

APPLICATION OF THE
PRINCIPLES OF INTERNAL CONTROL AS APPLIED
IN A WHOLESALE AND RETAIL LUMBER
MARKETING CORPORATION

By

C. ORVILLE ELLIOTT

Bachelor of Science

Oklahoma Agricultural and Mechanical College

Stillwater, Oklahoma

1955

Submitted to the faculty of the Graduate School of
the Oklahoma Agricultural and Mechanical College
in partial fulfillment of the requirements
for the degree of
MASTER OF SCIENCE
May, 1956

AGRICULTURAL & MECHANICAL COLLEGE
LIBRARY
JUL 16 1956

APPLICATION OF THE
PRINCIPLES OF INTERNAL CONTROL AS APPLIED
IN A WHOLESALE AND RETAIL LUMBER
MARKETING CORPORATION

Thesis Approved:

G. B. McCowan

Thesis Adviser

W. A. Waidegrift

Robert W. ...

Dean of the Graduate School

PREFACE

This study is to illustrate by practical example, in one business, the manner in which a public accountant starts the audit of a modern business enterprise. It is necessary from the standpoint of cost that the extent of the audit be limited as much as possible and still present sufficient information to allow the public accountant to express his opinion. There are very few reasons which present justifications for the limiting of an audit, and perhaps the most important of these is the existence of a good internal control system.

The review of the system of internal control, therefore, is usually the first step in planning the construction of the overall audit. This review involves four steps: 1. becoming familiar with the business physically, its organization, and its accounting procedures; 2. selecting the proper questions to be used in the internal control questionnaire; 3. checking the questionnaire with the proper officials in charge of the various accounting procedures; and 4. evaluating the questionnaire after it is completed by pointing out the strong and weak points in the internal control system of the company.

There is a definite shortage of this type of material available for use in the classroom. Only a very few concrete examples of studies of internal control systems exist outside the files of the public accounting firms. The average accounting student has had little experience in the field of practical business and it is very interesting to them to obtain information that is practical and tangible. To actually know that this is the way that the theoretical knowledge,

on which they have spent so much time, is applied in the audit of a typical business aids them in the transition from student to employee.

There was a threefold reason for the choice of this study of the lumber business: (1) personal background in this field as former manager of several retail lumber yards; (2) extensive business relations with the local retail yards of the company chosen; but, (3) foremost was the thought that with my experience it might be possible to produce a thesis that would have value as a classroom aid in the study of auditing. It is sincerely hoped that future auditing students will be better informed through this more complete and more specific discussion of this important element of the audit.

In the first approach requiring an acquaintanceship with the operations of a retail yard, I would like to acknowledge the time and aid given by Mr. Charles J. Musser and Mr. Phil B. Erickson, local managers of the Long Bell Lumber Company at Ponca City and Nowata, Oklahoma.

In formulating a questionnaire, it was necessary that it be adaptable to the internal controls as applied in this particular type of business. It was assembled mainly from questionnaires used in the American Institute of Accountants' bulletins on internal controls and the CPA Handbook. This was supplemented by questions taken from Arthur W. Holmes' textbook Auditing: Principles and Procedure and other reference books.

The last step was a visit to the General Office of the Long Bell Lumber Company in Kansas City, Missouri. There, with the gracious aid of Mr. George W. McGau, Comptroller; Mr. Richard P. Clifton, Assistant Comptroller; and Mr. H. W. Williams, Chief Clerk; I was able to compile the information necessary for this study.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
A. Objectives of Internal Control	1
B. Elements of a Properly Coordinated System	4
II. SURVEY OF GENERAL INTERNAL CONTROL	7
III. SURVEY OF CASH INTERNAL CONTROL	11
A. Cash Receipts	11
B. Cash Disbursements	18
C. Petty Cash Funds	
a. General Funds	23
b. Retail Yard Special Funds	25
IV. MARKETABLE AND OTHER SECURITY INVESTMENTS	29
V. NOTES AND ACCOUNTS RECEIVABLE	32
VI. INVENTORIES	37
A. Retail Yards	37
B. Mills	40
VII. PROPERTY, PLANT AND EQUIPMENT	44
VIII. NOTES AND ACCOUNTS PAYABLE, LONG-TERM DEBT, AND CAPITAL STOCK	47
A. Notes and Accounts Payable	47
B. Long-term Debt	47
C. Capital Stock	48
IX. CONTINGENT LIABILITIES	50
X. SALES	51
XI. PURCHASES AND EXPENSES	56
XII. PAYROLLS	63
XIII. SUMMARY AND CONCLUSIONS	70
BIBLIOGRAPHY	74

LIST OF ILLUSTRATIONS

Chart	Page
1. Procedural Flow of Cash Sale Receipts	14
2. Procedural Flow of Cash Receipts from Collections of Receivables	15
3. Procedural Flow of Cash Disbursements by the General Office	20
4. Procedural Flow of Disbursements from Local Imprest Funds	27
5. Procedural Flow of Sales on Accounts Receivable	54
6. Procedural Flow of Purchases	60
7. Procedural Flow of Administrative Personnel Payroll	67

CHAPTER I

INTRODUCTION

A. Objectives of Internal Control.

Internal control can be defined as all of the controls set up by a business to safeguard and preserve the assets. It is a check of the accuracy and reliability of the accounting data. It promotes operational efficiency, encourages adherence to prescribed managerial policies, and offers assurances that unauthorized obligations are not incurred. Internal control is a very broad function that must exist throughout all levels of authority and responsibility.

With the ever increasing size and complexity of the typical modern American business enterprise, a detailed audit of the average business has become economically prohibitive in terms of both the time required to perform a detailed audit and the consequent cost to compensate for this time. Thus, auditing has been forced to become more of a sampling or testing procedure. The better the system of internal control, the less extensive the required samples need to be and still meet the standards developed by the American Institute of Accountants. In order that the auditor may be able to express his opinion as to the fairness of "the financial position of the X Company at December 31, 19___, and the results of its operations for the year then ended,"¹ as presented by the balance sheet and statements of income and surplus of X Company, he must be sure that the samples checked were

¹American Institute of Accountants, The CPA Handbook (New York, 1953), Volume A, Chapter 13, Appendix B, Page 12.

adequate. He bases his judgment of the adequacy of the samples upon the system of internal control and the audits verification of its application.

As delegation of responsibilities and authority becomes a necessity, with increased size of the business, it requires that management give up their personal contacts within the business. Others, in assuming these responsibilities, must keep top management informed through the use of statistical charts, accounting reports, and financial statements. Internal control has become the method through which management may be assured that assets are preserved, errors are minimized, and fraud is properly controlled.

The review of internal control is one of the most important of the steps in proper planning of the audit and must not be casually undertaken or carelessly performed. In so far as the circumstances permit, the auditor should independently acquire a personal familiarity with the procedures and methods in use. A systematic and clear record should be made of the facts developed by the review.²

Internal controls are established to provide the independent auditor, and management as well, a degree of assurance that minimum risks due to errors and irregularities will be effected by reasonable promptness through discovery of these errors in the normal course of business. The selection of appropriate auditing procedures and the determination of the extent of the tests to which such procedures are to be restricted are influenced by the reliance which the auditor feels can be safely made on the internal controls as they exist in the organization under examination. To provide such assurance, it is necessary that not only must such a system of internal control be properly designed and applied but that the system be functioning as

²Edward A. Kracke, Handbook of Modern Accounting Theory; The Development of Auditing Standards (New York, 1955), Page 474.

as it was designed to function.

Internal control is professionally recognized as a basis for the independent public accountant's judgment of the limitations in his audit procedures by the Committee on Auditing Procedures of the American Institute of Accountants. It has been set up as one of the Auditing standards under Standards of Field Work as follows:

2. There is to be a proper study and evaluation of the existing internal control as a basis for reliance thereon and for the determination of the resultant extent of the tests to which auditing procedures are to be restricted.³

In addition to professional recognition of the standard of reliance upon the system of internal control, the Securities and Exchange Commission has recognized the importance of the system of internal control in its relationship to the amount of test-checking in an audit. Regulation S-X, Rule 2-02(b), requires the accountant, in the determination of the scope of the audit made for the purpose of reporting on financial statements filed with the Commission, "to consider the adequacy of the system of internal check and control" and "to consider the internal system of audit regularly maintained by means of auditors employed by the registrant's staff." The Sub-committee on Audits and Audit Procedure of the New York Stock Exchange also recognized the dependence of the professional accountant on the system of internal control.⁴

³American Institute of Accountants, The CPA Handbook (New York, 1953), Volume A, Chapter 13, Appendix A, Page 5.

⁴Arthur W. Holmes, Auditing; Principles and Procedure (Homewood, Illinois, 1954), Page 79.

B. Elements of a Properly Coordinated System

Internal controls need not be difficult to operate and, of course, it is imperative that the costs of the operation of the internal control system be less than the benefits derived. It is not always possible or feasible to have every point of operations fully or even partially protected by the internal control system, but it is possible that reasonable internal controls can be installed regardless of the size of a business organization.

Internal control in its applications extends into broad areas actually far beyond those matters which relate directly to the functions of the accounting and financial departments. It can include budgetary controls, standard costs, periodic operating reports, statistical analyses and the dissemination thereof. It can be a training program designed to aid personnel in meeting their responsibilities, and even an internal audit staff to provide additional assurance to management as to the adequacy of its outlined procedures and the extent to which they are being effectively carried out. It can even include activities in other fields as, for example, time and motion studies which are of an engineering nature, and use of quality controls through a system of inspection which fundamentally is a production function.

In its special report on "Internal Control," the Committee on Auditing Procedure of the American Institute of Accountants sets forth four essential characteristics of a satisfactory system of internal control as follows:

1. There should be a simple flexible plan of organization which provides appropriate division of authorities and responsibilities for the activities of the enterprise. This requires organizational independence between operational, custodial and accounting (including internal auditing) departments. The basis for this organizational

independence in the plan rests on the premise that no department should control the accounting records relating to its own operation.

On the other hand, the accounting department should not have operational or custodianship functions, but should confine its interests and activities to the accurate recording of data, with its attendant checks on authorizations and adherence to controls, and the presentation to management of such reports and analyses as are required by it to control adequately the operation of the enterprise.

2. There should be a system of authorization and recording procedures adequate to provide reasonable accounting control over assets, liabilities, revenues and expenses. Accounting procedure manuals and appropriate records and forms furnish the plan of internal control.

3. Sound practices must be employed in giving effect to the plan of internal control if the plan is to result in efficiency of operation. This usually involves a division of duties so that no one person will handle a transaction completely from beginning to end. The person authorizing or initiating a transaction should have no part in recording it or in accounting for the stewardship of the assets. By such division, an automatic check of the accuracy of the work is provided and the possibility of errors or fraud being detected promptly is substantially enhanced.

4. The quality of the personnel should be commensurate with their responsibilities. A properly functioning system of internal control depends not only on effective organization planning and the adequacy of the procedures and practices, but also upon the selection of officers and department heads of ability and experience, and of operating personnel capable of carrying out prescribed procedures in an efficient and economical manner.

Internal control systems will vary depending on many factors, such as the individuals setting up the system, the type of organization, the size of the firm, etc. The elements of a coordinated system will also vary from author to author but the basic principles are as follows:

1. Responsibility must be fixed. Without the proper charge of responsibility, the quality of the control will be inefficient.
2. The accounting procedures and the operations must be separated. An employee should not be in a position in which he has control

⁵ American Institute of Accountants, The CPA Handbook (New York, 1953), Vol. B, Chapter 16, Pages 4,5.

of the records and at the same time control of the operations giving rise to entries in the records. For example, the general ledger bookkeeper should not have access to the cash or to the records of cash sales. Of course, collusion can exist between employees; but the opportunities for fraud are reduced if procedures and operations are separated.

3. All available proofs of accuracy should be utilized in order to assure correctness of operation and accounting. For example, sales for a day should be totaled and proved against the sum of released merchandise tags, if a retail system of inventory is used.

4. No one person should be in complete charge of a business transaction. Any person will commit errors, but the probability is that an error will be discovered if the handling of a transaction is separated between persons. In addition, the separation of integral parts of a transaction reduces the opportunities for fraud.

5. Employees must be carefully selected and trained. Careful selection places an employee in a position for which he is suited and reduces turnover. Careful training results in better performance, reduces costs, and a more alert employee.

6. Employees should be rotated on a job, if possible; vacations for those in positions of trust should be enforced. Rotation reduces the opportunity for fraud, points to the adaptability of an employee, and often results in new ideas for the organization.

7. Operating instructions for each position should be reduced to writing. Manuals of procedure promote efficiency and prevent misunderstanding.

8. Employees should be bonded. Bonding is a protection to the employer, and it serves as a psychological deterrent to a tempted employee.

9. The protective advantages of a double-entry system of accounting should not be exaggerated. A double-entry system is not a substitute for internal control. Errors are made under double entry; and the system alone will not prove omission, incorrect entry, or dishonesty.

10. Controlling accounts should be used as extensively as possible. Controlling accounts serve as a proof of accuracy between account balances and between employees.

11. Mechanical equipment should be used if feasible. Although error and manipulation must be watched for even when mechanical equipment is used, operating procedures are facilitated, the division of labor is promoted and the internal control may be strengthened.⁶

⁶ Arthur W. Holmes, Auditing; Principles and Procedure (Homewood, Illinois, 1954), Page 78.

CHAPTER II

SURVEY OF GENERAL INTERNAL CONTROL

	Yes	No	Not Appli- cable
1. Does the client have a chart of organization?		x	
2. Is the accounting routine set forth in accounting manuals in the general office and in the retail yards?	x		
3. Is the accounting routine set forth in accounting manuals in the mills?		x	
4. Does the client have:			
a. A comptroller?	x		
b. An internal auditor or audit staff?	x		
5. If internal auditors are employed:			
a. Do they render written reports on the results of their examinations?	x		
b. Are they directly responsible to, and do they report to, an executive officer other than the chief accounting officer? (Comptroller)	x		
6. Is the general accounting department completely separated from:			
a. The purchasing department?	x		
b. The sales department?	x		
c. Manufacturing and/or cost departments?	x		
d. Cash receipts and disbursements?	x		
7. Are all employees who handle cash, securities and other valuables bonded?	x		
8. Are all such employees required to take regular vacations, their regular duties then being assigned to other employees?	x		

	Yes	No	Not Appli- cable
9. Does general office accounting control over branch offices appear to be adequate?	x		
10. Are expenses and costs under budgetary control?	x		
11. Is the insurance coverage under the supervision of a responsible official or employee?	x		
12. Are journal entries approved by:			
a. The comptroller?		x	
b. Other designated employees? (Chief Clerk)	x		
13. Are journal entries adequately explained or supported by vouchers bearing adequate substantiating data?	x		
14. Are periodic financial statements prepared for submission to the management?	x		
(Monthly statements showing monthly and year to date totals.)			
15. If so, are these sufficiently informative to bring to light abnormal fluctuations in costs, revenues, inventories, etc., and other discrepancies?	x		
16. Are any of the officials and employees exercising the following functions closely related?			x
Comptroller			
Internal auditor (chief)			
Chief accountant			
General ledger bookkeeper			
Accounts receivable bookkeeper			
Accounts payable bookkeeper			
Cashier			
Paymaster			
Department heads:			
Purchasing			
Sales			
Credit			
Cost			
Receiving			
Shipping			
Payroll			

Comments on general internal controls:

1. Although the answer to Question 1 was to the effect that the company did not have an organization chart, there can be no doubt that such an organization, as outlined in this questionnaire, has a plan of organization. Such plan either has been designed or has developed because executive management could no longer exercise personal supervision over the conduct of operations. Such inability was due to business expansion and growth and caused the delegation of authority and responsibility.

However, it is widely accepted by business in general that it is advantageous for a business of any major complexity to have an actual pictorial organizational chart. This chart should show lines of authority and responsibility as well as points in the organization where coordination and cooperation is a necessity in the promotion of the enterprise. It is difficult, even in the higher echelons, to know all the areas of responsibility as they exist and how top level decisions are applied down through the many levels of responsibility within the organization. It is quite apparent that conflicts in authority and responsibility can easily occur, and it is equally apparent that if such conflicts arise the organization is not functioning as it should.

Such charts are particularly valuable to the independent auditor in establishing the actual procedural flow of the transactions of every day business. It is necessary to understand this procedural flow to aid in recognizing the internal controls that are being applied in connection with these transactions. These procedural flow charts can be used to determine how better controls can be developed through

fixing responsibility, segregating duties within an area, establishing controlling accounts and the many other aides that can be utilized through the application of internal control principles.

2. A point which is not adequately developed in the questionnaire is the necessity for the proper training of employees. Due to the recent changes from manual to machine accounting in this organization, it seems quite advisable to suggest that a more extensive educational program be developed. This would give the yard managers and perhaps their assistants, who are training to be future managers, confidence in the accounting records, a wider understanding of the accounting procedures utilized, and a better understanding of how to use the accounting forms which are furnished to the yard managers each month by the General Office.

CHAPTER III

SURVEY OF CASH INTERNAL CONTROL

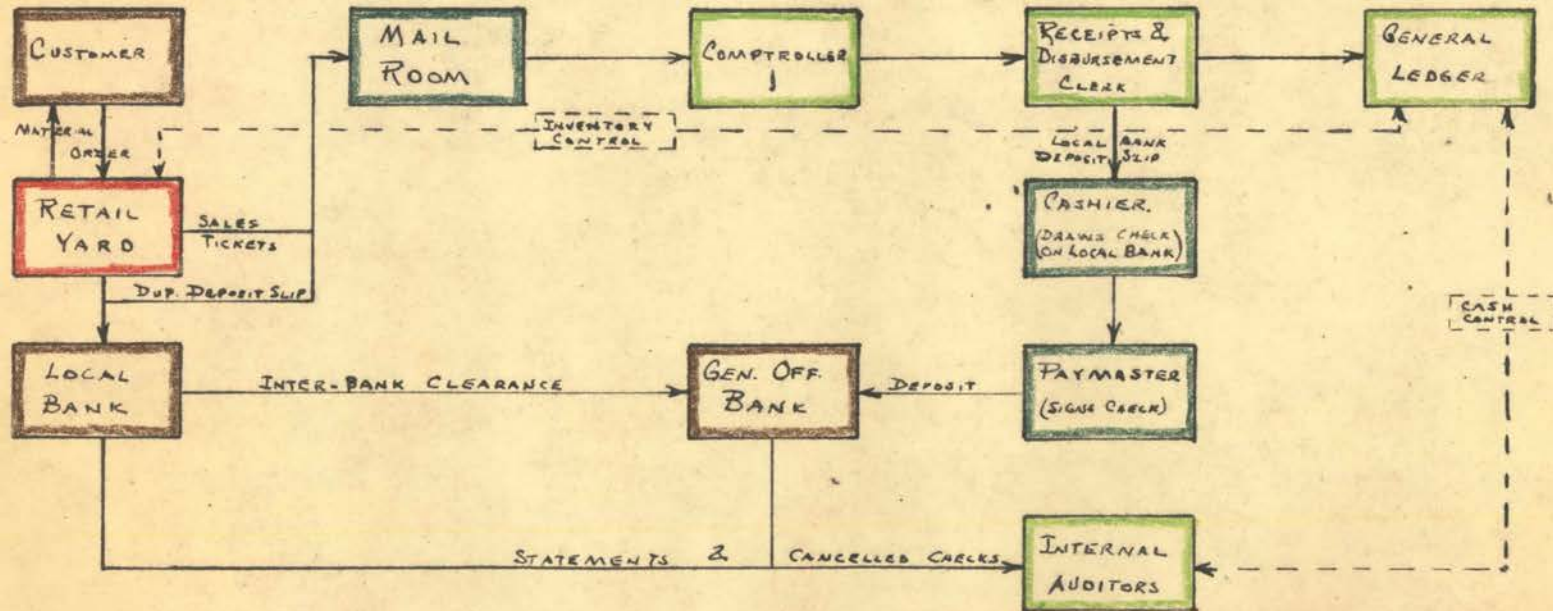
A. CASH RECEIPTS	Yes	No	Not Appli- cable
	—	—	<u> </u>
I. Mail receipts:			
1. Is the mail opened by someone other than the cashier or accounts receivable bookkeeper?	x		
2. Does the mail routine prohibit the delivery of unopened mail (other than personal mail) to employees having access to the accounting records?	x		
3. a. Is a record of the money and checks received prepared by the person opening the mail?		x	
(The mail room opens the mail which is forwarded through the Comptroller Secretary to the Receipts and Disbursements Clerk who prepares such a list before forwarding the money and checks to the Cashier's office.)			
b. If so, is this record given to someone other than the cashier for independent verification of the amount recorded?			x
c. Is this record compared with the cash receipts book regularly?			x
II. Other receipts (applicable to retail yards only):			
1. Are the receipts of currency relatively insignificant?	x		
2. Are receipts recorded by cash registers or other mechanical devices?		x	
3. If so, are the machine totals checked independently by the accounting department?			x
4. Are sales or receipt books used?	x		
5. If so:			
a. Are the receipts prenumbered? (The pages are prenumbered though there are six sales receipts and four collection receipts to the page.)	x		

	Yes —	No —	Not Appli- cable
b. Are the daily totals and numerical sequence checked independently by the accounting department?	x		
c. Are the unused books safeguarded?		x	
6. If neither of the above methods are in use, is some other adequate system of control in force? If so, explain. (The printing department keeps a file of books issued, but this file is normally not used as issues to the individual yards or mills are limited in quantity.)		x	
7. Is there an adequate safeguard against misappropriation of cash through the recording of fictitious discounts or allowances by the cashier?	x		
8. Are miscellaneous receipts, such as from sale of scrap, salvage, etc., reported to the accounting department by the recipient, as well as to the cashier? (Relatively insignificant.)		x	
9. Does the accounting department check such reports against the related cash book entry?			x
III. General:			
1. Are each day's receipts deposited in the bank intact and without delay?	x		
2. Does an employee other than the cashier or accounts receivable bookkeeper take the deposits to the bank?		x	
3. Is a duplicate deposit slip checked and held for the auditors by an employee other than the employee making up the deposits?	x		
4. Are bank advices (such as for N.S.F. checks) delivered directly to a responsible employee (other than the cashier) for investigation?		x	
5. Are the duties of the cashier entirely separate from the recording of notes and accounts receivable?		x	

- | | Yes | No | Not
Appli-
cable |
|--|-----|----|------------------------|
| 6. Does an employee, other than from the cashier's department, post the general ledger? | x | | |
| 7. Is the office routine so arranged as to make it difficult for the cashier to obtain access to the accounts receivable ledgers and monthly statements? | | | |
| a. General Office? | x | | |
| b. Mills? | x | | |
| c. Retail Yards? | | x | |
| 8. Are all other cash funds or securities handled by someone other than the cashier? | x | | |
| 9. If he handles such funds -- list the items. | | | x |
| 10. Where branch offices make collections, are such collections deposited in a bank account subject to withdrawal only by the general office? | x | | |
| 11. Are rents, dividends, interest, and similar revenues adequately controlled in such manner that their non-receipt would be noted and investigated? | | | x |
| (Especially trained executive type of employees are responsible for these transactions.) | | | |
| 12. Is the cashier responsible for the cash receipts from the time they are received in his department until they are sent to the bank? | | | x |
| (The cash, along with a prepared deposit slip, is forwarded to the paymaster who is responsible for the actual deposit in the bank.) | | | |
| 13. Are proper physical safeguards and facilities employed to protect cash and cash transactions? | x | | |

OFFICE RESPONSIBILITY CODE	
COMPTROLLER	_____
GENERAL OFFICE	_____
OUTSIDE GROUPS	_____
RETAIL YARDS	_____

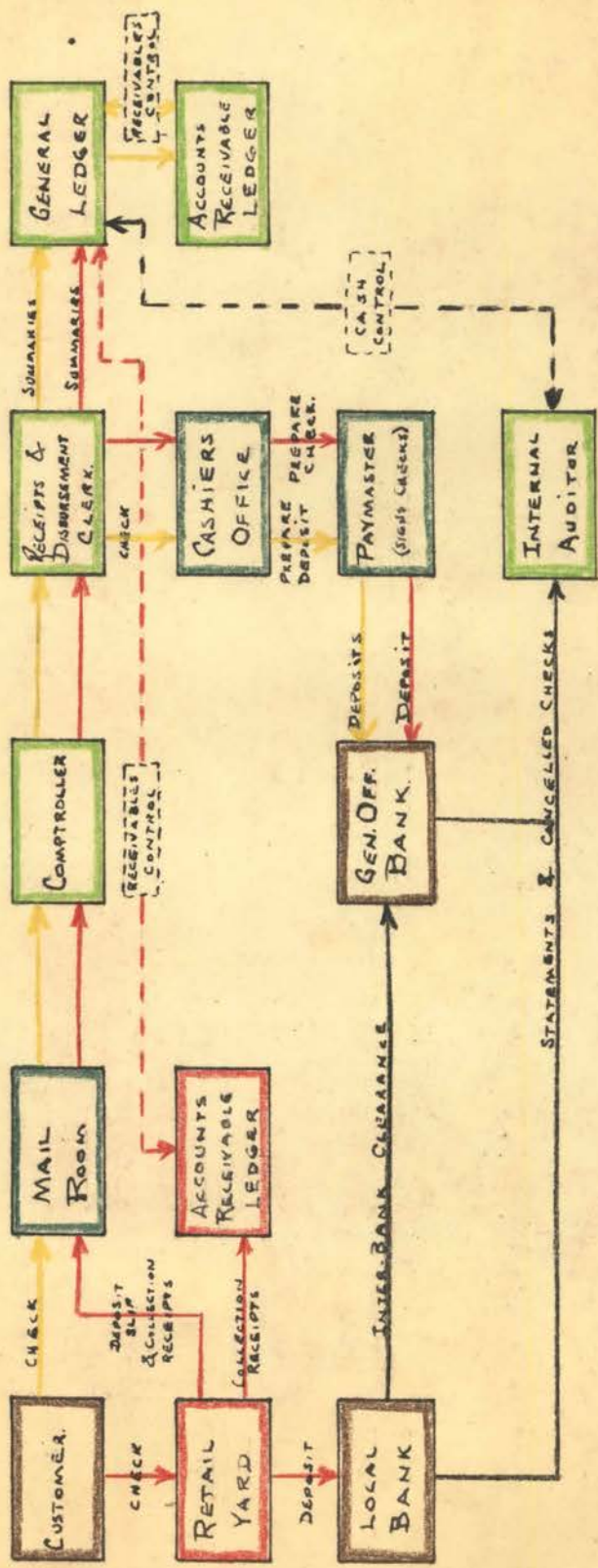
1. PROCEDURAL FLOW OF CASH SALE RECEIPTS



OFFICE RESPONSIBILITY CODE
COMPTROLLER
GENERAL OFFICE
OUTSIDE GROUPS
RETAIL YARDS

TRANSACTIONS CODE
RETAIL YARD
MILLS
GENERAL

2. PROCEDURAL FLOW OF CASH RECEIPTS



Comments on internal controls as applied to Cash Receipts:

Byrnes, Baker, and Smith, in their textbook, Auditing, suggest that the following internal checks should exist in connection with cash receipts:

1. There should be centralized and controlled cash registers which are reconciled daily with cash receipt tickets. The salesmen should be required to prepare such receipt tickets at the time of each transaction with one copy going to the customer.

2. There should be a mail opener, separate from the cashier, who opens all mail and prepares a check list of all cash. The cash should be delivered to the cashier upon his receipt of the check list. A copy of this signed check list should go to the accounting department for control purposes and for posting to the accounts involved.

3. The cashier should prepare the deposits which should be made intact as received. A receipted copy of the deposit slip should be forwarded to the accounting department.

4. Bank balances should be reconciled with the control accounts by the internal auditors.

5. Salesmen, mail openers, cashiers, and others with access to cash should be entirely segregated from the accounting department and accounting records.

6. Restrict branch deposits to authorize general office withdrawal.

The system under consideration in the questionnaire follows these suggestions in general with the following exceptions: In the retail yards, they do not universally use cash registers, but where registers are not used, the individual salesmen have separate cash drawers which

are reconciled each day as suggested. Total receipts of the yards are deposited intact daily and these deposits are relayed to the general office by a report with an attached signed duplicate deposit slip. Such yard deposits are restricted to general office withdrawal.

In the general office, the mail openers do not prepare a check list. They turn the receipts over to the receipts and disbursement clerk who prepares a list and who then forwards the cash to the cashier and a copy of the list to the general ledger clerk. The cashier prepares the deposit which is made by the paymaster.

In comparing the suggested procedures with actual procedures, it seems that the system of internal control used in connection with cash receipts could be improved by having the mail openers prepare a check list. After this list is signed by the cashier, upon direct receipt of the cash, it could then be forwarded to the receipts and disbursement clerk who would prepare summaries for the general ledger clerk and remittance advices for the accounts receivable ledger clerks. Such a procedure would limit the individuals who would actually handle the cash and would also meet the suggestion that no individuals (such as the receipts and disbursement clerk) connected with the accounting department ever have access to cash.

	Yes	No	Not Appli- cable
	---	---	---
B. CASH DISBURSEMENTS			
1. Are all disbursements, except from petty cash, made by check?	x		
2. Are all checks prenumbered?	x		
3. Are voided checks held available for subsequent inspection and properly mutilated?	x		
4. Are all checks required to be countersigned?		x	
5. a. Is the signing of checks in advance prohibited?	x		
b. Is the countersigning of checks in advance prohibited?			x
6. Are authorized signatures limited to officers or employees who have no access to accounting records?	x		
7. Are authorized signatures limited to officers or employees who have no access to cash?		x	
(The paymaster who signs the checks also makes all deposits and by such action does have access to cash; however, the actual deposit slip and list of cash is made up by the Cashier's office prior to the delivery of the cash to the paymaster.)			
8. Is the practice of drawing checks to "cash" or "bearer" prohibited?	x		
9. If not, are checks so drawn limited to payrolls and/or petty cash reimbursement?			x
10. Are monthly bank statements and paid checks received directly by the accounting department?	x		
(Actually by the internal auditors.)			
11. Are the bank accounts independently reconciled by an employee other than those who keep the cash records?	x		
12. Is the sequence of check numbers accounted for when reconciling the bank accounts?	x		

- | | Yes | No | Not
Appli-
cable |
|---|-----|----|------------------------|
| 13. Is the practice of examining paid checks for date, name, cancellation, and endorsement followed by the employee reconciling the bank accounts?

(Name and endorsement only are examined.) | | | x |
| 14. Are vouchers or other supporting documents presented together with the checks submitted for signature?

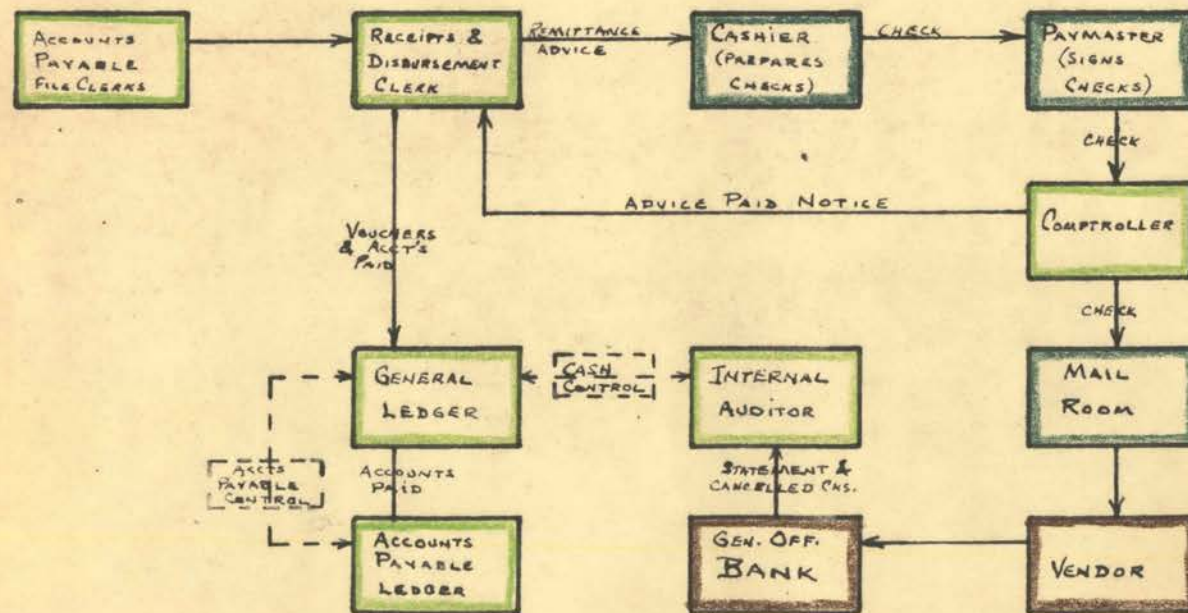
(Only a remittance advice supports the check when submitted for signature. This remittance advice has been prepared from supporting documents which are, in time, 100% audited against such remittance advices by the internal auditors.) | | | x |
| 15. Do the signers make adequate investigation before signing checks?

(Above described procedure eliminated the necessity of such investigation.) | | | x |
| 16. Assuming a check-signing machine to be in use, are the machine and signature plates kept under effective control?

(The two keys required are in the possession of the paymaster and the treasurer.) | | | x |
| 17. Are the checks mailed out without allowing them to return to the employee who drew the checks or to the accounts payable bookkeeper? | | | x |
| 18. Are the vouchers or other supporting documents impressed with a paid stamp or other mark so as to prevent their use for duplicate payment? | | | x |
| 19. Are transfers from one bank to another under effective accounting control? | | | x |

OFFICE RESPONSIBILITY CODE	
COMPTROLLER	—————
GENERAL OFFICE	—————
OUTSIDE GROUPS	—————

3. PROCEDURAL FLOW OF CASH DISBURSEMENTS BY THE GENERAL OFFICE



Comments on internal controls applied to Cash Disbursements:

Byrnes, Baker, and Smith in Auditing state that the following is required to properly control cash disbursements:

1. Vouchers must be properly prepared and approved.
2. All disbursements should be made by check (except petty cash disbursement items) and such checks issued only on approved vouchers.
3. Checks should be signed by authorized personnel and vouchers canceled or mutilated to avoid reuse.
4. Segregation of the activities of those whose duty it is to have access to cash, approve invoices, prepare vouchers, record accounts payable, prepare checks, sign and mail checks, and reconcile vendor's statements.
5. All petty cash or branch funds should be operated on an imprest system requiring a high level of documentary evidence as a basis for disbursements.
6. Accountability should be required for voided and spoiled checks.

In Auditing; Principles and Procedure, Arthur W. Holmes adds that all checks must be prenumbered and that there should be test audits performed by the internal auditors who should also reconcile the bank statements with the books. These audits should include comparing canceled checks with their related vouchers for payees, amount, proper authorization for payment, discounts, etc.

In surveying the system in use, it was found that most of the above internal checks are in use. The only major exception is in the receipts and disbursements clerk's office. This office, as explained under cash receipts, has access to cash, prepares the vouchers, prepares the remittance advice, which is the only basis for issuance of the checks,

and finally, on notice of payment being made, prepares the entries to be made by the general ledger and accounts payable ledger clerks. It would seem that the duties of this office should be revised to meet the requirement of segregation of duties as outlined in 4 above.

	Yes	No	Not Appli- cable
	—	—	—
C. PETTY CASH FUNDS			
a. General Funds			
1. Is imprest fund system in use?	x		
2. Is the responsibility for each fund vested in one person only?	x		
3. Is the custodian independent of the cashier or other employees handling remittances from customers and other cash receipts?	x		
4. Is the amount of the fund restricted so as to require reimbursement at relatively short intervals?	x		
5. a. Has a maximum figure for individual payments from the fund been established?			x
b. If so, state maximum figure. \$ <u>NA</u> (Limited only by the amount of the fund.)			
6. Are payees required to sign vouchers for all disbursements? (Supporting evidence is required where such receipts are not signed.)			x
7. Are advances made to employees and I.O.U.'s properly approved?	x		
8. a. Is the cashing of personal checks prohibited?			x
b. If not, are such checks recashed at bank or included as vouchers supporting request for reimbursement? (Recashed at bank.)			
9. a. Are vouchers and supporting documents checked at the time of reimbursement by a responsible employee?			x
b. Does that employee verify the unexpended balance of the fund? (These vouchers are forwarded to the Cash Receipts and Disbursements Clerk where they are distributed to the various accounts concerned and they are checked against the amount of the check issued.)			x

	<u>Yes</u>	<u>No</u>	<u>Not Appli- cable</u>
10. Are the amounts of the vouchers spelled out in words as well as written in numerals?		x	
11. Are vouchers marked so as to preclude their re-use?	x		
12. a. Is any part of the fund represented by cash in bank?		x	
b. Are checks drawn on this account signed by the custodian only?			x
13. Are checks for reimbursement made out to the order of the custodian?	x		
14. Is the fund checked by surprise counts made by an internal auditor or other employee independent of the custodian?	x		

STRATHMORE PARCHMENT

100 GRAM U.S.A.






	Yes	No	Not Appli- cable
C. PETTY CASH FUNDS			
b. Retail Yard Special Funds			
1. Is imprest fund system in use?	x		
2. Is the responsibility for each fund vested in one person only?	x		
3. Is the custodian independent of the cashier or other employees handling remittances from customers and other cash receipts?	x		
4. Is the amount of the fund restricted so as to require reimbursement at relatively short intervals?	x		
5. a. Has a maximum figure for individual payments from the fund been established?		x	
b. If so, state maximum figure. (Limited only by the amount of the fund.)			x
6. Are payees required to sign vouchers for all disbursements?	x		
7. Are advances made to employees and I.O.U.'s properly approved?	x		
8. a. Is the cashing of personal checks prohibited?	x		
b. If not, are such checks recashed at bank or included as vouchers supporting request for reimbursement?			x
9. a. Are vouchers and supporting documents checked at the time of reimbursement by a responsible employee?	x		
b. Does that employee verify the unexpended balance of the fund?		x	
10. Are the amounts of the vouchers spelled out in words as well as written in numerals?	x		
11. Are the vouchers marked so as to preclude re-use?		x	
(Original is mailed to the general office where the retail yard could never have access to it again.)			

- | | Yes | No | Not
Appli-
cable |
|--|-----|----|------------------------|
| | — | — | <u> </u> |
| 12. a. Is any part of the fund represented by cash in bank? | x | | |
| b. Are checks drawn on this account signed by the custodian only? | x | | |
| 13. Are checks for reimbursement made out to the order of the custodian? | x | | |
| 14. Is the fund checked by surprise counts made by an internal auditor or other employee independent of the custodian? | x | | |
| 15. Describe the operation of the fund if the same is in part represented by bank account. | | | |

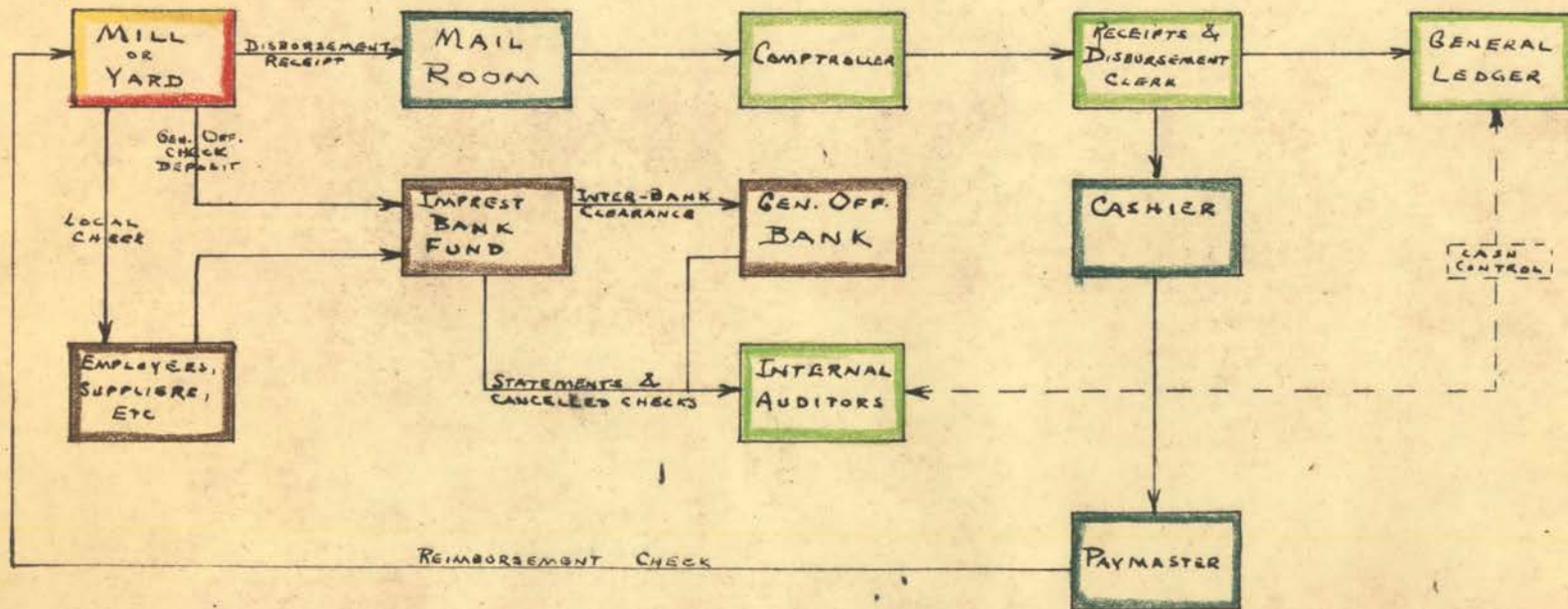
(This type of fund is set up for the use of the local retail yard managers in meeting local payroll and expenses. It is also used in a minor part as a petty cash fund for use by the cashier of the local yard. All reimbursements are deposited intact in the bank and there are no transfers from bank to cash and vice versa except for the original setting up of the local yard cashier's fund. The local cashier's fund is reimbursed by a check from the manager's fund and such reimbursements are supported by documents for the expenditures.)

STRATHMO

100

OFFICE RESPONSIBILITY	CODE
COMPTROLLER	
GENERAL OFFICE	
OUTSIDE GROUPS	
RETAIL YARDS	
MILLS	

4. PROCEDURAL FLOW OF DISBURSEMENTS FROM LOCAL IMPREST FUNDS



Comments on Petty Cash internal controls:

Arthur W. Holmes in Auditing; Principles and Procedure, sets forth the following rules in regard to internal controls to be used in connection with petty cash or special funds:

1. Petty cash or branch funds should be operated on an imprest system.
2. Fund amounts should be limited to require periodic reimbursement, and disbursements should be limited to small-maximum amounts.
3. Petty cash vouchers, used and unused, must be controlled.
4. Vouchers should be prepared in ink, signed by the petty cash cashier and the payee after approval by a third person.
5. To avoid reuse, the vouchers should be canceled by someone other than the petty cashier at the time the fund is reimbursed.

Finney and Miller in their Principles of Accounting; Intermediate also add: Replenish the fund only by check to cover a voucher which is backed up by a high level of documentary evidence.

A possible weakness noticed in the system under examination is, as stated in Question C a 8 of the Questionnaire, in regard to cashing of personal checks. Normally speaking, this is not considered a good policy. However, where such a policy exists, there would seem to be better control if these checks were not cashed at the bank by the petty cash fundholder. This violates the principle that the fund be replenished by check only, and it is suggested that such checks (if it is necessary to cash personal checks) be included with receipts and documentary evidence as part of the reimbursement voucher.

CHAPTER IV

MARKETABLE AND OTHER SECURITY INVESTMENTS

	Yes	No	Not Appli- cable
1. Are securities kept in a safe deposit vault in the name of the company?	—	—	<u> </u>
	x		
2. If so:			
a. Does access thereto require the signature or presence of two designated persons? (Paymaster is designated as custodian.)		x	
b. Is a record maintained by the client of visits to safe deposit vault?	x		
3. If not:			
a. Are they kept in safekeeping by an independent person?			x
b. Are they kept in a safe place under control of an officer?			x
4. Is a record kept by the accounting or the financial department of each security, including certificate numbers? (Such records are kept by both the Paymaster and the Comptroller.)	x		
5. Are all securities, except "bearer" bonds, in the name of the client?	x		
6. Are securities periodically inspected and agreed with the record by internal auditors or other designated officers or employees? (These are also 100% verified by the independent public auditors.)	x		
7. Are purchases and sales of securities authorized by:			
a. The board of directors?	x		
b. An officer? (Comptroller)	x		
c. The financial department?			x

- | | Yes | No | Not
Appli-
cable |
|---|---------------|---------------|------------------------|
| 8. Are securities, held for others or as collateral, recorded and safeguarded in similar manner to those owned by the client? | <u> </u> | <u> </u> | x |
| 9. Are security investments which have been written off or fully reserved against followed up as to possible realization? | <u> </u> | <u> </u> | x |
| 10. Are satisfactory records kept to insure the proper and prompt receipt of income on securities owned? | <u> </u> | <u> </u> | x |

Comments on Marketable and Other Security Investments:

In Arthur W. Holmes' Auditing; Principles and Procedure, the following principles are laid down in regards to investments:

1. Investments should be purchased and sold only after proper authorization.
2. Detailed records of each security should be maintained independently of the persons exercising physical control of the securities.
3. Securities should be registered in the name of the client.
4. Internal auditors should audit all transactions.

In Auditing, by Byrnes, Baker, and Smith, it is further suggested that the securities should be protected physically; two designated company officials should be required for access to the securities; and the income from the securities should be accounted for in detail.

The questionnaire indicates that, in general, the system of internal control meets all the requirements of the principles above except for the requirement of two officials to gain access to the securities. This principle should be followed where the value of securities is such as to be material in amount.

In regard to the general principles, as outlined in the introductory chapter, it would seem preferable that the responsibility for these securities should be segregated from the general cash responsibilities. Both of these responsibilities are at present under the administration of the paymaster.

CHAPTER V

NOTES AND ACCOUNTS RECEIVABLE

	Yes	No	Not Appli- cable
1. Are notes and renewals authorized by a responsible official?			
(Very few notes are used.)	x		
2. Is the custodian of notes receivable and the negotiable collateral (if any) independent of the cashier or bookkeepers?			
			x
3. Are the customers' ledgers balanced at least monthly and the totals agreed with the general ledger control account?			
			x
4. Are the customers' ledgers kept by employees who have no access to cash receipts?			
			x
5. a. Are statements of open items mailed to customers monthly?			
			x
b. If so, is this done by an employee who has no access to cash and is independent of the accounts receivable bookkeepers and the billing clerks?			
			x
(This is true in the general office, but in the retail yards the accounts receivable bookkeeper prepares such statements. In the retail yards, however, the local manager is held responsible for uncollected items overdue. The accounts are aged each month and a copy of this is sent to the Comptroller's office and an explanation is required of all past due accounts. Past due accounts are confirmed by the independent auditor as a part of his audit.)			
c. Does this employee retain control of the statements until mailed?			
			x
d. Are differences reported by customers routed to this same employee for investigation?			
			x
(In the general office, such differences are routed to the credit department who is held			

Yes	No	Not Appli- cable
-----	----	------------------------

responsible for the collection of general office and mill accounts receivable as they are required to pass on the credit of such accounts before they are acceptable as such. In the retail yard, the manager receives all mail, which, of course, contains any differences that develop. As noted before, he is held responsible for the collection of his receivables as he is the one who originally authorized such credit.)

- | | | |
|--|---|---|
| 6. Are delinquent accounts listed periodically for review by an official other than the credit manager? | x | |
| 7. Are write-offs of bad debts approved by an official other than the credit manager?

(Write-offs of any substantial amounts are reviewed by the Comptroller's Office.) | | x |
| 8. Are bad debts written off still kept under control and followed up?

(Monthly reports are prepared on any activity taken regarding these accounts.) | x | |
| 9. Are credit memos approved by a responsible official? | x | |
| 10. Are such credit memos under numerical control? | x | |
| 11. Are discounts allowed after the discount date or in excess of normal credit terms approved by a responsible official? | x | |
| 12. Are credits for returned goods checked against receiving reports?

(No receiving reports.) | | x |
| 13. Are direct confirmations of notes and accounts receivable obtained periodically: | | |
| a. By internal auditors? | | x |
| b. By other designated employees? | | x |

(These are confirmed by the independent public accountant in his audit. Any substantial past

- | | Yes | No | Not
Appli-
cable |
|--|-----|----|------------------------|
| | — | — | — |
| due accounts are closely watched and are confirmed either direct or indirect through correspondence.) | | | |
| 14. Is the management of the credit department entirely divorced from the sales department? | x | | |
| 15. Is the cashier denied access to the accounts receivable ledgers? | x | | |
| 16. a. Is merchandise out on consignment recorded in a memorandum accounts receivable ledger? | | | x |
| b. If consigned merchandise is a material and/or continuing factor, outline the client's procedures in this respect. | | | x |
| 17. Are journal entries affecting accounts receivable approved by someone senior to the book-keeper? | x | | |

Comments on internal controls applied to Notes and Accounts Receivables:

Principles of internal control applicable to notes and accounts receivable, as outlined by Byrnes, Baker, and Smith in Auditing; Holmes in Auditing; Principles and Procedure; Guley and Barnes in Auditing; and Finney and Miller in Principles of Accounting; Intermediate, are as follows:

1. Statement amounts should be checked against account balances and statements should be mailed by persons independent of the cashier and accounts receivable divisions.
2. Returned, undelivered statements should be forwarded unopened to designated officials.
3. Credits to receivables, other than collections, should be prenumbered and require proper authorization.
4. Persons receiving remittances from customers must not make postings to customers' accounts.
5. Write-offs of uncollectibles should be approved by a designated official.
6. Accounts should be "aged" at regular intervals and the delinquent accounts reviewed by the credit manager.
7. Accounts and notes receivable classifications should consist only of unassigned "trade debtors" or "customers' accounts."

The system in use meets all the requirements above in a satisfactory manner. The only variance from the principles is in the retail yards where the bookkeeper makes collections. However, even here, controls seem to be adequate as the original credit is approved by the manager and he is responsible for the collection of the accounts. Any delay in collections is quickly noted as accounts are aged each month and "ticked" off as collected. Discounts and special credits are

required to be properly authorized. Sales returns are entered over the ticket machines either by the salesman or the yard foreman handling the actual return. Retail yard receivables are confirmed by the independent public accountants in their annual audits.

STRATHMORE PARCHMENT

100% RAG U.S.A.

CHAPTER VI

INVENTORIES

	Yes	No	Not Appli- cable
A. RETAIL YARDS			
I. Physical control:			
1. Are designated storekeepers held responsible for the control of:			
a. Raw Materials?			x
b. Semi-finished merchandise?			x
c. Finished merchandise?	x		
d. Supplies and repair parts? (Relatively small value)		x	
2. Do the store keepers notify the accounting department of all receipts by means of receiving or production reports?			x
3. Are issues made only against signed requisitions or shipping orders?	x		
4. Are the quantities on hand counted:			
a. At the end of the fiscal year?	x		
b. Periodically during the year?	x		
5. Are such counts made independent of the storekeepers?	x		
6. Are the following classes of inventories under effective accounting control:			
a. Goods out on consignment?			x
b. Materials in hands of processors, suppliers, etc.?			x
c. Materials or merchandise in bonded or other outside warehouses?			x

- | | Yes | No | Not
Appli-
cable |
|---|-----|----|------------------------|
| | — | — | — |
| 7. Is merchandise on hand which is not the property of the client (consignments-in, etc.) physically segregated and under effective accounting control. | | | x |
| (This type of merchandise is of such minor consequence as to be classified as non-material.) | | | |
| 8. With respect to the determination of inventory values: | | | |
| a. Are priced inventory sheets double-checked as to prices, extensions, footings and summarizations? | x | | |
| b. Is a review made by a responsible official or designated employee as to overstock and as to slow moving or obsolete items? | | x | |
| 9. Is a reasonable degree of control maintained over stationery and other supplies which are charged directly against operations? | | x | |
| (The supply is controlled in the general office and is drawn against by requisition only. This item is not material in nature.) | | | |
| 10. Are scrap and salvaged materials under such accounting control as should assure the proper recording of the sale or re-use of such items? | | | x |
| 11. Are there adequate safeguards to insure that the costs of partial shipments billed to customers are eliminated from inventories? | | x | |
| II. Perpetual inventory records: | | | |
| 1. Are perpetual inventory records maintained for: | | | |
| a. Raw Materials? | | | x |
| b. Supplies and repair parts? | | | x |
| c. Work in process? | | | x |
| d. Finished product? | x | | |

	Yes	No	Not Appli- cable
	—	—	—
2. Do such perpetual records show:			
a. Quantities only?	x		
b. Quantities and values?			x
3. Are such perpetual records kept by employees other than the store keepers?	x		
4. Are such records controlled by accounts in the general ledger?	x		
5. Are perpetual records checked by physical stock-taking at least once annually?	x		
6. Are the perpetual records regularly adjusted as a result of the physical stocktaking? (Annually.)	x		
7. Do such adjustments require the approval of a responsible official or employee?	x		

STRATHMORE PARCH

100% RAG U.S.A.

Yes	No	Not Appli- cable
—	—	—

B. MILLS**I. Physical control:**

1. Are designated store keepers held responsible for the control of:
 - a. Raw materials? x
 - b. Semi-finished merchandise? x
 - c. Finished merchandise? x
 - d. Supplies and repair parts? x
2. Do the store keepers notify the accounting department of all receipts by means of receiving or production reports? x
3. Are issues made only against signed requisitions or shipping orders? x
4. Are the quantities on hand counted:
 - a. At the end of the fiscal year? x
 - b. Periodically during the year? x
5. Are such counts made independent of the store keepers? x
6. Are the following classes of inventories under effective accounting control?
 - a. Goods out on consignment? x
 - b. Materials in hands of processors, suppliers, etc.? x
 - c. Materials or merchandise in bonded or other outside warehouses? x
7. Is merchandise on hand which is not the property of the client (consignments-in, etc.) physically segregated and under effective accounting control? x
8. With respect to the determination of inventory values:
 - a. Are priced inventory sheets double-checked as to prices, extensions,

	Yes	No	Not Appli- cable
footings, and summarizations?	x		
b. Is a review made by a responsible official or designated employee as to overstock and as to slow-moving or obsolete items?	x		
9. Is a reasonable degree of control maintained over stationery and other supplies which are charged directly against operations?	x		
(Supply is controlled through the use of requisitions which are properly authorized. These items are comparatively small in value.)			
10. Are scrap and salvaged materials under such accounting control as should assure the proper recording of the sale or re-use of such items?	x		
11. Are there adequate safeguards to insure that the costs of partial shipments billed to customers are eliminated from inventories?	x		
II. Perpetual inventory records:			
1. Are perpetual inventory records maintained for:			
a. Raw materials?	x		
b. Supplies and repair parts?	x		
c. Work in process?	x		
d. Finished product?	x		
2. Do such perpetual records show:			
a. Quantities only?	x		
b. Quantities and values?			x
3. Are such perpetual records kept by employees other than the store keepers?	x		
4. Are such perpetual records controlled by accounts in the general ledger?	x		
5. Are perpetual records checked by physical stocktaking at least once annually?	x		

- | | <u>Yes</u> | <u>No</u> | <u>Not
Appli-
cable</u> |
|---|------------|-----------|---------------------------------|
| 6. Are the perpetual records regularly adjusted as a result of the physical stocktaking?

(Annually.) | x | | |
| 7. Do such adjustments require the approval of a responsible official or employee? | | | x |

STRATHMORE PARCHMENT

100% RAG U.S.A.

Comments on internal controls applied to Inventories:

Byrnes, Baker, and Smith, in their textbook Auditing, and Holmes, in his textbook Auditing; Principles and Procedure, are in agreement that the following controls are necessary to properly protect stock inventories:

1. A perpetual inventory system should be in use with separate controlling accounts established. Accountability must be fixed.
2. Periodical physical inventories should be taken by independent personnel. All inventory sheets should be double checked as to prices, extensions, footings, and summarizations.
3. Adjustments to inventories should require proper authorization.
4. To reduce accountability for stock on hand, prenumbered and signed sales, requisition, or shipping tickets should be used.
5. Prenumbered purchase requisitions along with creditors' invoices and receiving tickets should be used to establish accountability for merchandise.

The internal control system of this organization, as outlined in the questionnaire on inventories, seems to cover all the principles above in a manner that would normally be accepted as adequate.

CHAPTER VII

PROPERTY, PLANT AND EQUIPMENT

	Yes	No	Not Appli- cable
1. Are detailed plant ledgers or filing cards records maintained for the various units of property?	x		
2. Are such records balanced at least annually with the general ledger control accounts?	x		
3. Does the client:			
a. Take periodic inventory of plant items?		x	
(Mechanical and rolling equipment as listed in the retail yard inventories are checked.)			
b. Have periodic appraisals, for insurance or other purpose?	x		
4. Is a satisfactory system in effect for the control of small tools?			
a. At mills?	x		
(Tool cribs are in use and tools are checked out to individuals by tool checks.)			
b. At retail yards?			x
(The use of small tools in the retail yards is immaterial in value.)			
5. Is a work order system in use:			
a. For capital expenditures?	x		
b. For major repair jobs?	x		
6. Is prior authorization for capital expenditures required?			
a. From the board of directors?	x		
b. From officers?			x

- | | Yes | No | Not
Appli-
cable |
|--|-----|----|------------------------|
| | — | — | <u> </u> |
| 7. When actual expenditures exceed the amount authorized, is the excess approved as in Question 6? | — | — | x |
| (Only if the amount is substantial.) | | | |
| 8. Is there a sound policy in force for the differentiation between capital additions and maintenance and repairs? | — | — | x |
| (Fixed policies have been established for such differentiation between capital additions and maintenance and repairs and included in the manuals.) | | | |
| 9. Is the recording and the accounting for capital replacement items so devised as to insure the proper accounting treatment for the removal of items replaced? | — | — | x |
| (In addition to the accounting procedures used, the annual review and appraisal of such items for use by the insurance department helps to assure proper treatment.) | | | |
| 10. Is the approval of a designated official required for the retirement or dismantling of plant items? | — | — | x |
| 11. Is there an effective system of retirements to insure that property physically retired is removed from the records and that the proceeds from salvage and sales are accounted for? | — | — | x |
| 12. Are reserves for depreciation carried by units or groups in agreement with the classifications or grouping of depreciable plant items? | — | — | x |
| 13. When plant items are retired, is the related accumulated depreciation charged to depreciation reserve, the salvage recorded, and the resultant profit or loss determined? | — | — | x |
| 14. a. Are reasonable uniform rates of depreciation applied to the several classes of depreciable property? | — | — | x |
| b. Are they consistent with rates used in preceding periods? | — | — | x |

Comments on internal controls applicable to Fixed Assets:

Auditing; Principles and Procedure, by Arthur W. Holmes lists the following principles to be considered in the application of internal controls to fixed assets:

1. Fixed assets should be purchased only upon proper requisition and authority.
2. Detailed records should be kept of all fixed assets so cost and date of acquisition, as well as other pertinent data, is available.
3. Controlling accounts should be maintained for each group of assets.
4. Physical inventory should be taken of all movable fixed assets periodically.
5. A standard policy should be set up to distinguish between capital and revenue expenditures.
6. Retirement of fixed assets should be by proper authorization with a notice of retirement sent to the accounting department for proper accounting entries.

This organization's internal control system follows the above principles very closely and would be classified as adequate.

CHAPTER VIII

NOTES AND ACCOUNTS PAYABLE,
LONG-TERM DEBT, AND CAPITAL STOCK

	Yes	No	Not Appli- cable
	---	---	
A. NOTES AND ACCOUNTS PAYABLE			
1. Are borrowings on notes payable authorized by the board of directors?	x		
2. Is a notes payable register kept by an employee who is not authorized to sign checks or notes?		x	
3. Are paid notes canceled and preserved?	x		
4. Is the voucher register, or accounts payable ledger, regularly reconciled with the general ledger control account?	x		
5. Are statements from vendors regularly compared with the related ledger accounts (or with open items in voucher register)?	x		
6. Are adjustments of accounts payable (including the writing off of debit balances) required to be supported by the approval of a designated employee?		x	
(Very few such adjustments are made.)			
7. Are proper records maintained to show collateral pledged for security?	x		
B. LONG TERM DEBT			
1. Are an independent trustee and an independent interest-paying agent employed?			x
2. Are redeemed bonds and interest coupons effectively mutilated?			x
(There is no long-term debt outstanding at the present time.)			

	Yes	No	Not Appli- cable
	—	—	—
C. CAPITAL STOCKS			
1. Does the client employ independent registrar and transfer agent?	x		
2. If not:			
a. Are unissued certificates and stock certificates and stock certificate stubs in the custody of an officer?			x
b. Are surrendered certificates effectively canceled?			x
3. Does the client employ independent dividend-paying agents?		x	
4. If not, is proper control exercised in preparing and mailing dividends?	x		
(Dividends are paid by the client, but these checks are prepared from a list showing name, address, and amount which is prepared by the registrar.)			
5. Are returned or unclaimed dividend checks promptly redeposited and set up in the accounts as liabilities?	x		
6. Are revenue stamps properly affixed to the certificate stubs by the registrar?	x		
7. Is stock ever exchanged for assets other than cash?			x

Comments on internal controls applied to Notes and Accounts Payable,
Long-term Debt, and Capital Stock:

A. Notes and Accounts Payable:

The overall principles of internal control and the principles set forth for Cash Disbursements (page 18) and purchases apply to the internal controls for liabilities. Other specific controls are: liabilities should not be incurred without authorization and liabilities should be accounted for so that they will be liquidated at proper times with discounts taken if possible and applicable.

B. Long-term Debt:

The principles applicable to long-term debt are not considered, as there is no outstanding long-term debt at the present time.

C. Capital Stock:

Internal controls for capital stock, in addition to the general principles of internal control, include the following:

1. Proper authorization for issue of stock.
2. Use of a registrar and transfer agent.
3. Use of independent dividend paying agents where possible.
4. Proper authorization for the declaration and payment of dividends.

The procedures followed by this organization appear to be adequate to meet the requirements of the above principles.

CHAPTER IX

CONTINGENT LIABILITIES

	Yes	No	Not Appli- cable
	—	—	<u> </u>
1. Does the client record possible liability on notes receivable endorsements? (Notes are endorsed "without recourse" only.)			x
2. Does the client record possible liability on accommodation endorsements?			x
3. Does the client record possible liability on product guaranties? (In the type of business involved, such guaranties are of a widely divergent nature and are relatively limited in the liability involved.)		x	
4. Does the client record possible liability on contract guaranties? (All current contracts are examined at the close of the fiscal year and significant contract liabilities are footnoted on the financial statements.)		x	
5. Does client record possible loss on sales and purchase contracts? (As in Question 3, above, such losses as might occur are of a widely divergent nature and would be relatively limited as far as a given loss is concerned.)		x	

CHAPTER X

SALES

	Yes	No	Not Appli- cable
1. Are sales orders properly controlled?	x		
2. Are all orders approved by the credit manager or department before shipment?	x		
3. Is the credit department entirely independent of the sales department?	x		
4. Are sales prices and credit terms based on approved standard price lists?	x		
5. If so, are any deviations from standard approved:			
a. By an officer?		x	
b. By another?	x		
(Approved in the mill by the sales manager and approved in the retail yard by the local yard manager.)			
6. If not, are all sales prices and credit terms approved by the sales manager or in the sales department?			x
7. Are prenumbered shipping advices prepared for all goods shipped?	x		
8. Are the quantities shown on the shipping advices double checked in the shipping department?	x		
9. Does the billing clerk or some other designated employee receive the shipping advices directly from the shipping department?	x		
10. Does this employee check the numerical sequence of shipping advices to confirm that all have been duly received?	x		
11. Are sales invoices checked:			
a. As to prices?	x		
b. As to quantities?	x		

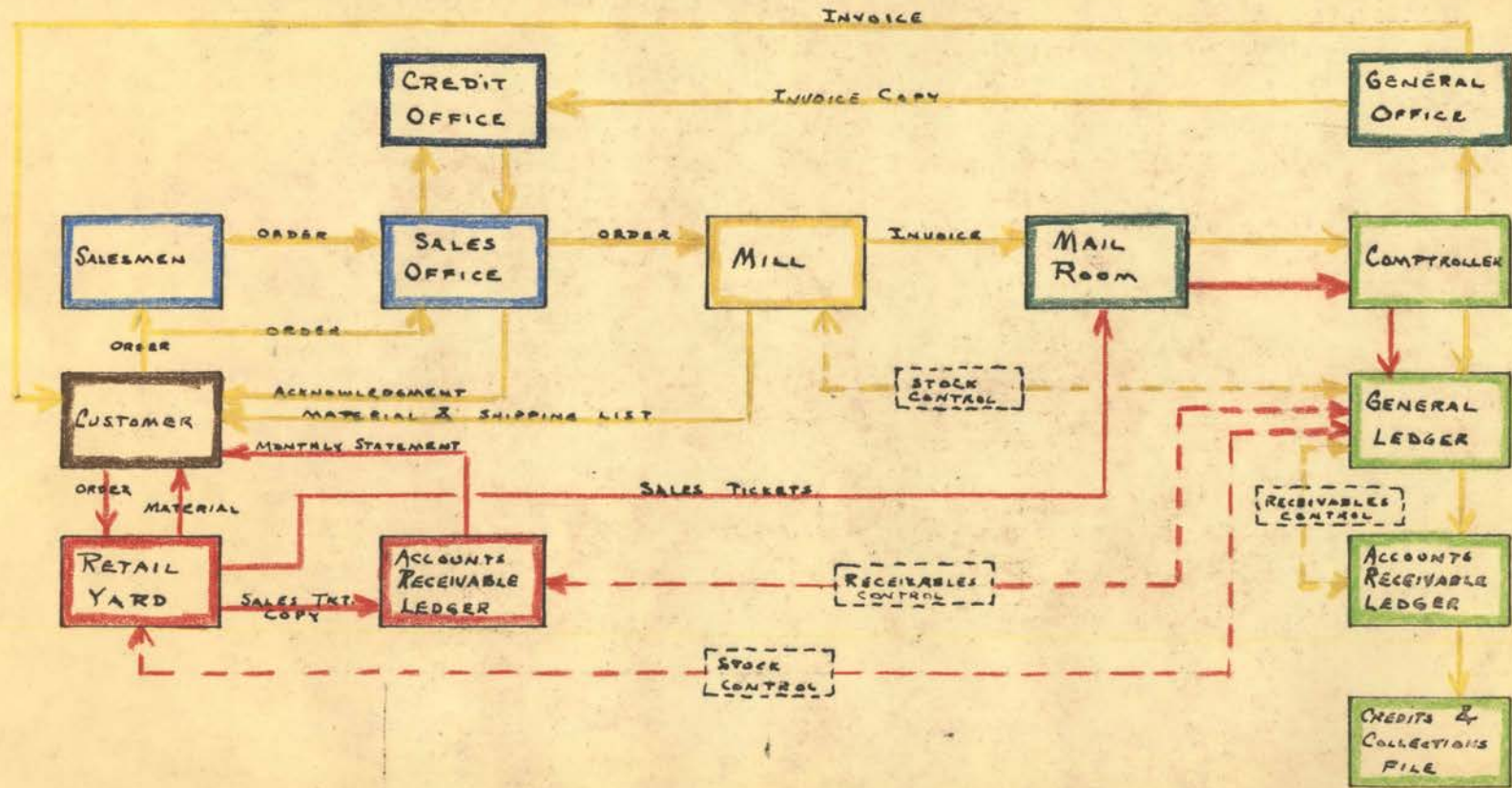
	Yes	No	Not Appli- cable
c. As to credit terms?	x		
d. As to extensions and footings?	x		
e. Against customers' orders?	x		
(This procedure is applicable to mill orders in general, but in the retail yards, the customers' orders are normally verbal orders. In the retail yard, however, the sales tickets are usually signed by the customer and the third copy of the sales ticket is used as part of the monthly statements mailed to the customer.)			
f. Against shipping advices?	x		
12. Are sales invoices prenumbered?	x		
13. Is there a check on the arithmetical accuracy of total sales by means of a statistical or product analysis?		x	
14. Are total sales for the respective accounting periods (e.g., monthly) reported directly to the general ledger bookkeeper independently of the work of the accounts receivable bookkeepers?		x	
15. Are there adequate safeguards against understatement of sales through the suppression of sales invoices or shipping advices?		x	
16. Are credit memos for goods returned supported by adequate data from the shipping (or other) department as to quantity, description, and condition?		x	
17. Are goods returned cleared through the receiving department?		x	
(In the retail yards this is done through the yard foreman.)			
18. Are the following classes of sales accounted for in substantially the same manner as regular credit sales of merchandise:			
a. Sales to employees?	x		
b. C. O. D. sales?	x		

	Yes	No	<u>Not Appli- cable</u>
c. Sales of property and equipment?	—	—	x
(There are very few such sales that take place and these are adequately controlled. See Chapter VII.)			
d. Cash sales of merchandise?	x		
e. Scrap and waste?		x	
19. Is there an adequate check on freight allowances:			
a. By reference to terms of sale?			x
b. By checking against freight bills or established and up-to-date schedule of freight rates?			x
c. Other? (If any, explain.)			x
(All mill sales are made f.o.b. shipping point and retail yard sales are delivered locally, without charge, by yard trucks.)			

OFFICE RESPONSIBILITY CODE	
COMPTROLLER	
GENERAL OFFICE	
OUTSIDE GROUPS	
RETAIL YARDS	
MILLS	
SALES OFFICE	
CREDIT OFFICE	

5.
PROCEDURAL FLOW OF
SALES ON
ACCOUNTS RECEIVABLE

TRANSACTIONS CODE	
RETAIL YARD	
MILL	



Comments on internal controls applicable to Sales:

Byrnes, Baker, and Smith, in their textbook Auditing, give the following specific principles of internal control to be applied in connection with sales:

1. Different persons should: (1) prepare the sales order, (2) withdraw the merchandise from stock, (3) pack and prepare it for shipment, and (4) do the billing for the sale.

2. Invoice should be independently checked for clerical accuracy and propriety of prices. When merchandise is shipped, the invoice should be compared with the shipping ticket.

3. Prenumbered sales tickets and invoices should be used.

4. Voided sales tickets and invoices must be accounted for.

5. Authorization should be required for sales on credit.

6. Authorization should be required for variations from standard prices.

7. Shipments should be made only on authorized sales tickets.

Other controls applicable are those relating to Cash Receipts (page 11) and Receivables (page 32) which have been previously discussed.

The internal controls, as applied in connection with the sales made by this business, follow the requirements set up by the above principles to the extent that they would be deemed adequate.

CHAPTER XI

PURCHASES AND EXPENSES

	Yes	No	Not Appli- cable
1. Is there a purchasing department?	x		
2. If so, is it entirely independent of:			
a. The accounting department?	x		
b. The receiving and shipping depart- ments?		x	
3. Are purchases made only on the basis of purchase requisitions signed by the respective de- partment heads?	x		
4. Are all purchase requisitions prenumbered?	x		
By department?	x		
5. Are all purchases (except small items purchased from petty cash) routed through the pur- chasing department?	x		
6. Are all purchases made by means of the client's purchase orders sent to the vendors?	x		
(Some rush and emergency orders are made by the local retail yard managers which are confirmed by the general office after shipment is made.)			
7. Are the purchase order forms prenumbered?	x		
8. Are certain items required by the client subject to competitive bidding?		x	
9. If so, does the procedure followed indicate that such bids have been requested and the result of the review of such bids?			x
10. Are purchase prices approved:			
a. By responsible official in purchasing department?	x		
b. If not, by any other responsible official?			x

	Yes	No	Not Appli- cable
11. Is the quantity and condition of goods received determined at the time of receipt by someone independent of the purchasing department?	x		
12. Does the receiving department get copies of the purchase orders for authority to accept materials, etc.? (These copies are in the form of requisition acknowledgments sent by the purchasing department of the general office.)	x		
13. Are receiving reports prepared by the receiving department?			
a. By the mills?	x		
b. By the retail yards?			x
(In the retail yard, any damage or unsatisfactory materials or other comments needed are sent to the general office, but if no such information is received the invoices are paid as they fall due. This negative type of approval seems to be quite satisfactory in this business as, in general, most purchases are more or less repeat type of purchases and are from a somewhat limited group of suppliers.)			
14. Are such receiving reports prenumbered?	x		
15. Are copies of the receiving reports:			
a. Filed permanently in the receiving department?	x		
b. Furnished to the accounting department?	x		
c. Furnished to the purchasing department?			x
(The purchasing department is notified of any differences.)			
16. Is the accounting department notified promptly of purchased goods returned to the vendor?	x		
17. Are purchases returned to the vendor through the shipping department?	x		

- | | Yes | No | Not
Appli-
cable |
|--|-----|----|------------------------|
| 18. Are vendors' invoices delivered in the first instance to the purchasing department? | | | x |
| 19. If so, are the invoices checked in the purchase department: | | | |
| a. Against purchase orders? | | | x |
| b. Against receiving reports (as to quantity and condition)? | | | x |
| (A copy of the invoice is routed to the purchase department where such items are checked.) | | | |
| 20. If not, are the invoices checked as above by: | | | |
| a. The accounting department? | | | x |
| (See note on Question 19, above, as it also applies to this question.) | | | |
| b. Others? | | x | |
| (In the retail yard, the yard foreman checks material received in against the purchase requisition acknowledgment copy and when the invoice is received it is checked against the material noted as received.) | | | |
| 21. Is there an adequate system for the recording and checking of partial deliveries applicable to a purchase order? | | | x |
| 22. Are invoices approved for payment by a responsible employee? | | | x |
| 23. Is there a definite responsibility for the checking of invoices as to: | | | |
| a. Prices and credit terms? | | | x |
| b. Extensions? | | | x |
| c. Freight charges and/or allowances? | | | x |
| 24. Is a designated employee made responsible for the determination of the distribution of invoices (pursuant to an established accounting policy) to proper general ledger accounts? | | | x |

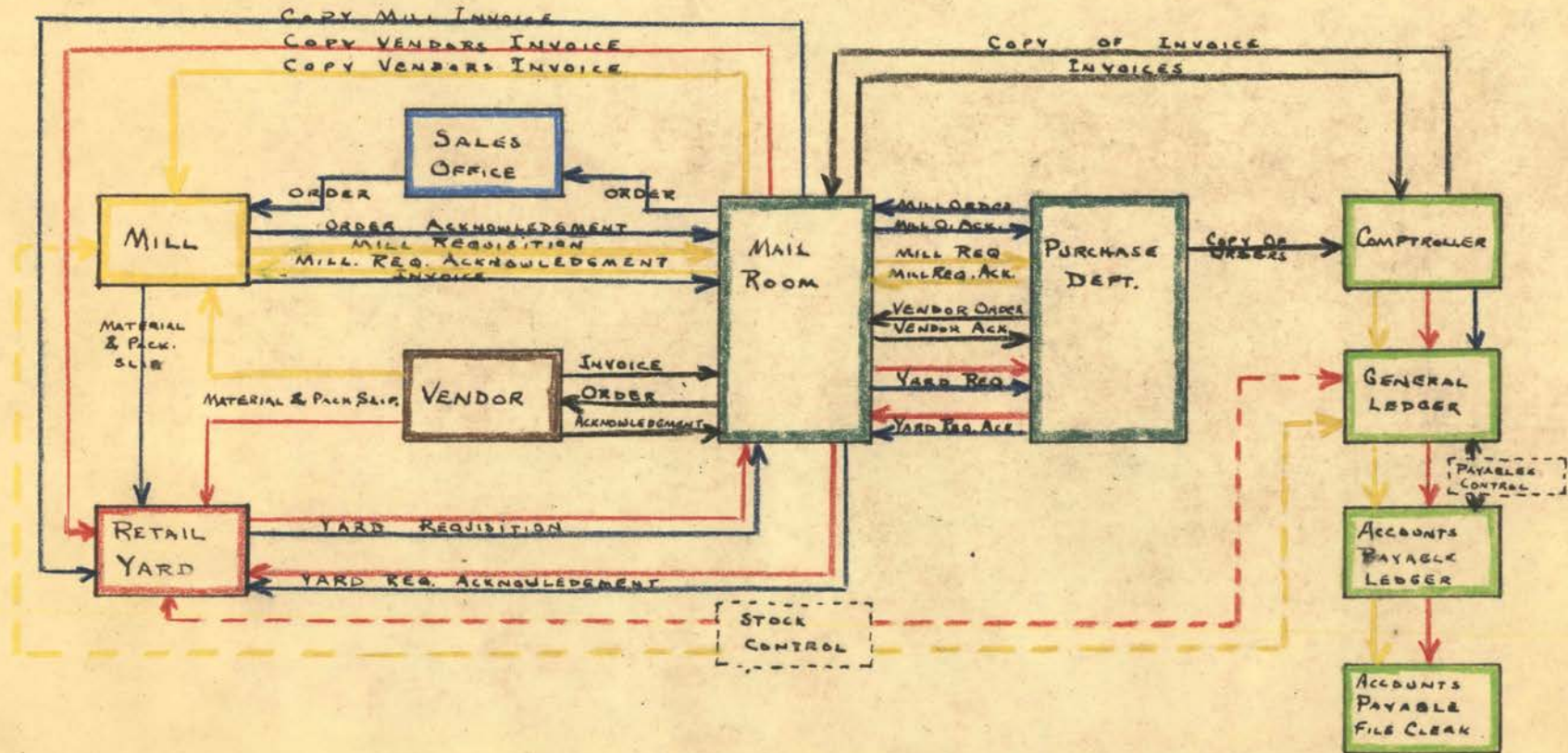
- | | Yes | No | Not
Appli-
cable |
|---|-----|----|------------------------|
| 25. Are invoices not involving material or supplies (e.g., fees, rentals, power and light bills, taxes, etc.) approved by department heads or executives prior to payment? | x | | |
| 26. Is there a satisfactory check to insure that merchandise purchased for direct delivery to customers is billed to the recipients?

(This item is now in the process of being improved upon so that a purchase order marked "direct delivery" will not be passed until there is a sales invoice copy attached.) | | x | |
| 27. Are purchases made for employees cleared in a regular manner through the receiving, purchasing and accounting departments? | x | | |
| 28. Are the vouchers, supporting documents, and expense or other distributions reviewed and initialed by an auditor of disbursements or other designated employee before payment is authorized? | x | | |
| 29. If the answer to Question 28 is in the negative, is the accounts payable clerk or bookkeeper instructed to accept only those invoices which bear complete approval (i.e., rubber stamp endorsement fully completed or the equivalent)? | | | x |
| 30. Are all purchases (materials, merchandise, services, and expenses) routed through the accounts payable ledger or voucher record rather than directly through cash disbursements? | x | | |
| 31. If certain expenses, etc., are entered directly in the cash disbursement records, are adequate vouchers filed therefor? | | | x |
| 32. Is the accounts payable ledger or voucher register balanced monthly with the general ledger controlling account? | x | | |
| 33. Are statements received from vendors regularly checked by the accounting department with the individual creditors' accounts or against open items in the voucher register? | x | | |
| 34. Is a postage meter used for outgoing mail? | x | | |

OFFICE RESPONSIBILITY CODE	
COMPTROLLER	—
GENERAL OFFICE	—
OUTSIDE GROUPS	—
RETAIL YARDS	—
MILLS	—
SALES OFFICE	—

6. PROCEDURAL FLOW OF PURCHASES.

TRANSACTIONS CODE	
RETAIL YARDS	→
MILLS	→
GENERAL	→
INTER-COMPANY	→



Comments on internal controls applied to Purchases and Expenses:

In addition to other controls applicable to purchases that have been discussed under Cash Disbursements (page 18) and Accounts Payable (page 47), Byrnes, Baker, and Smith, in their publication Auditing, set forth the following additional purchase control principles:

1. Establish a centralized purchasing department which is separated from the requisitioning, receiving, invoice approving, cash disbursement, and the accounting departments.
2. Receipt of goods should be independent of those purchasing them.
3. Competitive bidding should be utilized to the greatest extent possible. The documentary evidence of the bids should be preserved.
4. A procedure of requisitioning and/or authorization required for purchases.
5. Use of an operating perpetual inventory system on which to base the necessity for requisitions.
6. Establishment of a follow-up system on purchases placed, back orders, partial shipments, shipments completed, etc.
7. Invoices should be checked against purchase order for shipper, quantities, descriptions, prices, terms, discounts, freight allowances, etc.
8. Receiving report should be checked against invoice.
9. Properly approved invoices should be used as a basis for payment when due.
10. A standard policy must be devised to distinguish revenue expenditures from capital expenditures.

The system of internal control in use follows the above pattern

of principles to an extent that is adequate except for the multiple duties that are encompassed in the Receipts and Disbursement Clerk's office as discussed under the comments on Cash Disbursements (page 11). Also, as explained under questions 13 and 20 of this chapter, there are no receiving reports made by the retail yards. Their merchandise is checked off from the requisition acknowledgment received from the general office. A negative type of approval exists in the sense that the invoice is considered correct by the general office if the retail yard fails to notify the general office of comments or notations based on variations of actual receipts from the merchandise listed on the invoice copy that is sent to the yard for their files and information. Competitive bidding is not required, as most materials and expense items are purchased on an active competitive market from which quotations are secured and compared before purchase is made.

STRATHMORE PARCHMENT

100% RAG U.S.A.

CHAPTER XII

PAYROLLS

	Yes	No	Not Appli- cable
	—	—	—
1. Is a time clock system in use:			
a. For mill workers?	x		
b. For general office workers?			x
c. For retail yard workers?			x
2. If so, are the time cards:			
a. Prepared and controlled by the payroll department, independent of foremen?	x		
b. Punched by the employees in the presence of the foremen or other designated employees?			x
c. Signed by the foremen at the close of the pay period?			x
3. Are piece work production reports (if any) signed by:			
a. The employees?			x
b. The foremen?		x	
4. Are time cards and piece work production reports checked to or compared with:			
a. Production schedules?		x	
b. Payroll distribution?		x	
5. Is the preparation of payroll distributed among a number of employees?			x
6. Are the duties of those preparing the payroll rotated?			x

(Though these duties are not rotated each payroll period, this is a rotation effect that occurs at the time of vacation periods when other employees assume the payroll preparation duties.)

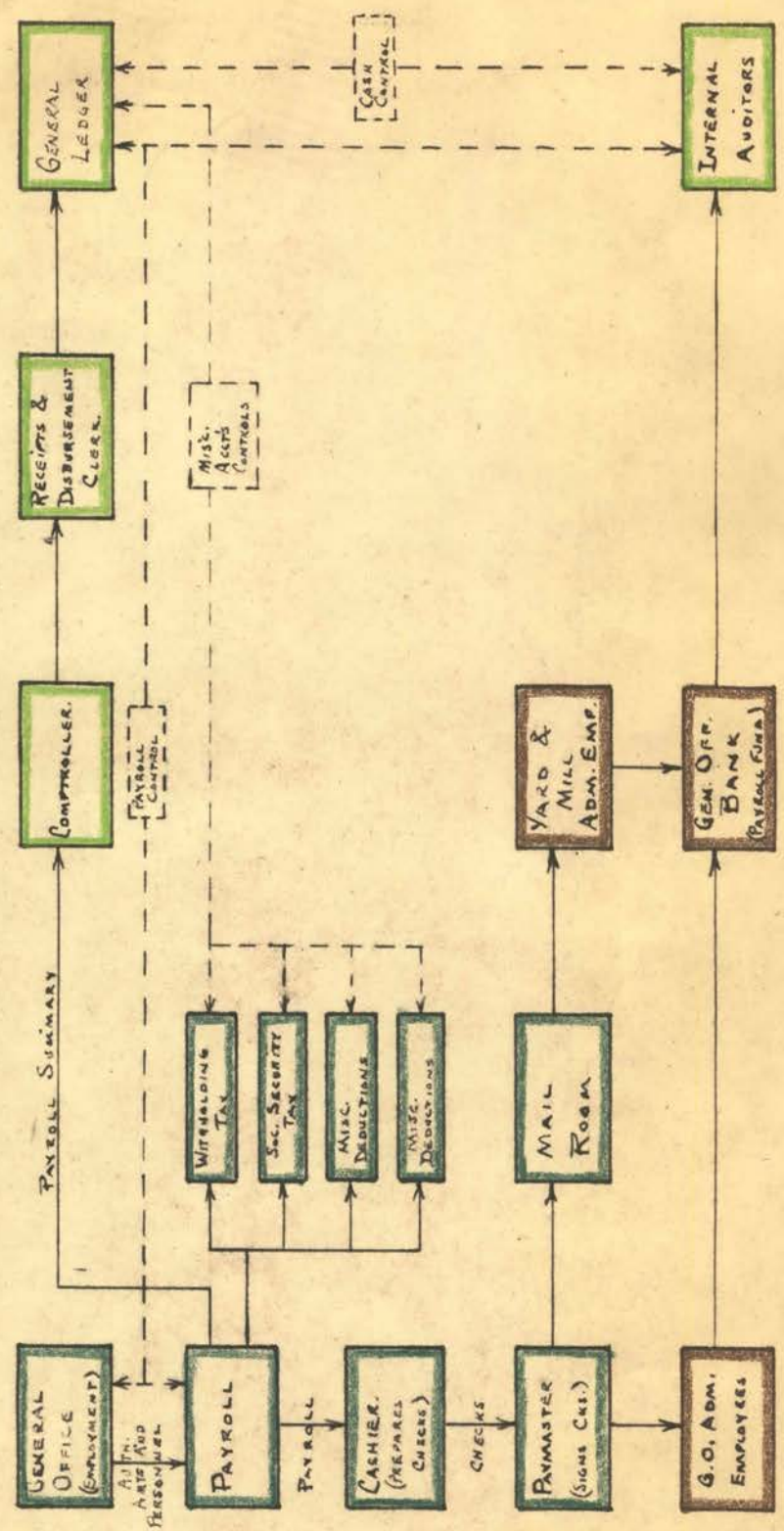
	Yes	No	Not Appli- cable
7. Are the names of employees hired, resigned, or discharged reported in writing by the personnel office to the payroll department?	x		
8. Is the payroll checked at intervals against the personnel records?	x		
9. Are all wage rates fixed by union contract, or authorized in writing by a designated official or employee?	x		
10. Are vacation and sick-leave payments similarly fixed or authorized?	x		
11. Is there adequate check against payments for vacation, etc., in excess of amounts authorized?	x		
(Regular schedule of vacations is sent to the accounting department by the department heads.)			
12. Is the payroll double checked as to hours, rates, deductions, extensions and footings?	x		
13. Is the payroll signed prior to payment by:			
a. The employee preparing the payroll?	x		
b. The employee rechecking the payroll?	x		
c. The factory manager?			x
14. Are salary payrolls approved by a responsible official prior to payment?			x
(See Question 25 of this chapter.)			
15. Are all employees paid by check?	x		
16. If paid by check, are the checks pre-numbered?	x		
17. Are checks drawn and signed by employees who do not:			
a. Prepare the payroll?	x		
b. Have custody of cash funds?	x		
(Payroll is prepared by the payroll			

	Yes	No	Not Appli- cable
department, then the checks are drawn by the cashier's office and these checks are signed by the paymaster who is the custodian of cash funds.)			
c. Keep accounting records?	x		
18. Are payroll disbursements made from a special payroll bank account?			
a. General office?	x		
b. Mills?		x	
c. Retail yards?		x	
19. Is the payroll bank account reconciled by employees who do not prepare the payrolls, sign checks, or handle the pay-offs?	x		
20. If so, does the reconciliation procedure include the comparison of the paid checks with the payroll and the scrutiny of endorsements?	x		
21. To the extent that wages are paid in cash:			
a. Is an independent pay agent employed?			x
b. Is currency placed in pay envelopes by employees who do not prepare the payrolls?			x
c. Are payroll receipts obtained from employees?			x
d. Are the workers identified by their foremen?			x
e. Are different employees assigned to the pay-off from time to time without prior notice?			x
22. Are unclaimed wages relatively insignificant?	x		
23. Is proper control maintained over back pay and unclaimed wages?	x		
24. Are wages which remain unclaimed for a specified period redeposited in a bank account and liability set up therefor?	x		

	<u>Yes</u>	<u>No</u>	<u>Not Appli- cable</u>
25. Are payrolls audited periodically:			
a. By internal auditors?	X		
b. By other designated employees?		X	
26. If so, do the auditors:			
a. Attend occasional pay-offs?	X		
b. Cover unclaimed wages?	X		

7. PROCEDURAL FLOW OF ADMINISTRATIVE PERSONNEL PAYROLL

OFFICE RESPONSIBILITY CODE	
COMPTROLLER	—
GENERAL OFFICE	—
OUTSIDE GROUPS	—



Comments on internal controls applicable to Payrolls:

Along with the internal controls applicable to Cash Disbursements (page 18), and even the closely related procedures of Purchases (page 56), Arthur W. Holmes, in his publication Auditing; Principles and Procedure, suggests the following specific internal controls as applicable to payrolls.

1. The activities of those whose duties involve the hiring, time-keeping, payroll computation, and paying of employees should be segregated.
2. The personnel department should keep the personnel file and all pertinent data relating to the employees.
3. Other departments should, by written notification, advise the personnel department of any change in the status of employees.
4. Clock time cards should be used or there should be some individual made responsible for the reporting of absences, etc.
5. The payroll should be verified against active employee lists in the personnel department.
6. Test checks should be made of the earnings records and payroll journal as well as the verification of all extensions and footings by the accounting department.
7. Total sum of checks drawn should be verified against total payroll.
8. Checks should be used for payroll payments where possible.
9. There should be a separate payroll bank fund established which is reimbursed with the exact total of the payroll each pay period.
(Note: This is an advisable procedure and not a principle.)
10. Use paymaster and another employee to pass out payroll to

identified personnel.

11. Annual statements of salary, withholding, deductions, etc. to employees will aid in verification of amounts paid to each individual when mailing is controlled by the independent public accountant.

12. Unclaimed wages should be forwarded to a designated official.

13. The payroll should be compared with wage distributions to production costs.

14. Duties of those whose function it is to prepare payrolls should be rotated.

The system being studied follows the suggestions above in a manner that would be considered adequate with the exception of the variations as outlined under Cash Disbursements (page 18). The segregation of activities is not completely adaptable to the payroll preparations in the retail yards, but the employees at these points are limited in number and are under the close supervision of the manager who signs the payroll checks. The overall pay of the managers is determined, in part, by a bonus based on the profits of their yards and all expenses are kept under close surveillance.

STRATHMORE PARCHMENT

100% RAG U.S.A.

CHAPTER XIII

SUMMARY AND CONCLUSIONS

A summary of the cardinal principles of internal control as outlined by Arthur W. Holmes in Auditing; Principles and Procedure, are given as follows along with pertinent applicable comments on the possible variations from these principles which were found in the study of this system of internal control:

1. Responsibility must be fixed.

- a. It might be advisable to have a set of detailed organization charts and procedural charts available to top management and to the various department heads so that they and new personnel could more easily secure a better understanding of their responsibilities and the operating procedures. Through the application of this information, the system of internal control would be more likely to operate in the way it was designed.

These charts would also be valuable to the independent public accountant in establishing the actual procedural flow of the transaction of every day business. They would aid in his determination of the internal controls in use, the extent of their application, and permit suggested improvements to the system. As the examination of the internal control system of the business is used by the public accountant as a basis for limiting the extent of his audit, this could also result in substantial savings in audit time involved and the consequent audit cost.

- b. The mail openers should be required to prepare a check list which, when receipted by the cashier upon transfer of the cash to him,

would be forwarded to the receipts and disbursement clerk for preparation of summaries for the general ledger and accounts receivable clerk's use. This would limit the number of those individuals responsible for the cash and also eliminate the responsibility of handling cash by those charged with accounting duties.

c. At present, the paymaster is held responsible as sole custodian of securities. Where these securities are of a substantial value, it is recommended that the presence of two designated officials should be required to gain access to the storage vaults where the securities are held for physical safekeeping. Such a requirement allows maximum internal control over these items.

2. Operations and accounting procedures must be separated.

3. All available proofs of accuracy should be utilized.

4. No one person should be in complete charge of a business transaction.

a. The receipts and disbursement clerk's office violates this principle, as this office is charged with responsibilities of handling cash, of preparing disbursement vouchers, of preparing remittance advices based on these vouchers, and of the preparation of the accounting entries to be entered in the records by the general ledger and the accounts payable clerks. It was suggested under principle 1 that all cash responsibilities be removed from this office and it seems desirable that the responsibilities for the preparation of the vouchers also be separated from the other duties of this office.

b. The paymaster is charged with the general cash responsibilities as well as those of marketable and other securities. It is

required that purchases and sales of securities be authorized by the Board of Directors or the Comptroller. However, as general cash custodian, it is the paymaster who signs the check in purchases and deposits the check in the sales of securities. Where the volume of transactions in securities or the value of the securities is substantial, the internal control system would be greatly improved if the basic cash and security responsibilities were segregated.

5. Employees are to be carefully selected and properly trained.

In the retail yards where the new machine system has produced the most radical changes, it is suggested that there be a more complete educational training program inaugurated. This training should stress the relationship between the yard reports and the general office accounting procedures. Perhaps most important of all, such training could provide the managers and their assistants with a better accounting background. Such background would aid them in interpreting the detailed statistics, balance sheets, and financial statements that are provided the yards each month by the general office. Such a program should give these managers confidence in their records and a sense of responsibility in the preparation of the yard reports. It should aid them in becoming more capable in managerial problems through an ability to apply the general office information to their yards and in a clearer understanding of general office policies as they are made.

6. Employees should be rotated on their jobs.

7. Operating instructions should be in writing and reasonably complete.

8. Employees should be bonded.

9. A double-entry accounting system should be in use.
10. Control accounts should be extensively used.
11. Mechanical equipment should be utilized wherever feasible.

In general, the internal control system of this organization seems to have had very careful consideration. This has, no doubt, been especially true during the fairly recent changeover from manual records to the use of a modern business machines system of record keeping.

BIBLIOGRAPHY

- American Institute of Accountants. CPA Handbook Vol. A.
New York: American Institute of Accountants, 1953.
- CPA Handbook Vol. B. New York: American Institute of
Accountants, 1953.
- Byrnes, Thomas W., K. Lanneau Baker, and C. Aubrey Smith. Auditing.
New York: The Ronald Press Company, 1948.
- Culey, Roy T., and Royal D. M. Bauer. Auditing. Cincinnati, Ohio:
South-Western Publishing Company, 1953.
- Finney, H. A., and Herbert E. Miller. Principles of Accounting;
Intermediate. New York: Prentice-Hall, Inc., 1951.
- Holmes, Arthur W. Auditing; Principles and Procedure. Homewood,
Illinois: Richard D. Irwin, Inc., 1954.
- Kracke, Edward A. Handbook of Modern Accounting Theory; The
Development of Auditing Standards. New York: Prentice-Hall,
Inc., 1955.

VITA

C. Orville Elliott
candidate for the degree of
Master of Science

Thesis: APPLICATION OF THE PRINCIPLES OF INTERNAL CONTROL AS
APPLIED IN A WHOLESALE AND RETAIL LUMBER MARKETING
CORPORATION

Major: Accounting

Biographical and Other Items:

Born: December 15, 1913 at El Reno, Oklahoma

Undergraduate Study: Oklahoma Agricultural and Mechanical
College, 1930-32 and 1953-55;
University of Michigan, Ann Arbor, Michigan, 1942-43;
University of Dayton, Dayton, Ohio, 1944-45;
Northern Oklahoma Junior College, Tonkawa, Oklahoma,
1953-54.

Graduate Study: Oklahoma Agricultural and Mechanical
College, 1954-56.

Experience: Retail Lumber, 1932-42 and 1947-48; Electronics
Engineer, 1942-47; Residential Construction Engineer,
1948-56.

Member of Beta Alpha Psi

Date of Final Examination:

THESIS TITLE: APPLICATION OF THE PRINCIPLES OF INTERNAL CONTROL
AS APPLIED IN A WHOLESALE AND RETAIL LUMBER
MARKETING CORPORATION

AUTHOR: C. Orville Elliott

THESIS ADVISER: Dr. George B. McCowen

The content and form have been checked and approved by the author and the thesis adviser. The Graduate School Office assumes no responsibility for errors either in form or content. The copies are sent to the bindery just as they are approved by the author and faculty adviser.

TYPIST: Mrs. Clarence A. Black