to meet those needs. Thus, the board would particularly appreciate comments on those matters.

Written comments on the exposure draft will become part of the public record of the AICPA Auditing Standards Division and will be available for public inspection at the offices of the American Institute of Certified Public Accountants after January 13, 1984, for one year.

Responses should be sent to the AICPA Auditing Standards Division, File 9201, in time to be received by December 13, 1983. For convenience in responding, a postpaid mailer is attached to this exposure draft.

Sincerely,

David L. Landsittel, Chairman
Auditing Standards Board

Dan M. Guy, Vice President
Auditing

SUMMARY

This proposed Statement on Auditing Standards consists solely of amendments to existing Statements and would supersede Statement on Auditing Standards No. 3, *The Effects of EDP on the Auditor's Study and Evaluation of Internal Control.* The board believes that auditors consider the methods of data processing, including the use of computers, in essentially the same way, and at the same time, they consider other significant factors that may affect their examination of financial statements. For example, in planning an examination, the auditor considers those aspects of a client's business that may affect the nature, timing, and extent of audit procedures, including the characteristics associated with the methods of data processing. Therefore, the board believes that guidance concerning the effect of computer processing on audits of financial statements should be integrated with existing guidance rather than presented separately, and this proposed Statement reflects that approach. By eliminating the inconsistent language presently in SAS No. 3, this proposed Statement also makes it clear that the auditor's obligation to perform a minimum study and evaluation of internal accounting control, as discussed in SAS No.43, *Omnibus Statement on Auditing Standards*, is the same for accounting systems that use a computer for processing accounting information as for manual accounting systems.

Other significant features of the proposed Statement are as follows:

- A recognition that the extent to which computer processing is used for accounting purposes, as well as the complexity of that processing, may affect the nature, timing, and extent of audit procedures.
- A requirement to consider whether there is a need to seek advice concerning the effects of computer processing on an examination of financial statements from other professionals possessing specialized skills related to computer processing and a requirement that the auditor with final responsibility have sufficient computer-related knowledge to supervise those professionals as he would supervise other assistants.
- A recognition that computer processing has created an ability to produce data and analyses for use by management, and this ability may be valuable in performing analytical review procedures.
- A recognition that the process of classifying accounting control procedures into general and application controls when reviewing controls in computerized accounting systems does not affect the objectives of internal accounting control or the auditor's review of those controls.
- A recognition that, in the completion phase of the review of a system of internal accounting control, it is more efficient to review the design of general control procedures that may have an effect on the performance of application control procedures before reviewing those application control procedures.
- A recognition that, in designing substantive tests, the audit objectives remain the same whether accounting data is processed manually or by computer.

Only those amendments made to existing Statements are shown in this exposure draft.

This exposure draft has been sent to
- *practice offices of CPA firms*
- *members of AICPA Council and technical committees*
- *state society and chapter presidents, directors, and committee chairmen*
- *organizations concerned with regulatory, supervisory, or other public disclosure of financial activities*
- *persons who have requested copies*

The Effects of Computer Processing on the Examination of Financial Statements

Planning and Supervision

(Amends Statement on Auditing Standards No. 22, paragraphs 3, 9, and 10; AICPA, *Professional Standards*, vol. 1, AU sec. 311.03, .09, and .10.)

1. This amendment would add to the list of required planning considerations in paragraph 3 the methods used by the entity to process significant accounting information. It would also add a new paragraph 9, summarizing those aspects of computer processing that may have an effect on planning an examination of financial statements. Furthermore, it would add a new paragraph 10 that describes how the auditor might consider the need for using a professional possessing specialized skills to determine the effect of computer processing on the examination. Existing paragraphs 9 through 13 would be renumbered 11 through 15.

Planning

.03c. The methods used by the entity to process significant accounting information (see paragraph .09), including the use of other organizations.

[*c* through *g* to be redesignated *d* through *h*]

.09 The auditor should consider the methods the entity uses to process accounting information in planning the audit because such methods influence the design of the accounting system and the nature of the internal accounting control procedures. The extent to which computer processing is used in significant accounting applications,[2] as well as the complexity of that processing, may also influence the nature, timing, and extent of audit procedures. Accordingly, in evaluating the effect of an entity's computer processing on an examination of financial statements, the auditor should consider matters such as:

a. The extent to which the computer is used in each significant accounting application.

b. The complexity of the entity's computer operations, including the use of an outside service center.[3]

c. The organizational structure of the computer processing activities.

d. The availability of data. Documents that are used to enter information into the computer for processing, certain computer files, and other data required by the auditor may exist only for a short period or only in computer-readable form. In some computer systems, input documents may not exist at all because information is directly entered into the system. An entity's data retention policies may require the auditor to request retention of some information for his review or to perform audit procedures at a time when the information is available. In addition, certain information generated by the computer for management's internal purposes may be useful in performing substantive tests (particularly analytical review procedures).[4]

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[2]Significant accounting applications are those that relate to accounting information that can materially affect the financial statements the auditor is examining.

[3]See Statement on Auditing Standards No. 44, *Special-Purpose Reports on Internal Accounting Control at Service Organizations*, and the related audit guide entitled *Audits of Service-Center-Produced Records* for guidance concerning the use of a service center for computer processing of significant accounting applications.

[4]SAS No. 23, *Analytical Review Procedures*, describes the usefulness of and guidance pertaining to such procedures.

e. The use of computer-assisted audit techniques to increase the efficiency of performing audit pro-
cedures.[5] Using computer-assisted audit techniques may also provide the auditor with an oppor-
tunity to apply certain procedures to an entire population of accounts or transactions. In addi-
tion, in some accounting systems that use a computer for processing significant accounting
applications, it may be difficult or impossible for the auditor to analyze data or test control proce-
dures without computer assistance.

.10   The auditor should consider whether specialized skills are needed to consider the effect of
computer processing on the audit, to understand the flow of transactions, or to design and perform
audit procedures. If specialized skills are needed, the auditor should seek the advice of a profes-
sional possessing such skills. If the use of such a professional is planned, the auditor with final re-
sponsibility should have sufficient computer-related knowledge to communicate the objectives of
the other professional's work, to evaluate whether the specified procedures will meet the auditor's
objectives, and to evaluate the results of the procedures applied as they relate to the nature, timing,
and extent of other planned audit procedures.[6]

Analytical Review Procedures

**(Amends Statement on Auditing Standards No.23, paragraph 7; AICPA, Professional
Standards, vol. 1, AU sec. 318.07.)**

**2. This amendment would add, in paragraph 7, to the list of factors that the auditor should con-
sider when planning and performing analytical review procedures. The additional factor is the
effect (if any) that increased availability of computer-generated data may have on the auditor's
decision in planning to perform analytical review procedures.**

.07*e.*   *The increased availability of data prepared for management's use where computer proc-
essing is used.* Computer systems have created an ability (which may not be practical in
manual systems) to store, retrieve, and analyze data for use in achieving broader manage-
ment objectives. These data and analyses, although not the basic accounting records, may
be valuable sources of information for the auditor to use in applying analytical review pro-
cedures, other substantive tests, or compliance testing.

[*e* and *f* to be redesignated *f* and *g*]

The Auditor's Study and Evaluation of Internal Control

**(Amends Statement on Auditing Standards No. 1; AICPA, Professional Standards,
vol. 1, AU sec. 320 [as amended] paragraphs .03, .33, .34, .37, .57, .58, .65, .66,
.67, and .68.)**

**3. This amendment would (a) delete paragraph 3, an introductory paragraph describing the use
of computer processing, since it is no longer necessary; (b) add a new paragraph 33, describing the
characteristics of computer processing that may have an effect on the system of internal account-
ing control; and (c) add a new paragraph 34, which recognizes that classifying controls into general
and application controls has no effect on the objective of internal accounting control. That objec-
tive is to provide reasonable, but not absolute, assurance (a) that assets are safeguarded and (b)
that financial records are reliable for the preparation of financial statements.**

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[5]See the audit and accounting guide entitled *Computer-Assisted Audit Techniques* for guidance relating to this specialized
area.

[6]Employing the services of a computer audit specialist, who is effectively functioning as a member of the audit team, is not
covered by Statement on Auditing Standards No. 11, *Using the Work of a Specialist*. The auditor's responsibilities with
respect to using such a computer audit specialist are equivalent to those for other assistants.

4. This amendment would also add examples related to the use of computer processing. Examples would be added to renumbered paragraph 37, which deals with the segregation of functions, and to renumbered paragraph 65, new paragraph 66, renumbered paragraph 67, and new paragraph 68, all of which discuss the nature of tests.

5. In addition, this amendment would add new paragraphs 57 and 58, which would discuss the interdependence of control procedures and their effect on the auditor's study and evaluation of internal control, explaining why it is more efficient to review the design of general control procedures that have an effect on the performance of application control procedures before reviewing those application control procedures. Other existing paragraphs will be renumbered as appropriate.

.33   The method an entity uses to process significant accounting applications may influence the control procedures designed to achieve the objectives of internal accounting control. Those characteristics that distinguish computer processing from manual processing include:

a. *Transaction trails.*[1] Some computer systems are designed so that a complete transaction trail that is useful for audit purposes might exist for only a short period of time or only in computer-readable form.

b. *Uniform processing of transactions.* Computer processing uniformly subjects like transactions to the same processing instructions. Consequently, computer processing virtually eliminates the occurrence of random error normally associated with manual processing. Conversely, programming errors (or other similar systematic errors in either the computer hardware or software) will result in all like transactions being processed incorrectly when those transactions are processed under the same conditions.

c. *Segregation of functions.* Many internal accounting control procedures once performed by separate individuals in manual systems may be concentrated in systems that use computer processing. Therefore, individuals who have access to the computer may be in a position to perform incompatible functions. As a result, other control procedures may be necessary in computer systems to achieve the control objectives ordinarily accomplished by segregation of functions in manual systems. Other controls may include, for example, adequate segregation of incompatible functions within the computer processing activities (such as programming and operations) or establishing a control group to prevent or detect processing errors or irregularities.

d. *Potential for errors and irregularities.* The potential for individuals, including those performing control procedures, to gain unauthorized access to or alter data without visible evidence, as well as gain access (direct or indirect) to assets, may be greater in computerized accounting systems than in manual systems. Decreased human involvement in handling transactions processed by computers can reduce the potential for observing errors and irregularities. Errors made in designing or changing application programs can remain undetected for long periods of time.

e. *Potential for increased management supervision.* Computer systems offer management a wide variety of analytical tools that may be used to review and supervise the operations of the company. The availability of these additional controls may serve to enhance the entire system of internal accounting control on which the auditor may wish to place reliance. For example, traditional comparisons of actual operating ratios with those budgeted, as well as reconciliation of accounts, are frequently available for management review on a more timely basis when such information is computerized. Additionally, some programmed applications provide computer operating statistics that may be used to monitor the actual processing of transactions.

f. *Initiation or subsequent execution of transactions by computer.* Certain transactions may be automatically initiated or certain procedures required to execute a transaction may be automatically performed by a computer system. The authorization of these transactions or procedures

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[1] A transaction trail is a chain of evidence provided through coding, cross references, and documentation connecting account balances and other summary results with original transactions and calculations.

may not be documented in the same way as those initiated in a manual accounting system, and management's authorization of those transactions may be implicit in its acceptance of the design of the computer system.[2]

.34   Where computer processing is used in significant accounting applications, internal accounting control procedures are sometimes defined by classifying control procedures into two types, general and application control procedures.[3] Whether the control procedures are classified by the auditor into general and application controls, the objective of the system of internal accounting control remains the same: to provide reasonable, but not absolute, assurance that assets are safeguarded from unauthorized use or disposition and that financial records are reliable to permit the preparation of financial statements.

* * *

.37   Incompatible functions for accounting control purposes are those that place any person in a position to both perpetrate and conceal errors or irregularities in the normal course of his duties. Anyone who records transactions or ordinarily has access to assets is in a position to perpetrate errors or irregularities. Accordingly, accounting control necessarily depends largely on the elimination of opportunities for concealment. For example, anyone who records disbursements could omit the recording of a check, either unintentionally or intentionally. If the same person also reconciles the bank account, the failure to record the check could be concealed through an improper reconciliation. In an accounting system using a computer to print checks and record disbursements, the computer may also generate information used to reconcile the account balance. If the same person entering information into the computer to execute the payment process also receives the output for the reconciliation process, a similar failure could be concealed. These examples illustrate the concept that procedures designed to detect errors and irregularities should be performed by persons other than those who are in a position to perpetrate them, that is, by persons having no incompatible functions. Procedures performed by such persons are described hereinafter as being performed independently.

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.57   Control procedures that achieve or contribute to the achievement of one or more specific control objectives are often interdependent. Some control procedures may be essential to the operation of other control procedures that meet specific control objectives (that is, they need to be functioning adequately for the achievement of those specific control objectives). In an accounting system that uses computer processing, the auditor's concern over the interdependence of control procedures may be greater than in a manual system because of the increased concentration of functions within the operations of computer processing.

.58   Control procedures that are designed to contribute to the achievement of specific control objectives, through their interdependence with specific control procedures, may be classified as general control procedures. Control procedures that are designed to achieve specific control objectives may be classified as application control procedures. Application controls are often dependent on general controls. For example, if an application control procedure, such as matching shipping information with billing information, were to be performed by a customer-billing computer pro-

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[2] To the extent that the computer is used to initiate transactions or execute procedures, the application program usually includes procedures designed to assure that the steps are executed in conformity with specific or general authorizations issued by management acting within the scope of its authority. Those procedures might include checks to recognize data that fall outside predetermined limits and tests for overall reasonableness.

[3] General controls are those controls that relate to all or many computerized accounting activities, for example, controls over access to computer programs and data files. Application controls relate to individual computerized accounting applications, for example, programmed edit controls for verifying customers' account numbers and credit limits.

gram, the auditor might review the controls over the access to and changing of computer programs before reviewing this programmed control procedure or other programmed application control procedures. Obtaining reasonable assurance of the adequate performance of this programmed application control procedure is dependent on obtaining reasonable assurance that unauthorized changes have not been made to the computer program performing those procedures during the period under review. Accordingly, an efficient approach to reviewing the design of internal accounting control is to review those control procedures that are essential to the operation of several specific control procedures before reviewing those specific control procedures.

* * *

.65 Some aspects of accounting control require procedures that are not necessarily required for the execution of transactions. This class of procedures includes the approval or checking of documents evidencing transactions. In a manual processing system the evidence of performing those procedures may be supported by those transaction documents because the individual assigned to perform that control procedure is normally required to indicate approval (for example, by initialing the document). Where an accounting application is processed by computer, however, those procedures frequently performed by an application program will not provide visible evidence of those procedures and may not be performed independently of the original processing of transactions.

.66 Tests of such procedures performed manually require inspection of the related documents (a) to obtain evidence in the form of signatures, initials, audit stamps, and the like, (b) to indicate whether and by whom they were performed, and (c) to permit an evaluation of the propriety of their performance. Tests of such procedures performed by a computer may be made in a similar manner, provided that the computer produces visible evidence (a) to verify that the procedures were in operation and (b) to evaluate the propriety of their performance. For example, a computer-generated error list may provide such evidence if the list is tested by comparison to a transaction file list produced by the same application program. If such evidence is not generated by the computer, those control procedures may be tested by using computer-assisted audit techniques to reperform the processing of the relevant information and then comparing the results of reperformance with the actual results. Another method may be submission of test data to the same computer process. It is important to understand that tests designed to verify the operation of programmed control procedures can be effective only if adequate control exists over the maintenance and processing of those programs to ensure consistency of operation throughout the period under examination.

.67 Other aspects of accounting control require a segregation of duties so that certain procedures are performed independently, as discussed in paragraph 37 (as amended above). The performance of these procedures is largely self-evident from the operation of the business or the existence of its essential records; consequently, tests of compliance with such procedures are primarily for the purpose of determining whether they were performed by persons having no incompatible functions. This is true for both manual and computerized accounting systems. Examples of this class of procedures may include (a) the receiving, depositing, and disbursing of cash, (b) the recording of transactions, and (c) the posting of customers' accounts. Since such procedures frequently leave no audit trail of who performed them, tests of compliance in these situations are necessarily limited to inquiries of different personnel and observation of office personnel and routines to corroborate the information obtained during the review of the system. While reconciliations, confirmations, or other audit tests performed in accordance with the auditing standard relating to evidential matter may substantiate the accuracy of the underlying records, these tests frequently provide no affirmative evidence of segregation of duties because the records may be accurate even though maintained by persons having incompatible functions.

.68 In a computerized accounting system, functions that would be incompatible in a manual system are often performed by the computer. Individuals who have access to computer operations

may then be in a position to perpetrate or conceal errors or irregularities. This need not be a weakness if there are control procedures that prevent such an individual from performing incompatible functions within the accounting system. These control procedures might include (*a*) adequate segregation of incompatible functions within the data processing department, (*b*) segregation between data processing and user department personnel performing review procedures, and (*c*) adequate control over access to data and computer programs.

Evidential Matter

**(Amends Statement on Auditing Standards No. 31, paragraph 12; AICPA,
Professional Standards, vol. 1, AU sec. 326.12.)**

6. This amendment would add a new paragraph 12, making it clear that audit evidence is not affected by the use of computer processing. Only the method by which the auditor gathers that evidence can be affected. (Existing paragraphs 12 through 22 would be renumbered 13 through 23.)

.12   The auditor's specific audit objectives do not change whether accounting data is processed manually or by computer. However, the methods of applying audit procedures to gather evidence may be influenced by the method of data processing. The auditor can use either manual audit procedures, computer-assisted audit techniques, or a combination of both to obtain sufficient, competent evidential matter. However, in some accounting systems that use a computer for processing significant accounting applications, it may be difficult or impossible for the auditor to obtain data for inspection, inquiry, or confirmation without computer-assisted audit techniques.