

COMMISSION ORDERED MANAGEMENT AUDITS  
OF GAS AND ELECTRIC UTILITIES

prepared by  
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## FOREWORD

This report was prepared by The National Regulatory Research Institute (NRRI) under Contract No. EC-77-C-01-8683 with the U. S. Department of Energy (DOE), Economic Regulatory Administration, Division of Regulatory Assistance. The opinions expressed herein are solely those of the authors and do not reflect the opinions nor the policies of either the NRRI or the DOE.

The NRRI is making this report available to those concerned with state utility regulatory issues since the subject matter presented here is believed to be of timely interest to regulatory agencies and to others concerned with utility regulation.

Douglas N. Jones  
Director



A Commission must monitor the efficiency of the companies it regulates and exercise the utmost ingenuity in devising rewards and penalties related to the efficiency with which those companies perform. This is easier said than done.

Alfred E. Kahn, Chairman  
New York Public Service Commission



## EXECUTIVE SUMMARY

An increasing number of state regulatory commissions have ordered management audits of investor-owned utilities in their jurisdiction. In order to assess the usefulness of commission-ordered management audits as a regulatory tool, Institute staff contacted the state commissions to obtain information about current state practices and experience with management audits.

Information received indicated that 22 state commissions had ordered at least one management audit. The majority of the audits were conducted by independent auditing firms under varying degrees of state commission supervision. The purpose of the audits was to assess the effectiveness and efficiency of operation of a specific regulated utility.

Seventy percent of the state commissions with one or more completed management audits, expressed satisfaction with the results of the audit. Most improvements and audit recommendations were in the area of cost control and management improvement. Nearly all commissions reported the cost of the audit would be allowed as an operating expense for the utility. Final audit reports were in all but one case, available to the public.

Shortcomings expressed about management audits indicated a concern that the benefits would not outweigh the costs of the audit and the lack of adequate in-house staff expertise. Increased training for commission staff was the greatest area of need expressed in order to increase the usefulness of management audits as a regulatory tool.





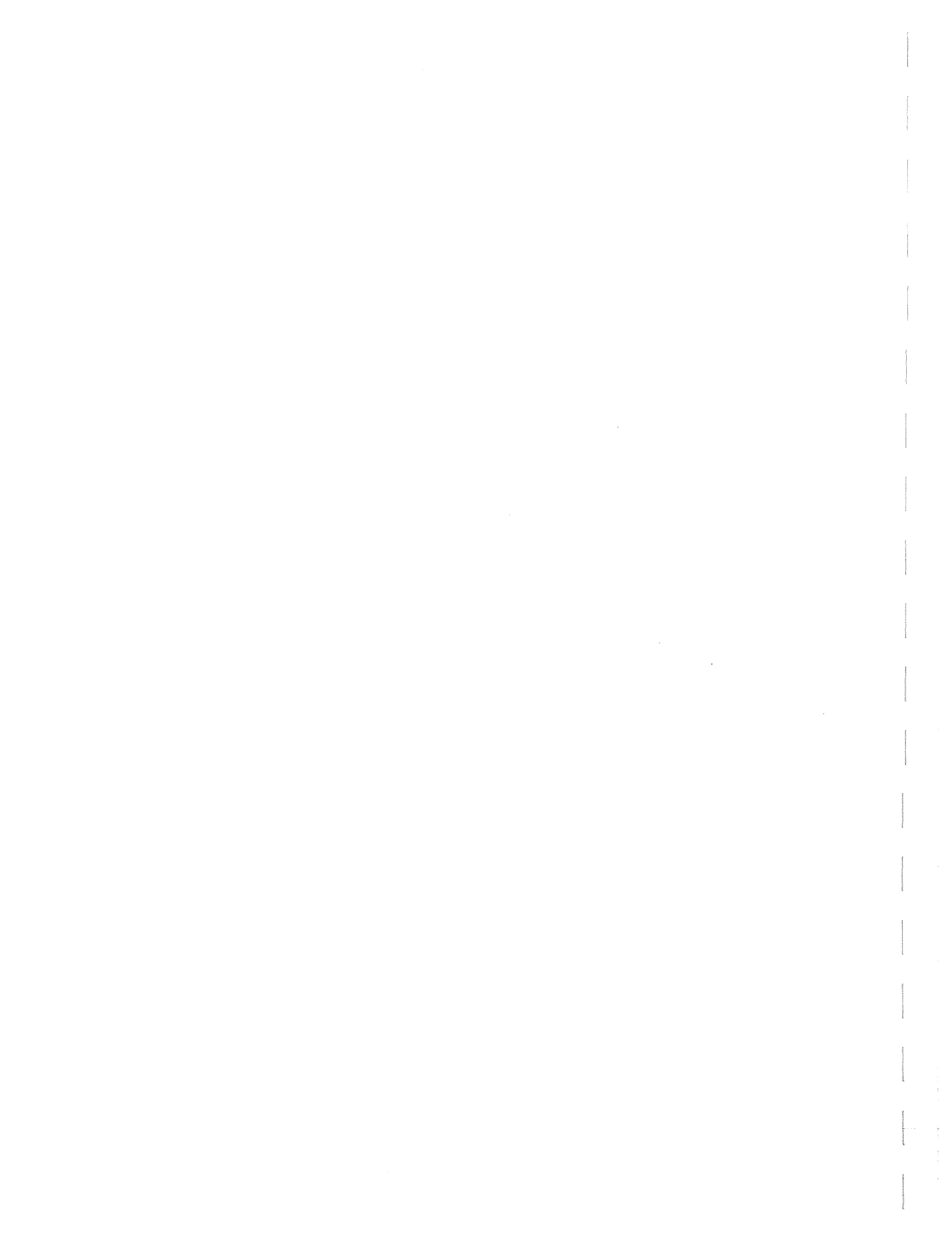
## TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY . . . . .	i
LIST OF FIGURES . . . . .	v
LIST OF TABLES. . . . .	vii
CHAPTER ONE: INTRODUCTION. . . . .	1
Background . . . . .	1
Definition . . . . .	2
1976 NARUC Survey. . . . .	4
Update . . . . .	6
Management Audits As A Regulatory Tool . . . . .	8
CHAPTER TWO: MANAGEMENT AUDIT PROCESS. . . . .	12
Initiation of the Management Audit . . . . .	14
Ordering the Management Audit. . . . .	16
Commission Involvement . . . . .	17
Management Auditing Consultants. . . . .	21
Management Audit Results . . . . .	23
Cost of Management Audits. . . . .	29
Conclusion . . . . .	31
CHAPTER THREE: MANAGEMENT AUDIT PROBLEMS AND OPPORTUNITIES . .	33
Problems Associated With Management Audits . . . . .	33
Opportunities Associated With Management Audits. . . . .	40
Conclusion . . . . .	43
CHAPTER FOUR: CONCLUSION . . . . .	44
APPENDICES. . . . .	46
Appendix A: Arkansas Power and Light Company Management Audit. . . . .	47
Appendix B: Sample Management Audit Legislation. . . . .	53
Appendix C: Request For Proposal, The Public Service Commission, State of Delaware. . . . .	58

	Page
Appendix D: Request For Proposal, Public Utilities Control Authority, State of Connecticut . . . . .	80
Appendix E: A Bibliography of Management Audit Literature and Publications. . . . .	87
Appendix F: Management Audit Final Reports in NRRI Library. .	96

## LIST OF FIGURES

	Page
Figure 1: Types of Utility Management Audits . . . . .	5
Figure 2: Availability of Commission Staff With Management Experience . . . . .	7
Figure 3: Dates Commission-Ordered Management Audits Were Ordered . . . . .	9
Figure 4: How A 7-Hour Day Is Spent At Shoreham. . . . .	11
Figure 5: Typical Management Audit Process Followed By State Commissions . . . . .	13
Figure 6: Initiator of Management Audit. . . . .	15
Figure 7: Ordering Management Audits . . . . .	18
Figure 8: Selection of Auditor . . . . .	24
Figure 9: Responsibility of Utility to Management Audit Recommendations. . . . .	26
Figure 10: Cost of Management Audits. . . . .	30



## LIST OF TABLES

	Pages
Table 1: Objectives Contained In Management Audit Final Reports . . . . .	19
Table 2: The Extent of Commission Involvement in The Management Audit Process. . . . .	21
Table 3: List of Management Audit Consulting Firms . . . . .	23
Table 4: Satisfaction With Management Audit. . . . .	25
Table 5: Specific Improvements Observed From Management Audits. . . . .	27
Table 6: Planned Public Distribution of Final Management Audit Report. . . . .	29
Table 7: Paying For The Management Audit . . . . .	31
Table 8: Reasons For Not Conducting Management Audits. . . . .	34
Table 9: Biggest Problem With Management Audits. . . . .	37
Table 10: Assistance Needed To Improve Management Audits. . . . .	41



## CHAPTER 1 INTRODUCTION

### Background

In recent years state regulatory commissions have been faced with an interrelated set of problems. Rising fuel prices, increases in the cost of capital and in the cost of new construction have led to increases in ratepayers' bills. Environmental plant siting issues, the slower rate of technological innovation, and the depressed level of the economy have also impacted upon ratepayers. In addition, in the face of reported energy shortages concerned consumers reduced their energy consumption and found that often their monthly bill still increased. Further, periods of energy shortages were followed by periods of reported surpluses, where gas utilities, in particular, would request commission approval for new customer hookups.

Consumer pressure upon state regulatory commissions appears to have increased in direct proportion to rate increases granted by the commissions. In response to consumer concern and as a logical application of its general regulatory mandate, state commissions initiated several new activities to address these problems. These activities included load control and rate design experiments, improved training for regulatory commissioners and commission staff, initiation of "sunshine" laws, increased (residential) consumer representation, changes in rate case processing, automatic adjustment clauses and management audits. Some of these activities were intended to impact directly upon end-use energy consumption whereas others were directed at increasing consumer involvement in the regulatory process itself. Load control and rate design activities, for example, were designed to

offer consumers the opportunity to consume less energy and receive a corresponding rate reduction.

The purpose of this report is to examine the use, to date, of commission-ordered management audits and to assess their usefulness as a regulatory tool. Examination and a careful assessment are important because of the increasing number of management audits ordered by state regulatory commissions.

In 1976, a National Association of Regulatory Utility Commissioners (NARUC) report identified 13 commissions which required management audits of utilities under their jurisdiction. A review of recent literature and contact with state regulatory commissions indicates that since the 1976 NARUC report 46 management audits have been ordered by state commissions. Given that these costs have been largely paid by the rate-payers, it would appear useful to assess whether the benefits outweigh the cost of conducting a management audit.

#### Definition

A management audit is best viewed as a diagnostic examination of how well an organization is managed. It identifies both those areas that are well managed as well as those areas where improvements may be necessary.

Traditionally management audits were ordered by the chief executive officer of a firm and were undertaken on a confidential basis. Commission-ordered management audits differ in that they have a public audience. The three-party audit (commission, auditor and utility) also establishes a tension between the auditor and company that did not normally exist in the company-initiated audit.

A commission-ordered management audit is defined as a study conducted of the effectiveness and efficiency of operation of a regulated utility. These studies may be conducted by commission staff or by a team of independent, outside, management experts.



Commission-ordered management audits represent an attempt to provide comprehensive information to the commission and to the concerned consumer about the efficiency of a particular regulated utility company. In the course of its daily operations, commission staff rarely have the opportunity to analyze more than a small portion of the operations of a given utility. Most information available to or requested by commission staff is problem specific. Management audits, it is argued, provide a useful opportunity to address rate-making issues in relation to the operation of the utility as a whole. Management audits, it is maintained, are also valuable as a source of expert opinion regarding the overall effectiveness and efficiency of a particular company's operations.

Management audits, it has been argued, can also serve another useful function. Because of the "cost plus" nature of utility rates, consumers have questioned the incentives utilities have to operate in an efficient manner. Moreover, consumers have questioned the effectiveness of regulation in keeping rates down to an acceptable level. Management audits may provide consumers and state regulatory commissions with objective information on both points.

Management audits also offer the possibility of questioning in-depth the operating expense, capital costs and other financial information submitted in the course of a rate case. It has been argued that financial data submitted in a rate case is examined more from an accounting accuracy point of view than from an in-depth cost-justification and analysis perspective. To cite a simple example, coal purchased and reported on in a rate case may have been purchased on the 'spot' market and at a premium price due to poor planning on the part of the utility. In theory, a management audit expert could identify this or the fact that the coal purchased was of an inferior quality in relation to its price and provide the commission with a list of areas in which cost savings could be made. Management audits may offer the opportunity to supplement the "fire fighting" atmosphere of a rate case with a comprehensive and in-depth examination of the totality of utility operations.

As can be seen in Figure 1, there are several kinds of commission-ordered management audits. While many additional variations are possible, the four displayed in Figure 1 accurately represent the main types. In some instances, a utility is ordered to undertake a management audit and is expected to report back to the commission only upon completion of the audit. In a second type, the commission identifies and selects a consulting firm, which then works with the utility and reports back to the commission upon completion of the audit. A third type has the commission selecting an auditor who will work directly for the commission. In the fourth type, commission staff themselves conduct the audit.

Management audits of regulated utilities have also been initiated with the cooperation of commissions. In these cases no actual orders were issued mandating a management audit. Appendix A contains a brief description of one such audit conducted of Arkansas Power and Light Company (AP&L).

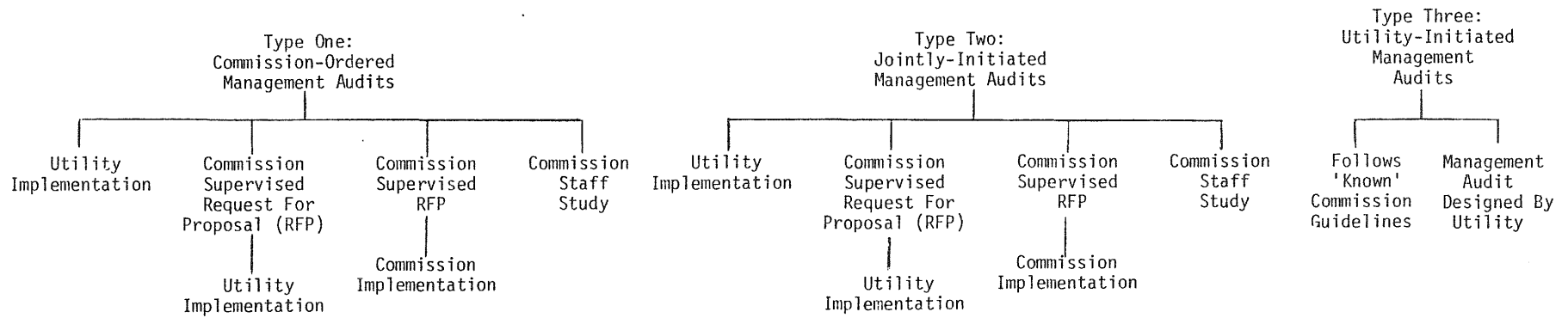
In the AP&L audit, advice and counsel were sought and received from the Arkansas commission. Additionally, the Arkansas commission met periodically with the consulting firm during the course of the audit to assure that their needs for certain rate case-related information were satisfied. Participation was informal and the commission did not in any way preclude itself from potential disagreement with any portion of the final report. The cost of the management audit was allowed as an operating expense.

#### 1976 NARUC Survey

In 1976, the National Association of Regulatory Utility Commissioners (NARUC) published a report surveying the use of commission-ordered management audits. The survey was the first of its kind and offered a status report about the use of management audits by state regulatory commissions.

In the report, 13 states are listed as having ordered a utility to undergo an audit of its operating performance, structure, objectives,

Figure 1: Types of Utility Management Audits



Type One: Commission-Ordered Management Audits. Included here are all those management audits ordered by state regulatory commissions.

Type Two: Jointly-Initiated Management Audits. This type include management audits where both the commission and a specific utility voluntarily cooperate to conduct an audit. In this case no formal orders are issued by the commission.

Type Three: Utility-Initiated Management Audits. Management audits conducted by a utility without direct commission input.

and efficiency within the last five years. In the 13 states, at least 27 utilities were subjects of management audits.<sup>1</sup>

In addition to ascertaining the level of management audit activity, the report also sought to determine the in-house capability of commission staff to conduct or monitor management audits. As can be seen in Figure 2, 17 of the 32 states responding to the survey indicated that they did not have the capacity to perform studies of utility performance.

No clear pattern emerged when commissions were asked how management audits have been used. Commissions appeared to be equally divided between those using the audits explicitly in a rate case (7) and those using audits for general review purposes (6).

Inconclusive results were obtained when commissions were asked to specify changes, if any, observed as a result of the management audit. Of the 14 audits listed, seven were still, "in process"; four were in the implementation stage; and three reported significant changes were observed as a result of the management audit.

The 1976 NARUC survey was one of the first--and the most comprehensive to date--reports concerning the use of commission-ordered management audits as a regulatory tool.

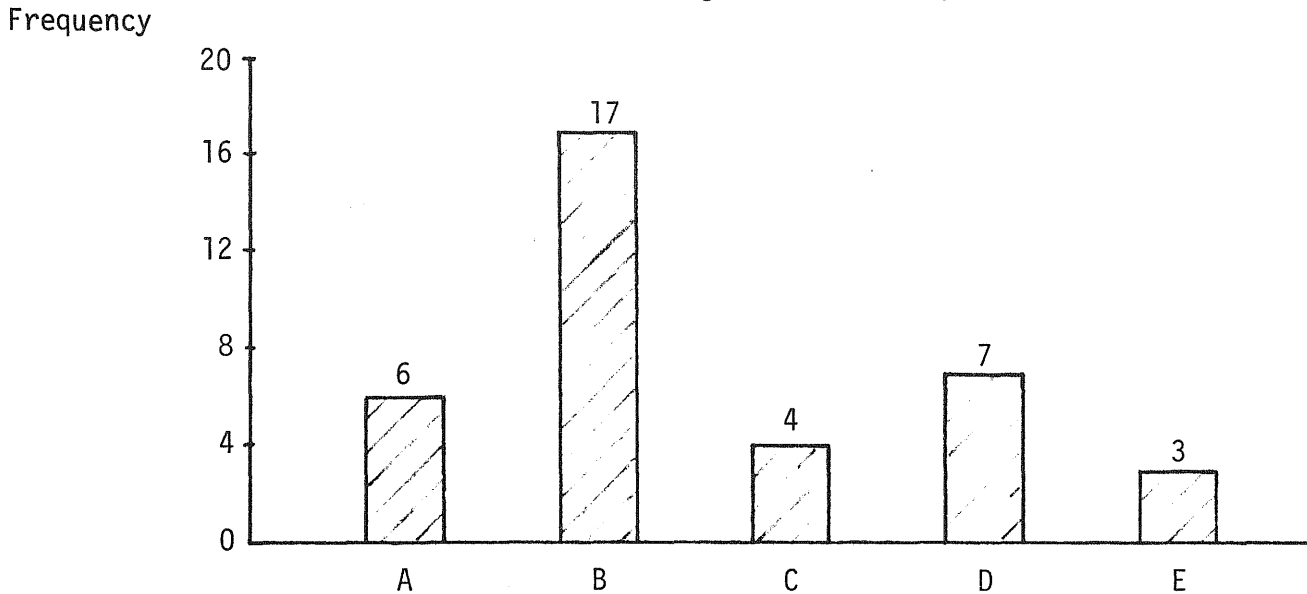
#### Update

In the 1976 survey of commission-ordered management audits, 13 states were listed as having ordered management audits. In the fall of 1978, the staff of The National Regulatory Research Institute (NRRI) conducted

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<sup>1</sup>The 1976 NARUC study focused upon telephone, water and sewer utilities as well as gas and electric utilities. Because our report deals only with gas and electric utilities, all of the 1976 NARUC data cited in this report has been adjusted to exclude data about water, sewer and telephone utilities. It is interesting to note that all 13 states had electric utility audits; eight of the 13 had gas utility audits. There were no reported cases of telephone, water or sewer utility audits in states that did not list electric utility management audits.

Figure 2: Availability of Commission Staff With Management Audit Expertise



Note: This figure includes multiple responses by state commissions.

Response

- A: Presently assigned one or more commission staff members to work with the consulting firm performing the study
- B: Do not have the capability to perform studies of utility performance
- C: Are attempting to develop capability to participate in such studies along with the consultant
- D: Are developing the capability to perform studies of utilities on an "in house" basis
- E: Already possess the ability to evaluate utilities

Source: 1976 NARUC Management Audit Survey, page 7.

annual visits to state commissions. The results of visits to state commissions indicate that 22 states have either ordered or have one or more completed management audits. The 22 states report a total of 46 audited gas or electric utilities.

Figure 3 contains information regarding the date when specific utilities were ordered to conduct a management audit by a state commission. The information displayed reveals a dramatic increase in the number of audits ordered in 1976 over those ordered in either 1974 or 1975. The number of audits ordered appears to have leveled off in 1977 and 1978. Because the 1979 data are incomplete, a further assessment of the trend is not possible at this time.

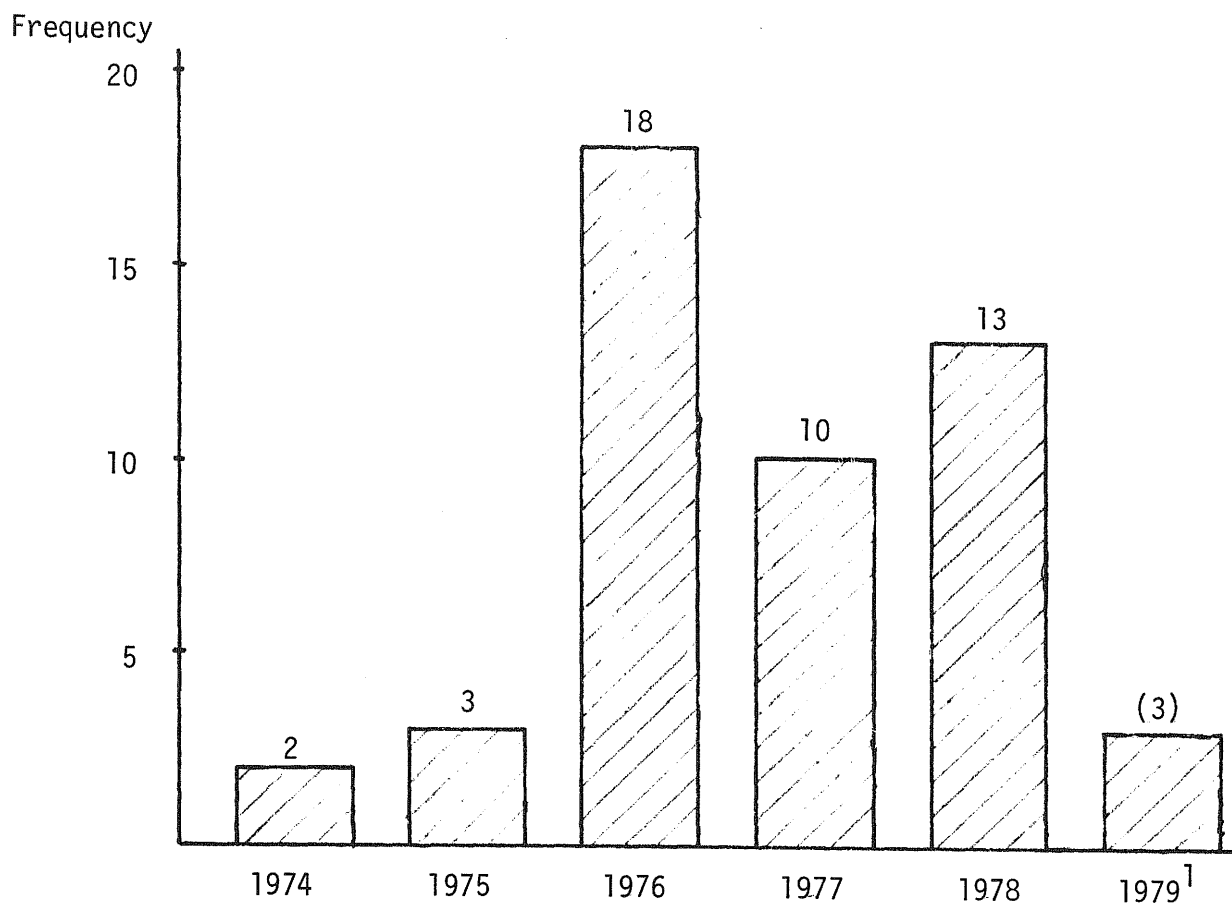
In the 1976 report approximately one quarter of the states reported commission-ordered management audits. In Fall 1978, over half of the states indicated that utilities in their jurisdiction had been ordered to conduct management audits.

#### Management Audits As A Regulatory Tool

Presented below are three examples of the actual use of management audits by state regulatory commissions.

1. Management audits have been ordered of utility-owned coal mines. The Pennsylvania Public Utility Commission ordered an investigation of the Warwick Mine; a mine that supplies one-third of the coal used by its owner Duquesne Light. The audit originated in part because the prices charged for coal have been \$5 to \$10 more than that charged for spot market coal. The commission will choose the auditor, in conjunction with the utility and the audit will be performed at the expense of Duquesne Light.
2. One commission, The Massachusetts Department of Public Utilities, disallowed the cost of a management audit as well as the raises given to utility company staff. The disallowance was based upon the fact that the audit was prepared too late to be useful in a pending rate case.

Figure 3: Dates Commission-Ordered Management Audits Were Ordered



<sup>1</sup>As this information was obtained in Fall of 1978, data on 1979 should be considered incomplete.

n=46: 1979 data not included

Source: Information obtained by Institute staff during annual visits conducted in Fall 1978

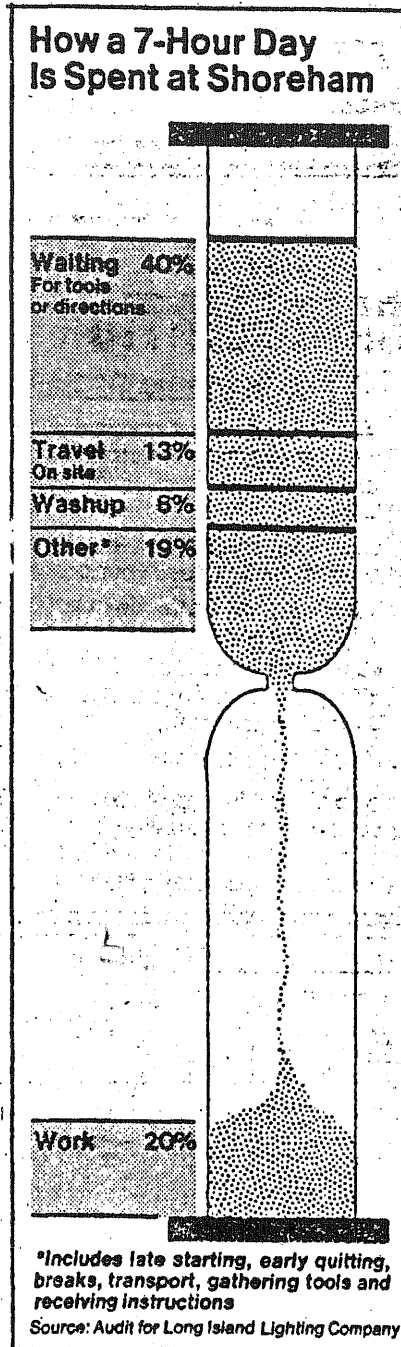
3. Management audits seek to examine and evaluate the cost components of utility operating expenses. For example, in 1978 Booz Allen and Hamilton completed a management audit of the Long Island Lighting Company (Lilco) ordered by the New York Public Service Commission. One finding noted that the average worker (see Figure 4) at a Lilco nuclear plant was spending only 20 percent of this time performing his trade. The report concluded that this level of productivity was low when compared to other similar nuclear construction projects. Subsequent to the release of the report, Lilco has acted to improve worker productivity and has taken over leadership of the management of the construction of the nuclear plant.

Other states, however, have reported having problems with the implementation and utilization of commission-ordered management audits. Selection of an independent auditor, agreement upon auditing criteria and the net benefits gained are a few of the areas causing concern to state commissions.

The remainder of this report will present the results of recently gathered information regarding the actual practices and experiences of state regulatory commissions in using commission-ordered management audits.



Figure 4: How A 7-Hour Day Is Spent At Shoreham



Source: The New York Times, March 7, 1979, p. 14

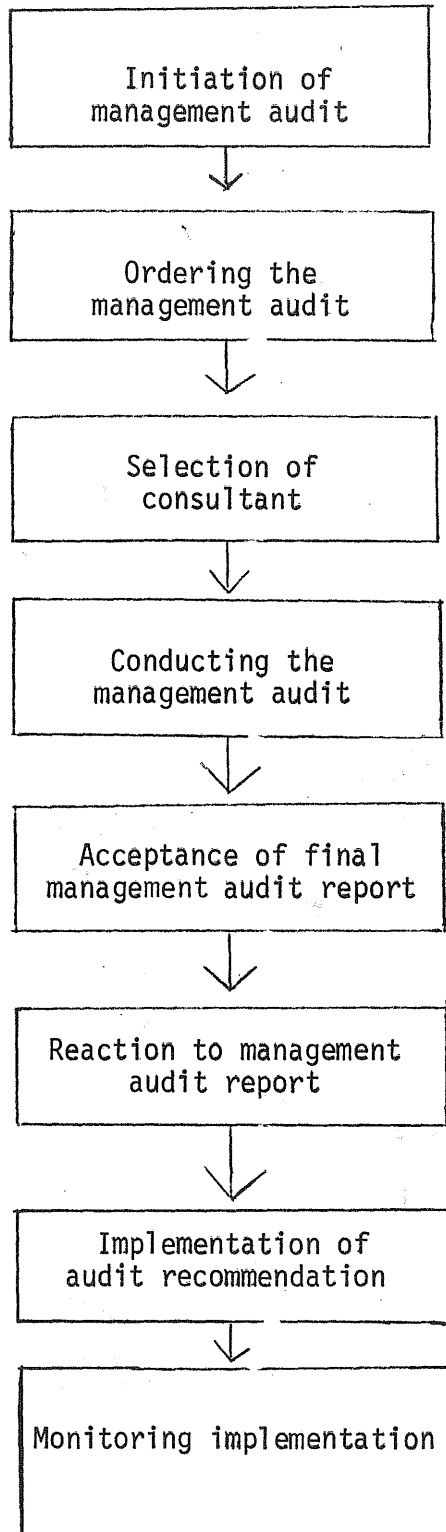
## CHAPTER 2 MANAGEMENT AUDIT PROCESS

The purpose of this chapter is to provide empirical data regarding the management audit process followed by state regulatory commissions. A small number of other reports have been prepared describing the use of management audits by state regulatory commissions (see Appendix E for a complete listing). With the notable exception of the 1976 NARUC Survey, these reports have produced little comparable data describing the actual audit practices of state regulatory commissions.

The empirical data presented in this chapter was obtained through the annual visits of Institute staff members to state regulatory commissions. In the fall of 1978, 44 state commissions (including the District of Columbia) were contacted. In addition, completed management audit reports in the Institute's library served as an important source of information.

Although a degree of variation exists between all of the possible ways of conducting a commission-ordered management audit, most commission-ordered audits followed a similar process. The management audit process described here is not the result of a formal model, but simply reflects the actual behavior observed or reported by a number of state regulatory commissions. The management audits observed by Institute staff appeared to have a number of distinct steps ranging from the initiation of the audit to the monitoring of the utility's implementation of the audit recommendations. The management audit process is depicted in Figure 5. The main exception to the process depicted occurred when state commission staff, rather than outside consultants, conducted the audit.

Figure 5: Typical Management Audit Process Followed by State Commissions



## Initiation of the Management Audit

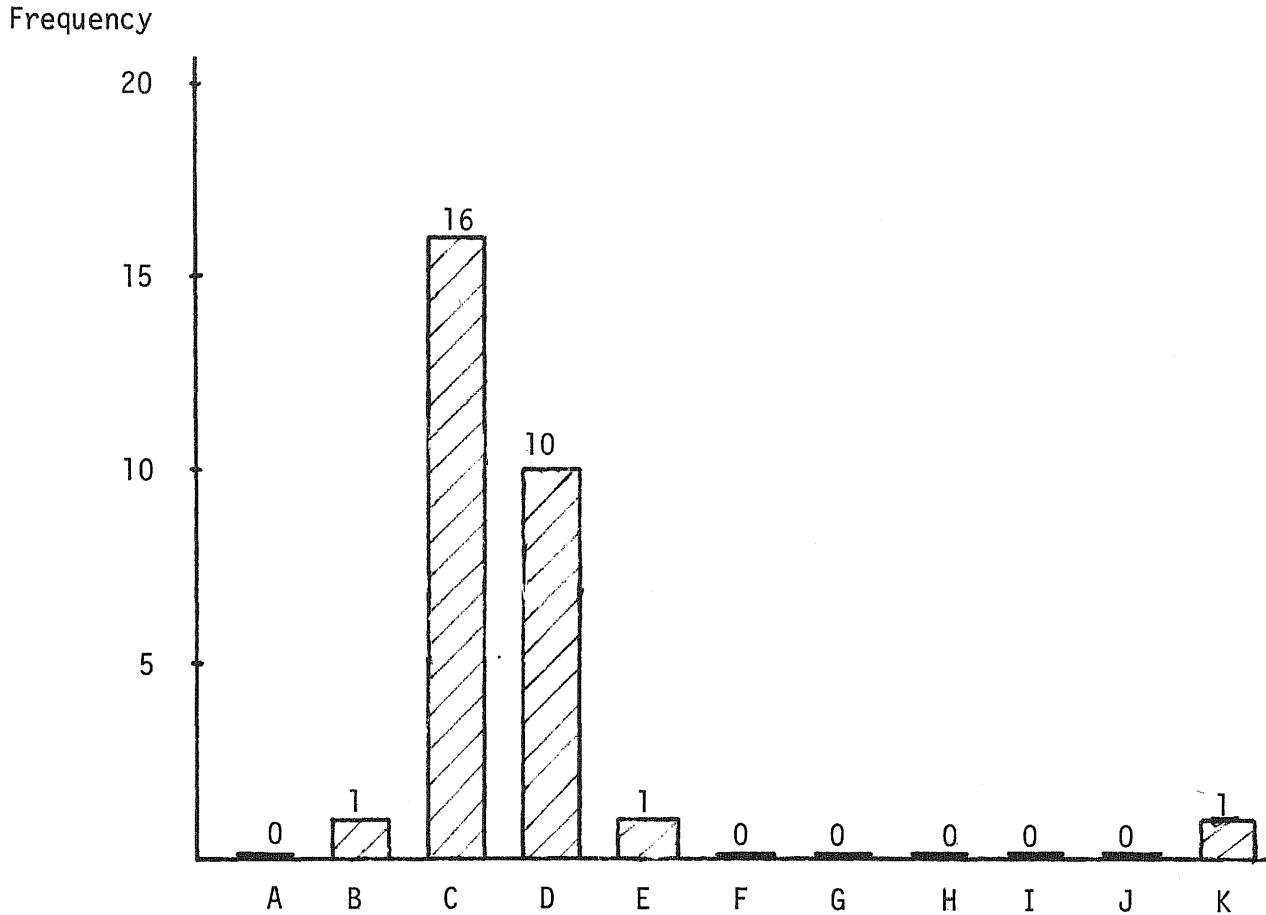
In recent years a large number of relatively new entities have appeared before state regulatory commissions as formal participants in rate cases and other types of hearings. Governors' offices, state attorneys general, state and local consumer advocates, state consumer groups, and state energy offices now appear with some regularity before state commissions. In large measure, these new participants have been in the forefront of those urging the adoption of new methods of utility regulation and energy conservation. Marginal cost pricing, time-of-day rates, home weatherization and solar energy applications are just a few of the new approaches advocated by a number of these new participants.

The use of commission-ordered management audits is relatively recent in the state regulation of investor-owned utilities. It has been argued by some that commissions have ordered management audits in response to the intervention of other entities such as consumer counsels, governors' offices and state legislatures. Indeed, one of the first states initiating management audits did so in direct response to a legislative mandate.

As is shown in Figure 6, it would appear that most of the management audits ordered were initiated by the state regulatory commissions. The data in Figure 6 indicate that 93% of the management audits examined were initiated by the state commissions themselves. It is interesting to note that commissioners were reported as responsible for initiating more audits (56%) than commission staff (37%).

Some caution should be exercised, however, in analyzing these figures. State commissions, as with all other organizations, may have a tendency to overemphasize their role. If state consumer counsels or legislatures had been queried regarding their role in this area, the responses might have been significantly different. On the other hand, state commission staff are usually quite vocal about the participation of other entities in the regulatory process, thus increasing the validity of the data in Figure 6. Further, state commissioners and staff may also

Figure 6: Initiator of Management Audit



Key

- |                       |                                       |
|-----------------------|---------------------------------------|
| A - Governor          | G - Consumer group                    |
| B - Legislator        | H - State energy office               |
| C - Commissioner      | I - Out of state private organization |
| D - Commission staff  | J - DOE (FEA)                         |
| E - Attorney general  | K - Other                             |
| F - Consumer advocate |                                       |

n=22 state commissions

Note: Possible multiple responses

Source: Information compiled from Fall 1978 state visits by Institute Staff

act in anticipation of the activities of other organizations participating in the regulatory process. Staff in one state reported that their commissioners had sought legislation and legislatures support before ordering management audits. It appears that the primary initiatives and impetus for commission-ordered management audits has been from the commissioners and commission staff.

### Ordering the Management Audit

The authority used by state regulatory commissions in ordering a management audit of a regulated utility comes from three main sources. The first source is the general scope of duties and rights of the commission contained in the general statutes of a state. This tends to be an implied authority as management audits are not specifically noted but seems to be sufficient authority in most cases. The second source of authority cited stems from the historic Bluefield Water Works Vs. West Virginia Public Service Commission (262 U.S. 679 (1923)). The section of that decision most often cited in connection with commission-ordered management audits states that:

The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. (Emphasis added.)  
Id. at 692

A third source of authority comes from state legislatures. In several states such as New York, North Carolina and Connecticut, recent legislation has been passed specifically empowering state commissions to order management audits of regulated utilities. These new statutes often detail procedures to be followed and the frequency with which audits are to be conducted. Appendix B contains statutes from New York and Connecticut authorizing the use of commission-ordered management audits.

A number of regulatory channels exist through which management audits might be ordered. State commission staff were asked how audits were ordered in their states. The data in Figure 7 indicates that the majority of the audits were the result of rule-making and rate case hearings. Several audits were reported to have been ordered because legislation had been passed requiring it.

While conclusive information does not exist, it does appear that the management audits ordered by state commissions were most often ordered in a regulatory proceeding, rather than through formal outside pressure.

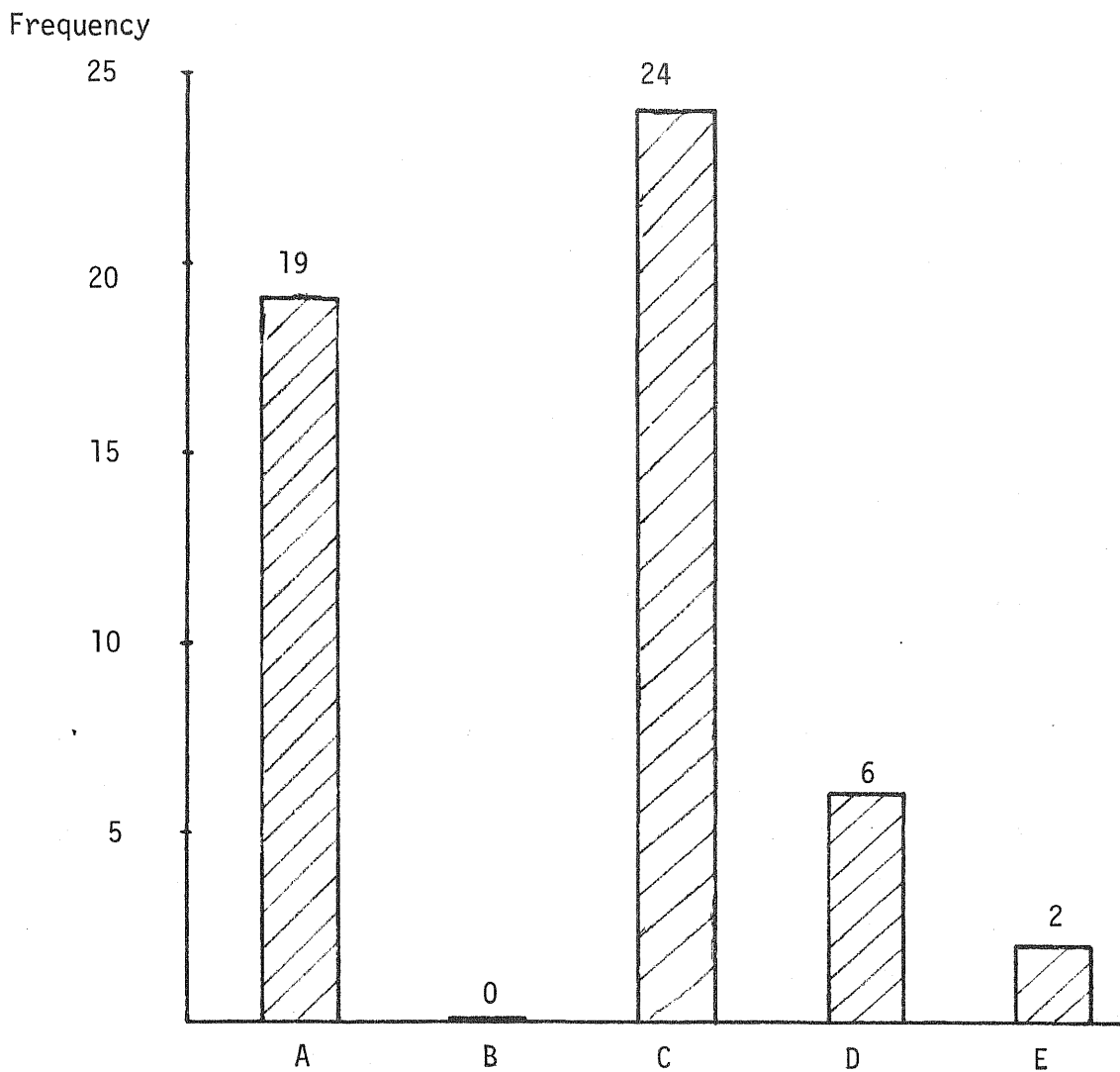
#### Commission Involvement

After the initial ordering of the management audit, state regulatory commissions have been involved in the management audit in a number of ways. Commissions have set objectives for the audits, selected the auditor and monitored the progress of the management audit.

Establishing the objectives of the management audit is an important task performed by state regulatory commissions. In order to determine the range and types of objectives found in management audits, the objectives listed in 14 final audit reports were examined. Final management audit reports were used because commission orders often did not include an explicit statement of the objective of the audit. It should also be noted that of the 19 final management audit reports obtained by the Institute, that only 14 had objective statements sufficient for analysis purposes.

Five major types of management audit objectives were identified in the final reports examined and these are listed in Table 1. Analysis of these data indicates that the two most frequently cited objectives are 1) the examination of the overall efficiency of a utility, and 2) the identification of unspecified problem areas where efficiency could be

Figure 7: Ordering Management Audits



Key

- A - Rate case
- B - Generic hearing
- C - Rule-making
- D - Legislation
- E - FAC (Fuel Adjustment Clause)

n=46 audits

Note: Possible multiple responses

Source: Information compiled from Fall 1978 state visits by Institute staff



improved. The third most frequently mentioned objective was the preparation of an implementation plan designed to remedy the problems identified in the report.

This distribution of objectives seems to support the observation often found in management audit literature that audits are process oriented. Fewer audits are commissioned with specific directives to address a particular problem and most operate under an open-ended mandate to assess efficiency and to search for areas where improvements may be necessary. Because of the nature of this search process, opponents of management audits have often labeled them as "fishing expeditions."

Seventy-one percent of the audit reports examined required the audit consultant to provide specific implementation activities. This suggests that state commission interest in management audits is upon improving, where necessary, utility operating efficiency. It is interesting to note that 30% of the final reports had as their objective the education of the consumers and/or commission staff.

Table 1: Objectives Contained In Management Audit Final Reports

Objective	Number of Management Audits with objective	Percentage of Management Audits with the objectives
1. Review and/or evaluation of the general efficiency of management and operations	12	86%
2. Identification of problem areas	12	86%
3. Preparation of an implementation plan	10	71%
4. Review of specific areas of interest to commission	6	43%
5. Education of the public and/or commission	4 4	29% 29%

n=14

Source: Final Management Audit Reports in The National Regulatory Research Institute Reference Library

Commission-ordered management audits tend to be conducted by outside consultants. When outside consultants are employed a Request For Proposal (RFP) is generally prepared by the commission to obtain qualified, independent, consultants. Some variation exists as to whether the commission prepares the RFP, or whether the audited utility prepares the RFP, subject to commission review or approval, or whether the utility prepares the RFP without direct commission participation.

The use of the RFP is important both for the state commission as well as the utility to be audited. It represents a formal and explicit mechanism for the selection of the consultant, the provision of budget figures for the audit, and agreement as to the scope and objectives of the management audit. It has the added advantage of, where applicable, ensuring commission participation "up front" in the critical initial stage of the management audit process. Appendix C contains an RFP prepared by the Delaware Public Service Commission for use in a recently conducted commission-ordered management audit. The RFP employed invites bids by outside consultants and specifies the scope of work and criteria to be used.

A slightly different RFP used by the State of Connecticut is contained in Appendix D. The Connecticut RFP provides the utility with the names of five management auditing firms and directs the utility to select one of the five. It further specifies the utility to arrange the selection process so that a commission representative may be present.

Once an auditor has been selected, the involvement of the commission staff in the actual audit could, logically, end. In states visited by NRRRI staff, a majority indicated some level of involvement throughout the entire management audit process. The information provided from these visits is displayed in Table 2.

Table 2: The Extent of Commission Involvement in  
The Management Audit Process

<u>Activities</u>	<u>Number of Responses</u>
1. Provided Funding	11
2. Provided staff	21
3. Consulted about objectives	31
4. Established criteria	35
5. Received regular progress reports	28
6. Approved final report	30
7. Monitored implementation of recommendations	28

n=46 audits

Note: Possible multiple responses

Source: Information compiled from Fall 1978 state visits  
by Institute staff

While state commission involvement does not appear to be high in respect to funding, commissions do seem to be importantly involved in other parts of the management audit process. A majority reported involvement in the setting of the objectives of the audit, establishment of evaluation criteria and in approving the final report. Commission staff also reported extensive involvement in monitoring the auditing as well as monitoring the implementation of the results of the audit.

The data reported in Table 2 reveal a fairly active type of commission involvement even though the management audits tended to be conducted by independent consulting firms.

#### Management Auditing Consultants

Commission-ordered management audits have generally been conducted by private consulting firms because state commissions have often lacked the time or the skills necessary to conduct a comprehensive management audit of the operations of a specific utility. In addition, many state

regulators seem to feel that the objectivity of the management audit is increased by having the audit performed by a reputable, independent auditing firm.

Selection of an auditing firm to conduct a commission-ordered management audit is and has been an important issue to state regulatory commissioners. It has been argued that the selection will have a significant impact upon the final product as well as the management audit process itself. Selection of a management auditing firm by the commission, it is maintained, may lead to a more hostile reception by the audited utility. Advocates of the commission selecting the auditor, argue that the auditor must function with considerable independence if an objective audit report is to be produced. One vital component of the independence, lies in the selection of the auditor by the state commission.

Data displayed in Figure 8, indicate that the majority of all auditing firms were selected by the state commission. In fact, in only 14 of the commission-ordered management audits were the auditors selected by the utility company. Three of the audits examined were conducted by the staff of the state commission. State commissions appear to have acted consistently to ensure the objectivity and independence of the audit through their actual role in the selection of the management auditing firm.

As can be seen in Table 3, that with the exception of Theodore Barry and Associates, a relatively equal distribution of management audits exists among the auditing firms identified by state regulatory commissions. This information does not include audits conducted by auditing firms selected independently by utility companies.

Table 3: List of Management Auditing Consulting Firms

<u>Number of Audits</u>	<u>Consultant Firm</u>
10	Theodore Barry and Associates
4	State commission staff
3	Arthur Young and Co.
3	Booze-Allen Hamilton
2	Arthur D. Little
2	Touche Ross and Co.
2	Ernst and Ernst
1	Harbridge House, Inc.
1	A.T. Kearny, Inc.
1	Coopers and Lybrand
1	Emerson Consultants
1	Temple, Barker and Sloane
1	Peat, Marwick and Mitchell
1	Cresap, McCormick and Paget

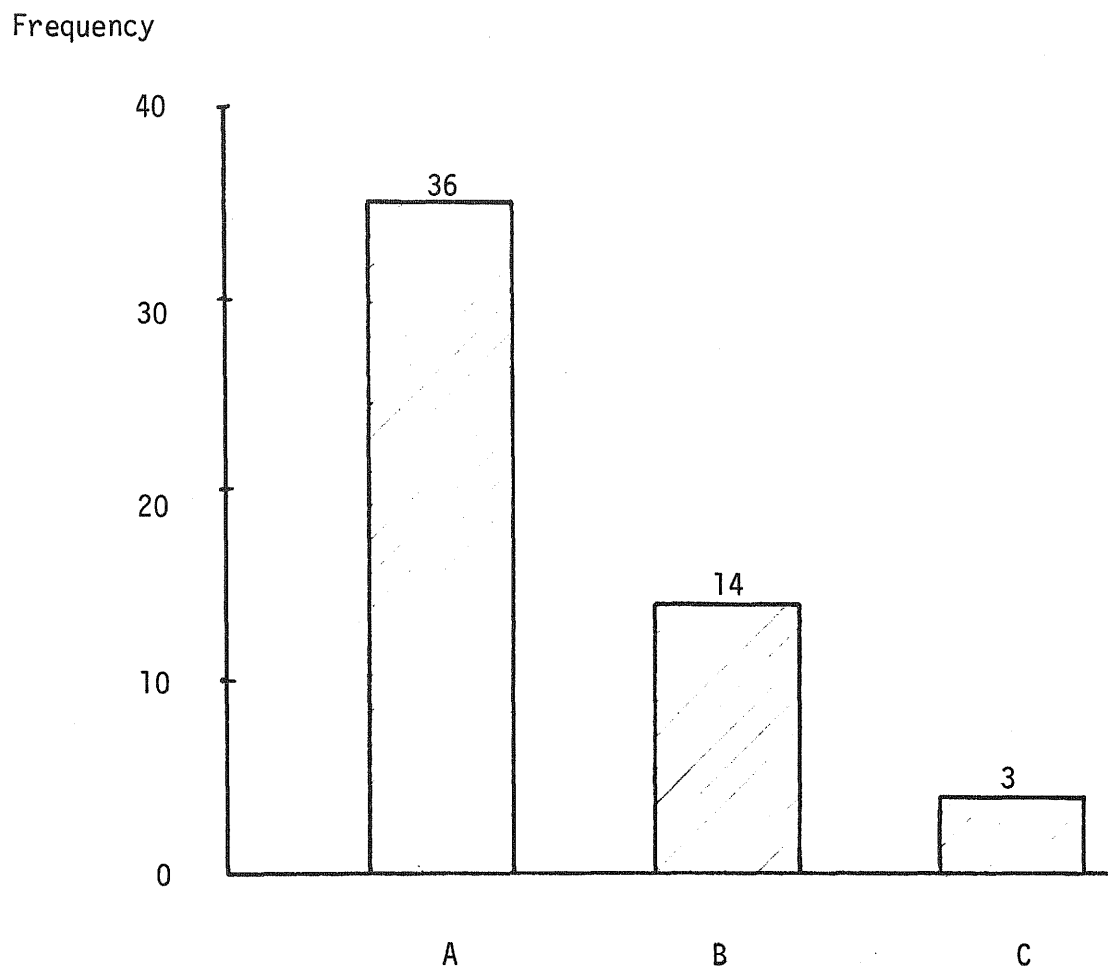
Source: Information compiled from Fall 1978 state visits by Institute staff.

#### Management Audit Results

The purpose of the management audit is to assess the efficiency of a utility's operation and to make recommendations designed to increase efficiency. State staff members contacted reported specific improvements in 14 instances; no improvement in 3, and reported that it was too early to tell in the remainder.

When asked about their percent level of satisfaction with the results of the management audit, nearly 70% reported that they were satisfied or very satisfied (see Table 4). Staff were also queried about their perceptions of the usefulness of their completed audits. Nearly 70% reported utilizing the audits in the regulatory process. These responses, however, should not be interpreted as necessarily representing the official position of the particular commission.

Figure 8: Selection of Auditor



Key

A - Management Auditor selected by Commission and commission staff

B - Management auditor selected by company

C - Management audit conducted by commission staff

n=46 audits

Note: Possible multiple responses

Source: Information compiled for Fall 1978 state visits by Institute staff

Commission staff were also asked about the response of investor-owned utilities to the recommendations contained in the management audit. Most indicated that the audited utility prepared a formal letter or report in response to the recommendations (see Figure 9). Approximately the same number reported some degree of implementation of the recommendations by the utility. Fourteen states indicated that new program initiatives (eg., labor productivity or cash management) were begun by the utility. Six states reported that some reorganization of the organization structure of the utility took place and five states reported specific cost savings resulting from the audit recommendations.

Table 4: Satisfaction With Management Audit

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<u>Categories</u>	<u>Number of States</u>
Very satisfied	4
Satisfied	19
Uncertain	5
Dissatisfied	0
Very dissatisfied	5
Too soon to tell	1

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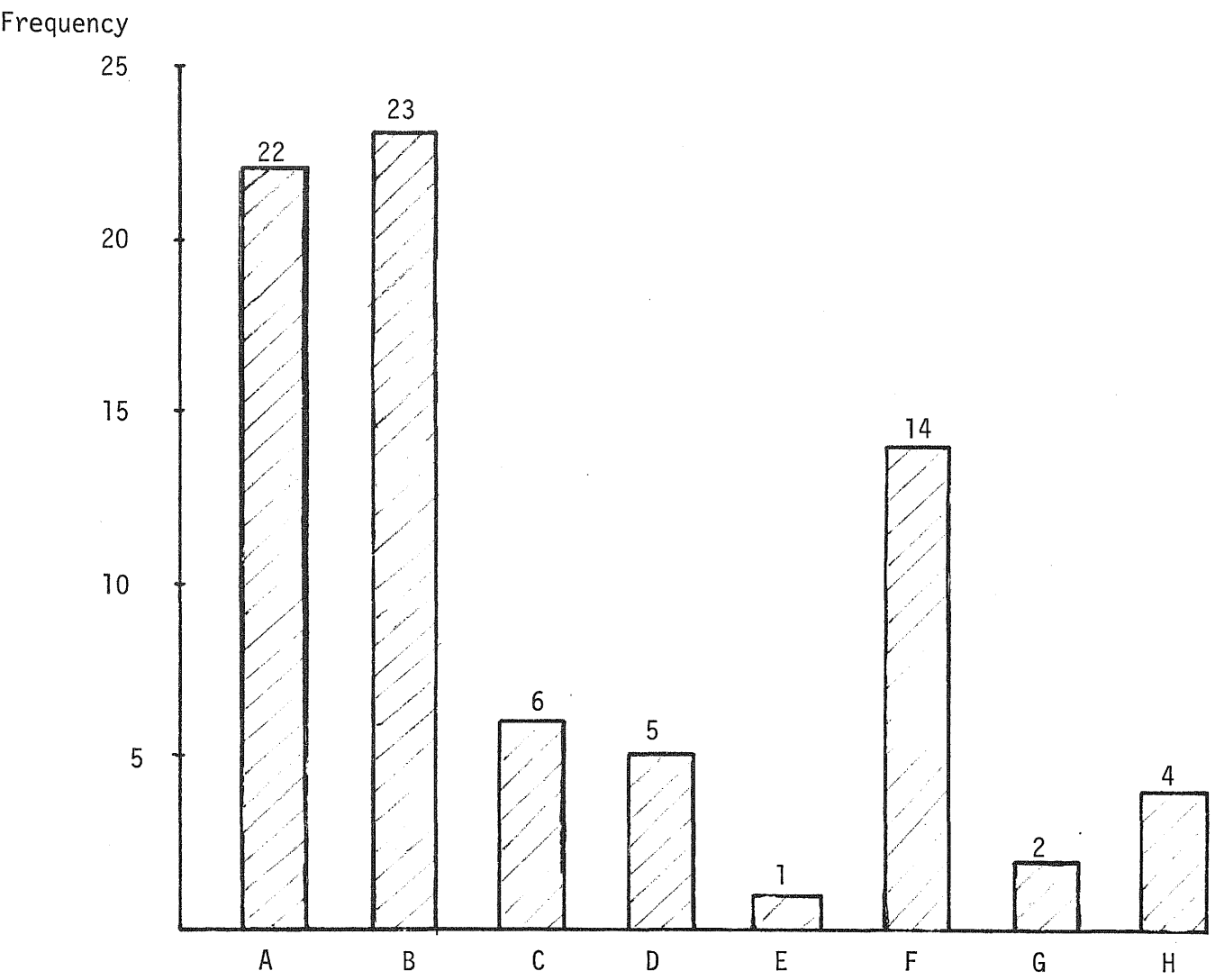
n=46 completed audits: includes 34 responses and 10 DK/NA

Source: Information compiled from Fall 1978 state visits by Institute staff

Table 5 indicates the specific improvements noted by several state regulatory commissions as a direct result of the management audit. It is hard to categorize the improvements reported because they cover a wide range of utility operations. Most of the improvements appear to be in the areas of management and cost control rather than in engineering or production.

The cost control items ranged from cash management to labor productivity to inventory control to improved fuel purchasing procedures. Reorganization of the reporting structure of the utility and improvement in forecasting and planning were the major improvements noted in the general area of management.

Figure 9: Response of Utility to Management Audit Recommendations



Key

- |                                   |   |
|-----------------------------------|---|
| A - Formal response               | E - Rate redesign application submitted |
| B - Implementation                | F - New program initiatives             |
| C - Reorganization of utility     | G - None                                |
| D - Announced actual cost savings | H - Too soon                            |

n=46 completed audits

Note: Possible multiple responses

Source: Information compiled from Fall 1978 state visits by Institute staff



Table 5: Specific Improvements Observed From Management Audits

<u>State</u>	<u>Response</u>
1	Not many because company was well-run Improved utilization of maintenance crews- 5 man crews are now 2 & 3 man crews Better insight gained re utility operations
2	Labor productivity improved Addressed issues in rate cases Disallowed wage increases for management Investigated CWIP in more detail
3	General review of operations of utility Reorganization of utility
4	Principle advantage is that it focuses attention on areas of concern to commission
5	Reorganization of utility Implementation of recommendations
6	Threat of management audit has caused some utilities to "clean up their act" Lack of specific data limits usefulness Wanted to see more dollar savings
7	Inventory control improved Cash management improved Forecasting and planning by utility improved Fleet management instituted Relation of subsidiary to parent clarified
8	Upgraded company image Improvement in load forecasting techniques More efficient coal inventory
9	Improved construction and inventory purchasing contracts Improved planning Clarification of accountability within utility
10	Coal testing procedures and BTU monitoring established Inventory control strengthened Contracts rewritten with more cost control Monitoring meters and scales installed Accounting for funds paid in advance re nuclear fuel Sampling quality control procedures established Change in top management attitude toward cost control

State commissions also reported specific improvements that assisted in the regulation of utilities in their jurisdiction. State commission staff reported obtaining a better overview of utility operations. Some also mentioned that the "threat" of a management audit appeared to cause utilities to begin improvement activities on their own.

In addition to the direct use the commissioners or commission staff may have for an audit, others outside the commission may have a need to read and use the audit. Consumer groups, state energy offices, trade organizations, attorneys general, governor's offices, consumer advocates and, of course, the ratepayer can have an interest in the management audit report.

Management audit reports can be useful to commissions and outside groups in two ways. First, they can provide a useful overview of the entire operation of the audited utility. Second, they can provide interested parties with a list of specific recommendations regarding areas where the efficiency and effectiveness of the utility could be increased.

State commission staff who reported completed management audits were asked the commission's plan, if any, for releasing the audit. As can be seen in Table 6, the majority of the audits conducted were available for public distribution. Several were reported as available for public inspection, but had not otherwise been released. One audit was reported unavailable and several had an unknown status. From the information obtained it does appear that the vast majority of commission-ordered audits are available to all interested parties. This may differ significantly from those management audits initiated by the utility.

Table 6: Planned Public Distribution of Final Management Audit Report

<u>Category</u>	<u>Number of Audits</u>
Planned public Distribution	30
No distribution	1
Not yet available	1
Public inspection	6
Unknown	5
Released through news media	3

n=46 completed audits

Source: Information compiled from fall 1978 state visits by Institute staff

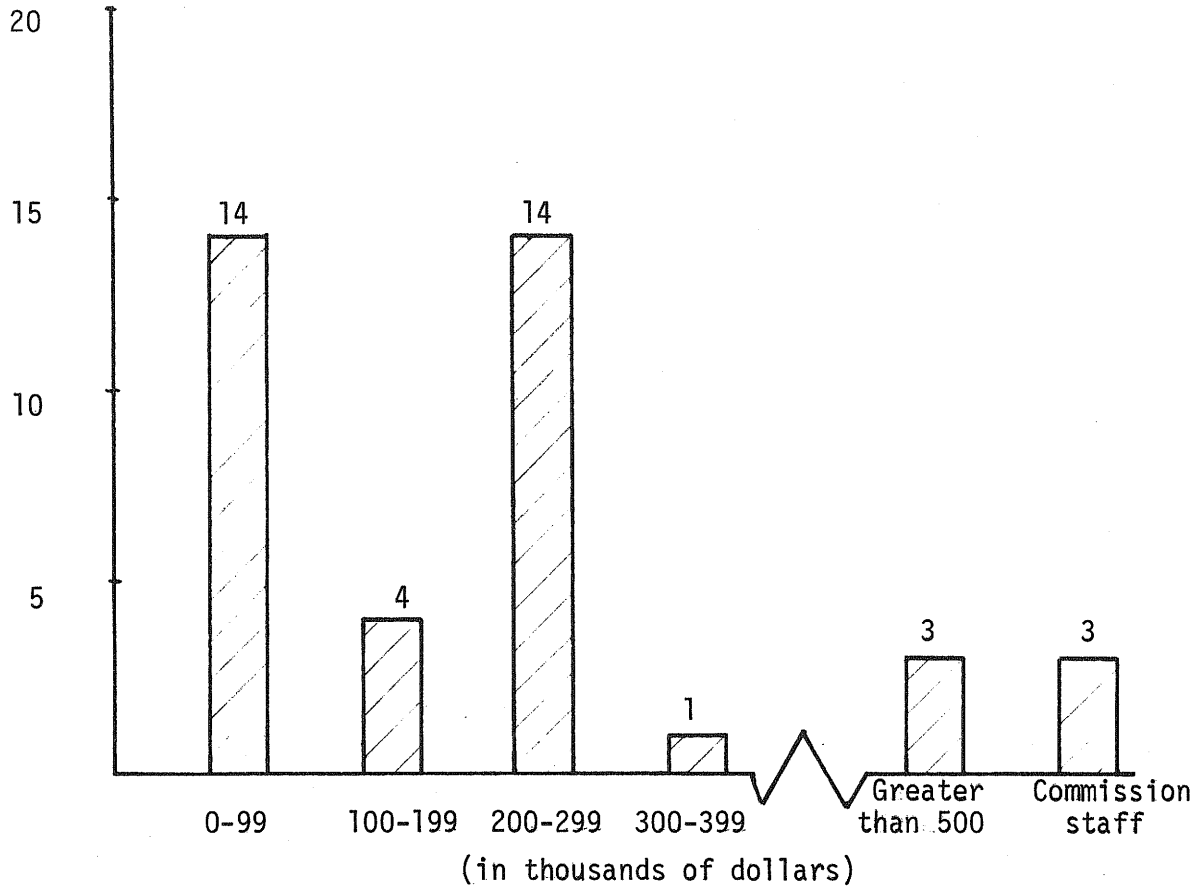
#### Cost of Management Audits

The cost of conducting commission-ordered management audits is an important factor to consider in assessing the use of management audits as a regulatory tool. It has been argued by some that the costs of a management audit outweigh the benefits of the audit, although others argue the opposite position.

Financial data were obtained for 32 commission-ordered management audits. These audits were conducted between 1975 and 1978. These cost figures include only the cost of the contract awarded the management audit consultant and not the direct cost of commission staff. As can be seen in Figure 10, the cost of the management audits ranged from \$25,000 to \$1,670,000. The data in the chart presents a clear picture of the average cost of those management audits examined. Most of the audits examined had a cost of less than \$300,000.

Figure 10: Cost of Management Audits

Number of  
Management  
Audits



n=46 completed audits: 39 responses and 6 DK/NA

Note: Data were not available concerning the actual cost of management audits conducted by commission staff. Range for all audits: \$25,000-\$1,670,000

Source: Information compiled from Fall 1978 state visits by Institute staff

One issue in the assessment of management audits as a regulatory tool concerns the determination of who pays for the audit. Logically audits could be allowed as an operating expense or as an expense charged directly to the stockholder. Those audit costs allowed as an operating cost, of course, are ultimately paid for by the ratepayer.

Examination of the data obtained on commission-ordered management audits reveals that in virtually all cases the cost of the audit has been allowed as a part of the utility's operating cost. 36 of the audits shown in Table 7 have been or will be allowed as operating costs for the audited utility. Two audits were or will be paid for by the commission. Three audits were prepared by commission staff.

Table 7: Paying for the Management Audit

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<u>Categories</u>	<u>Responses</u>
Allowed as operating cost	36
Not allowed as operating cost	0
Paid by commission	2
Audit performed by commission staff	3

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n=46 completed audits: 41 responses plus 5 DK/NA

Source: Information compiled from Fall 1978 visits of Institute staff

#### Conclusion

Although management audits ordered by state regulatory commissions have primarily been conducted by outside consultants, state commissions have been importantly involved throughout the entire management audit process. State commissions have been the primary initiator of management audits and have used the results of the audit in their regulatory proceedings. Commissions have established the objectives of the management audit, identified and selected consultants, and monitored the implementation of management audit recommendations.

Results of the management audit have largely been in the area of cost control and administration versus engineering or production efficiency. Nearly all management audits examined were allowed by the state commission as a legitimate operating expense, to be ultimately paid for by the rate-payer. Most final audit reports were available for public dissemination.

The method of commission involvement with the management audit process appears consistent with accepted management practices for handling outside consultants in general. Objectives were specified in advance, consultants were selected through competitive bidding, work progress and final report were monitored, and implementation begun. Until in-house commission staff gain greater expertise in this field, it appears that state commissions will have to rely on the process described here to utilize management audits.

CHAPTER 3  
MANAGEMENT AUDIT PROBLEMS AND OPPORTUNITIES

In the previous chapters current practices of state regulatory commissions in utilizing commission-ordered management audits were examined. In this chapter, the problems and opportunities concerning management audits identified by state commission staff will be presented and examined.

Problems Associated With Management Audits

Two types of problems were identified by state commission staff. The first type was identified by those states that had not ordered any management audits. The second type of problem was described by those states that had actually completed one or more management audits. Each of these problem types is described below in more detail.

Twenty-two state regulatory commissions indicated to NRRRI staff that their commission either had not or did not plan to conduct management audits of utilities within their jurisdiction. All of the individuals contacted were queried as to the reason why their commission had not and did not plan to order any management audits of investor-owned gas or electric utilities.<sup>1</sup>

The 22 states responding listed 41 specific reasons why management audits had not been used in their states (see Table 8). The two most common reasons were, 1) lack of resources, and 2) doubt concerning the validity of the management audit concept. Several commissions indicated they felt no need to order audits since utilities in their jurisdiction were already undertaking audits. Additionally several states indicated

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<sup>1</sup>This report intends to make no judgement regarding whether or not state commissions should or should not use management audits. It seeks simply to ascertain and examine current practices.

Table 8: Reasons For Not Conducting Management Audits

Part A: Summary

<u>Reason</u>	<u>Number of Mentions</u>
Lack of state resources	8
Doubt validity of management audit concept	7
Utilities in state already undertaking management audits	6
Costs of a management audit exceed benefits	6
No need as adjacent states share management audits	4
No interest at present time	4
Other	6

Part B: Actual Responses by State

<u>State</u>	<u>Response</u>
1	No satisfactory results on "stipulated" audit Do not believe costs equal benefits
2	Audits already undertaken by utilities (own initiative) PSC had one utility voluntarily agree to conduct a management audit.
3	No interest in management audits
4	Lack of staff expertise Lack of time Audits already undertaken by utilities
5	Two major utilities in the state were rated as the most efficient by the Audit Management Association, therefore no need for a management audit



Table 8 (Continued)

<u>State</u>	<u>Response</u>
6	Adjacent state shares its management audit information North Carolina shares its MA with South Carolina
7	Adjacent state shares its management audit information
8	Lack of staff expertise Audits already undertaken by utilities
9	Only financial audits have been undertaken
10	A non-issue, have not considered using management audits
11	Adjacent state shares its management audit information
12	Lack of staff expertise Lack of time Audits already undertaken by utilities
13	Not in favor of MA concept
14	Not a concern of the PSC at this time Adjacent state shares its management audit information
15	No need or interest & unaware of MA concept
16	Lack of staff expertise Don't believe in it Costs outweigh benefits Results are not conclusive or reliable
17	Audit already undertaken by utility Too expensive Frequently unreliable
18	Too expensive Not necessary as utilities are well-run
19	Too expensive Costs outweigh benefits No confidence in management audits

Table 8 (Continued)

<u>State</u>	<u>Response</u>
20	Lack of time Costs outweigh benefits
21	Lack of staff expertise
22	Costs exceed benefits

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Source: Information compiled from Fall 1978 state visits by Institute staff

that audits have not been ordered because adjacent states share information from completed management audits regarding utilities under their jurisdiction. Indeed if those states using audits ordered by adjacent states are added, then it would appear that 26 states presently utilize management audits.

Reasons for not conducting management audits appear both conceptual and pragmatic. Conceptual problems have to do with questions state regulators have about the validity and the net benefit of the management audit concept. Some regulators seriously question whether management audits can be used to improve utility operating efficiency. Others add that the relatively small improvements they would anticipate from an audit would not outweigh the costs of the audit for the ratepayer.

A number of pragmatic, fairly neutral, reasons were also expressed. Regulatory commission staff said that a lack of resources, the fact that utilities in their jurisdiction were already conducting self-initiated audits, and that adjacent states shared audit information on multi-state utilities were the primary reason why their commission had not ordered management audits.

State commission staff who indicated at least one management audit had been completed in their commission, were asked to identify the biggest

single problem they had encountered with management audits. Although a wide range of responses were received, two problems in particular stood out (see Table 9).

The most frequently mentioned problem had to do with the management audit consultant and the process used to select the consultant. Responses here clustered around consultants being perceived as too cautious due to their need for continuing business in the utility field. Some concern was also expressed about the consultant selection process, namely would the same senior-level consultant negotiating the contract actually be the one conducting the audit.

Table 9: Biggest Problem With Management Audit

<u>Part A: Summary</u>	
<u>Response</u>	<u>Number of Responses</u>
Lack of agreed upon criteria	5
Implementation	1
Cost of audit	2
Recommendations	8
Consultant and consultant selection process	12
Lack of Commission staff	5
Other	5

Part B: Actual Responses by State

<u>State</u>	<u>Response</u>
1	Public staff cannot participate in management audit
2	Misplaced expectations Perceived as witch hunts
3	Cost overrun of consultant Cost benefit not established Where to stop (level of detail)

Table 9 (Continued)

<u>State</u>	<u>Response</u>
4	Lack of agreed-upon criteria
5	Implementation of results
6	Poor handling of equipment and supplies
7	Defining scope of management audit Lack of agreed-upon criteria
8	Dealing with management audit consultants (feathered nest) Results are too cautious Too much focus on management vs. cost savings
9	Consultant not hard-headed enough Consultant needs continuing business--too cautious
10	Selection of the auditor How does commission knowledge become part of the audit?
11	Internal law bureau wants depositions Difference between management audit proposal and performance Need to review past management audit of auditors PSC staff must be assigned to monitor
12	Not enough staff to monitor
13	Lack of agreed-upon criteria Concern about cost of management audit
14	Not sure whether utility doing good job & PSC fails to recognize it or that management audit firm is pro-utility Salesman management audit may not be the one conducting the management audit
15	Too general in scope Not targeted to a specific problem Management audit firm may hesitate to write a frank report in publicly distributed report, versus a management audit report for internal use only

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Source: Information compiled from Fall 1978 state visits by Institute staff

The second largest problem identified concerned the recommendations produced from the audit. Some respondents felt the recommendations were too general to be useful. Others noted that the recommendations focused on management issues versus actual cost savings.

Other problems identified were a lack of agreement upon criteria used to assess operating efficiency; implementation problems, and a lack of commission staff for monitoring and implementation.

The use of outside management audit consultants appears, at least at a superficial level, to have been at the center of the majority of the problems expressed. Concern that consultants "pulled their punches" because they feared a loss of future business was a common concern. The development of an in-house staff would, it was suggested, greatly alleviate this problem.

On another level, consultants may simply be the most visible part of the problem. It may be the case that expectations regarding improvements on the part of commission staff may have been unrealistically high. The use of in-house commission staff would provide accurate information regarding the probable level of improvement possible from a commission-ordered management audit of an investor-owned utility.

It is interesting to compare the problems perceived by those states which had not ordered management audits with the problems identified by those states which have ordered audits. States not ordering audits stated a lack of resources and a doubt about the validity of audits. States with audits noted the consultant and the quality of audit recommendations as the biggest problems. A conclusion that could be drawn here is that although states with audits perceive of problems with audits, they do not appear to doubt the validity of the management audit concept.

## Opportunities Associated With Management Audits

Nearly 70 percent of all commissions reporting one or more completed management audits, reported that they were either satisfied or very satisfied with the results of the commission-ordered management audit. However, a large number expressed specific technical assistance needs which would improve the management audit process.

As noted previously, because most state commissions feel they lack sufficient staff, commissions have tended to hire consulting firms to conduct the management audit. Indeed of the 44 state commissions contacted only four indicated either an office of full-time staff working on management audits. These states are New Jersey, Pennsylvania, New York and Missouri.

The commission staff of those states reporting one or more completed management audits were asked what assistance, if any, they would require in order to better utilize management audits. Of the 16 state commissions responding, six indicated their most important assistance need to be internal staff training and the acquisition of appropriate staff. The rationale behind this expressed need appeared to be a desire to conduct future management audits with commission staff (see Table 10). Four states expressed a need for assistance to improve their ability to plan for the entire management audit process.

A scattering of other comments were received indicating the need for a better understanding of the problems associated with audits, the need for assistance from experienced consulting firms, and assistance with selecting a consultant.

Four interesting comments received here deserve further examination. A commission staff member in one state called for the creation of a private consulting firm that conducts management audits exclusively for regulatory bodies. It was argued that such an organization would solve two immediate

Table 10: Assistance Needed To Improve Management Audits

<u>State</u>	<u>Assistance Needs</u>
1	More staff is required to do additional audits
2	Better use in long term planning and system development
3	Management skills for commission in handling the consultant
4	Useful as an implicit threat Don't have capability to define own needs
5	To create a firm that does management audit exclusively for regulatory bodies
6	Don't do it -- the quality of the product is not established
7	Better knowledge of who can do a good one Better design and structure unclearly Better understanding of how to use it
8	Small companies need "early warning system" of indices Train PSC staff to do own audits Analytical mechanism for selection of candidates for audits
9	Experience and assistance from consultant management firms
10	Knowing what other states are doing
11	PSC would like to help REA's via management audits.
12	Build-up in-house expertise for working with consultants
13	To be able to do it in-house Prefer 2-Phase audit: Phase 1 reconnaissance, Phase 2 in-depth study of problem area.

Table 10 (Continued)

<u>State</u>	<u>Assistance Need</u>
14	Not enough staff, must hire consultant for implementation
15	Narrow design criteria need to be established
16	Designate a narrow focus

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Source: Information compiled from Fall 1978 state visits by Institute staff

problems. First it would reduce conflict of interest problems, and second it would still allow commissions without sufficient staff to order management audits.

The second idea expressed envisioned a two-step management audit process where the first step entailed a survey that identified significant problem areas. In the second step, a detailed examination of specific problem areas would be undertaken. This approach would help to avoid audit reports filled with non-problem specific narrative. Such an approach would more closely follow the financial audit model where a brief section outlining "conformance to accepted accounting practices" is followed by a detailed examination of exceptions and specific recommendations to bring problem areas into conformance.

The third idea expressed outlined the concept of an early warning system, particularly for smaller utilities. Here commission-ordered management audits would seek to provide utility management with advance warning of operational inefficiencies. The commission and ratepayers would benefit if corrective action were undertaken at an early stage when, presumably, corrective action would cost less than at a later stage.

In the fourth idea management audits are to be used as an implicit threat or incentive for utilities to solve known problems or undertake an audit themselves.



The assistance needs expressed by state commissions represent opportunities to improve existing management auditing procedures presently established by state commissions. The four ideas described above indicate the range of opportunities existing to increase the usefulness of commission-ordered management audits as a regulatory tool.

### Conclusion

The problems and opportunities identified by state regulatory commission staff regarding commission-ordered management audits of investor-owned utilities have been examined in this chapter. State regulatory commissions ordering management audits have done so with the primary goal of improving, where required, utility operating efficiency. Lack of sufficient commission staff has required commissions to obtain outside expert consultants to conduct the audits. Reliance upon outside consultants has proven to be a major problem, especially regarding a perceived possibility of a conflict of interest.

State commissions which have not utilized management audits reported that the lack of resources and doubt concerning the net benefit of an audit were the primary reasons why audits had not been utilized in their state.

Despite some shortcomings, seventy percent of all commissions with completed management audits have expressed satisfaction with the results of the management audit.

The highest priority area identified to improve management audits was the upgrading and training of commission staff. Assistance here would, it was argued, greatly reduce the problems associated with the use of consulting firms.

## CHAPTER 4 CONCLUSION

The number of commission-ordered management audits reported in 1978, doubled over the number reported in 1976. The rapid introduction of ordered management audits before a large number of state regulatory commissions has been accompanied by a good degree of turbulence. One concrete indicator of this turbulence is the number of recent articles in regulatory and utility journals dealing with the advantages and disadvantages of commission-ordered management audits.

With the exception of the 1976 NARUC Management Audit Survey, few of the articles appeared to provide a comprehensive report concerning the actual practices of state regulatory commissions. This report extends and updates the information contained in the 1976 NARUC report and describes in detail the management audit practices and concerns of state regulatory commissions.

The purpose of the management audit is to obtain objective information about the operating efficiency of a regulated utility. Because most state regulatory commissions feel they lack the appropriate in-house staff, they have relied upon independent consulting firms to conduct the audit. This reliance has caused several problems ranging from the selection process to the possibility of conflict of interest. The upgrading of existing staff and the acquisition of additional staff were two frequently mentioned ways to address this problem.

The recommendations for improvement of utility operating efficiency found in the final management audit report submitted to a state commission have tended to be in the area of cost control and management. Management

changes in the organizational structure of a utility, are difficult to measure regarding improvements in utility operating efficiency. Cost control recommendations, on the other hand, are more suitable for measurement and use in a rate case proceeding.

Seventy percent of all state regulatory commissions with one or more completed management audits reported satisfaction with the results of the management audit.

It is clear that if commission-ordered management audits are to become a widely utilized and accepted regulatory tool, that important commission staffing issues must be addressed. If an acceptable level of in-house expertise is not available, it seems that commissions will have to accept the problems associated with the use of outside consultants.

APPENDICES

APPENDIX A

ARKANSAS POWER AND LIGHT COMPANY  
MANAGEMENT AUDIT

April 22, 1977

STATEMENT OF  
ARKANSAS POWER & LIGHT COMPANY  
REGARDING THE BARRY REPORT

REASONS FOR MANAGEMENT REVIEW

During early 1976, AP&L's management -- recognizing that there was widespread concern both nationally and within the State of Arkansas over rising costs and utility rate increases -- decided that the Company should undertake a thorough analysis of its management efficiency and effectiveness. We reasoned that to accomplish this major task expeditiously and to achieve the degree of objectivity desired, a qualified, multi-disciplined, outside, professional management consulting firm should perform the study. At that time, it was also decided that the results would be shared with the Arkansas public and would be made available for scrutiny by appropriate regulatory authorities.

The purpose of the review was to provide AP&L management with an independent assessment of whether the Company was in fact taking advantage of all significant opportunities to reduce costs without a degradation in the quality of service provided to its customers. Even though the Company has and continues to make improvements in its operations, we acknowledge additional improvements are always possible. Identification of such opportunities is a very critical step, and we felt this process would be facilitated by a searching investigation of every phase of the Company's business by an outside consulting firm.

Of course, the ultimate objective was to achieve improvements which would reduce our costs of providing electric service and/or improve the quality of that service. The final report of the management review would serve as a blueprint for action. AP&L made an internal commitment in advance of the study to address each finding made by the consultant and to take appropriate follow-up action based upon its considered evaluation of the recommendations.

RESOURCE IDENTIFICATION

Because of the importance of the project and its ambitious scope, the Company determined to utilize every conceivable resource

to assure all issues, concerns, and avenues of potential improvement were thoroughly explored. It was decided that all Company functions and all internal personnel would be made available to the consultant, who would bring to the project his own team of professionals from many and diverse disciplines. An internal Project Coordinator would be appointed to arrange and assure open, constructive participation by all areas and levels of the Company organization. Other consulting firms performing specific assignments for AP&L would be encouraged to interact with the firm chosen to perform the review in order to capitalize upon their experience, as would appropriate organizational units in the Middle South Utilities System whose input could prove valuable.

In addition, the members of the Board of Directors of the Company were to be consulted. It was felt that their knowledge of the Company, combined with broad and varied exposure to the perceptions and concerns of many sectors of the Arkansas public, would be of significant benefit in assuring the broadest possible identification and interpretation of issues.

Finally, assistance was solicited from the Arkansas Public Service Commission and its staff. In informal discussions, their advice and counsel were received and were useful in helping define and structure the review and the selection of a qualified consulting firm. Additionally, the PSC consented to periodic meetings with the consulting firm during the course of the study to attempt to assure particular concerns of the public or their governmental representatives were adequately addressed. It was clearly established, however, that such contributions were informal and that AP&L retained full responsibility for the project; also, that participation would not in any way preclude the Commission from disagreement with any portion of the final report or from taking any subsequent action on it.

#### SCOPE OF THE MANAGEMENT REVIEW

During the initial project definition stage, the scope of the study was perceived and articulated in the Request for Proposal as follows:

The study shall include reviews of all areas of the Company's operation. Major emphasis shall be placed on the appropriateness and the effectiveness of present management systems and controls and whether management's reliance upon them in the future will result in effective and efficient Company operations. While it does not extend to the internal organization, policies, and procedures of other utilities within the Middle South System, the review shall include an evaluation of the services provided AP&L by other Middle South entities.

When prospective consulting firms were interviewed, all were advised that the scope statement above was to be interpreted in the broadest possible manner; that it was not intended

to be a limit or constraint; and that they were to exercise wide discretionary latitude as they prepared their respective proposals.

The primary objectives the study should achieve were identified as follows:

1. To provide AP&L management an independent review and analysis of the appropriateness and effectiveness of the management systems and controls presently utilized by the Company in day-to-day operations, the development of short-term plans and programs, and the development of long-range plans and objectives.
2. To provide management with recommendations for changes in the Company's management and control systems which will result in improvements in the effectiveness and/or the efficiency of the Company operations.
3. To provide an independent, documented report of study procedures, findings, recommendations, and conclusions which may be used by management in developing future plans and objectives.

#### SELECTION OF THEODORE BARRY & ASSOCIATES

On June 7, 1976, the formal Request for Proposal was mailed to eight national management consulting firms who were considered to have the necessary qualifications to perform such a comprehensive assignment. After the receipt and review of proposals, the management of AP&L participated in a series of oral presentations and interviews with six firms and in August awarded the contract for the study to Theodore Barry & Associates of Los Angeles, California.

The determining criteria for the selection of TB&A included national reputation and recognition; adequate, available resources and personnel to perform the study; favorable impressions regarding the perceptiveness and ability of the Barry principals proposed to conduct the project; extensive experience with similar assignments in the electric utility industry but without undue dependence upon our industry for an income source; and no current or past significant business relationship with AP&L.

Theodore Barry & Associates estimated their professional fee and expenses for the assignment would range between \$207,000 and \$260,000. Actual billing was \$257,900.

#### AP&L PARTICIPATION

The study began in September, 1976. At the outset, we designated AP&L's Director of Management Services to serve as overall coordinator of the project. Also, the Internal Auditing Department was instructed to be available to the Barry personnel, who felt that resource would be extremely useful to them. On our part, we felt this exposure to a study, which could be termed an operational



audit, would be a very effective training experience for our internal auditing personnel. Finally, a general staff meeting of Company management was held to explain the project, introduce the Barry personnel, and to explicitly articulate the intent that all Company resources and personnel were expected to support the project as requested by Barry.

To the best of our knowledge, no question raised by the consultants went unanswered; all records, reports, and special analyses were provided; and they were able to interview all individuals, internal and external, whom they wished to see when desired. In fact, we are quite pleased with the degree of open, constructive cooperation achieved and feel this interaction of various parties generated a certain synergism which, in the view of AP&L management, made a major contribution to the unqualified success of the project.

#### AP&L IMPLEMENTATION PLANS

Throughout the six-month duration of the review, one early-established rule was steadfastly adhered to -- all findings, conclusions, and recommendations by Barry were to be reviewed from the bottom upward in the AP&L organizational structure. This was insisted upon for three reasons.

First, we felt this would contribute to our goal of achieving complete openness and cooperation on the part of all AP&L personnel. Knowing in advance there would be no sudden surprises, especially potentially adverse findings, should and did make all levels of the organization more comfortable with the project. As a result, suggested avenues of inquiry volunteered by internal personnel were not uncommon occurrences.

Second, thorough review of all findings, conclusions, and recommendations throughout the organization would ensure the precision and accuracy of the final report. In any project of this magnitude, some errors are to be expected, particularly in those areas where informed judgment may be the yardstick. The review process minimizes the likelihood of such errors.

Finally, and most important, this process has made a major contribution to our ultimate goal -- implementation. All affected organizational elements and individuals have an understanding of the Barry proposals beyond the limitations of a written report, thereby facilitating further study and/or eventual implementation. Moreover, early awareness has made it possible to begin the implementation process sooner in a number of instances in which the Barry recommendation was clearly desirable and feasible.

AP&L is committed to addressing and making appropriate response to every one of the recommendations. A conceptual action plan has already been developed which will assure an orderly examination process. Those recommendations, which we

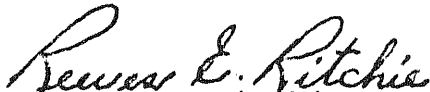
believe will enable the Company to do its job better and more economically, will be put into effect in a manner and sequence consistent with the Company's financial resources and the many other requirements (including regulatory approval, where necessary) which it must fulfill.


Although we have not yet had the time to digest and analyze all ramifications of each proposal necessary to provide unequivocal response, AP&L does not at present take exception to any of the recommendations. However, it should be pointed out that many of the recommendations suggest further study to establish cost/benefit and economics/service relationships prior to implementation simply because it was impossible in a six-month study to accomplish that kind of detail in every area. To illustrate, TB&A has provided some assistance in the development of our implementation plan and concurs with the three-year time horizon for completion.

For any recommendations that subsequent study proves infeasible, AP&L will document the basis or rationale supporting that conclusion.

While AP&L has always sought new methods and techniques to improve its operations, the decision to undergo a complete "audit" of its operational performance is a new step. We feel it has proven to be a very useful experience and has provided management with a most valuable tool to prioritize and chart future Company actions in a systematic, orderly manner.

Sincerely,

  
Reeves E. Ritchie  
Chairman of the Board

  
Arch P. Pettit  
President

APPENDIX B

SAMPLE MANAGEMENT AUDIT LEGISLATION

Connecticut General Statutes  
REGULATION AND SUPERVISION

Ch. 277

Sec. 16-8. Examination of witnesses and documents. Management audit.

(a) The authority may, in its discretion, delegate its powers, in specific cases, to one or more of its members to ascertain the facts and report thereon to the authority. The authority, or any member thereof, in the performance of its duties or in connection with any hearing, or at the request of any person, corporation, company, town, borough or association, may summon and examine, under oath, such witnesses, and may direct the production of, and examine or cause to be produced and examined, such books, records, vouchers, memoranda, documents, letters, contracts or other papers in relation to the affairs of any public service company as it may find advisable, and shall have the same powers in reference thereto as are vested in magistrates taking depositions. If any witness objects to testifying or to producing any book or paper on the ground that such testimony, book or paper may tend to incriminate him, and the authority directs such witness to testify or to produce such book or paper, and he complies, or if he is compelled so to do by order of court, he shall not be prosecuted for any matter concerning which he has so testified. The fees of witnesses summoned by the authority to appear before it under the provisions of this section, and the fees for summoning witnesses shall be the same as in the superior court. All such fees, together with any other expenses authorized by statute, the method of payment of which is not otherwise provided, shall, when taxed by the authority, be paid by the state, through the secretary of the authority, in the same manner as court expenses. The authority may designate in specific cases a hearing examiner who may be a member of its technical staff or a member of the Connecticut Bar engaged for that purpose under a contract approved by the commissioner of finance and control to hold a hearing and make report thereon to the authority. A hearing examiner so designated shall have power to administer oaths to witnesses, but shall have no other powers vested in the authority under this section.

(b) In the performance of its duties the authority may establish management audit teams as a regular and continuing component of its staff. Such management audit teams shall be composed of personnel with a professional background in accounting, engineering or any other training as the authority may deem necessary to assure a competent and thorough review and audit. The authority shall promptly establish such procedures as it deems necessary or desirable to provide for management audits to be performed on a regular or irregular schedule on all or any portion of the operating procedures and any other internal workings of any regulated public service company.\* In any case where the authority determines that an audit is necessary or desirable, it may order such audit to be performed by one of its management audit teams, or it may require the affected company to perform such audit utilizing the company's own internal management audit staff as supervised by designated members of the authority's staff, or it may require that such audit be performed under the supervision of designated members of the authority's staff by an independent management consulting firm selected by the company from a list provided by the authority for the audit, which list shall include the names of at least five qualified firms, at least two of which shall be of nationally-recognized stature. Such an audit of each gas, electric or telephone company and such water company as determined by the authority shall be conducted at least once every three years, except where the authority finds that an audit is unnecessary but in no event less than once every six years. All expenses of said audits shall be borne by the affected companies. The results of any such audits shall be filed with the authority and shall be open to public inspection. Upon completion and review of such an audit, if the person or firm performing or supervising such audit determines that any of the operating procedures or any other internal workings of the affected public service company are inefficient, improvident, unreasonable, negligent or in abuse of discretion, the authority may, after notice and opportunity for a hearing, order the affected public service company to adopt such new or altered practices and procedures as the authority shall find to be necessary to promote efficient and adequate service to meet the public convenience

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\*Emphasis added.

and necessity. All reasonable and proper costs and expenses as determined by the authority of complying with any order of the authority pursuant to this subsection shall be recognized by the authority for all purposes as proper business expenses of the affected company. Nothing in this section shall be deemed to interfere or conflict with any powers of the authority or its staff provided elsewhere in the general statutes, including, but not limited to, the provisions of sections 16-7, 16-8, 16-28 and 16-32 thereof, to conduct an audit, investigation or review of the books, records, plant and equipment of any regulated public service company.

New York General Statutes

Amends Section 66 of the Public Service Law by adding subdivision 19:

19. The commission shall have power to provide for management and operations audits of gas corporations and electric corporations. Such audits shall be performed at least once every five years for combination gas and electric companies, as well as for straight gas corporations having annual gross revenues in excess of two hundred million dollars. The audit shall include, but not be limited to, an investigation of the company's construction program planning in relation to the needs of its customers for reliable service and an evaluation of the efficiency of the company's operations. The commission shall have discretion to have such audits performed by its staff, or by independent auditors.

In every case in which the commission chooses to have the audit provided for in this subdivision performed by independent auditors, it shall have authority to select the auditors, and to require the company being audited to enter into a contract with the auditors providing for their payment by the company. Such contract shall provide further that the auditors shall work for and under the direction of the commission according to such terms as the commission may determine are necessary and reasonable.

The commission shall have authority to direct the company to implement any recommendations resulting from such audits that it finds to be necessary and reasonable.

APPENDIX C

REQUEST FOR PROPOSAL  
THE PUBLIC SERVICE COMMISSION  
STATE OF DELAWARE



## CONTENTS

<u>Title of Section</u>	<u>Page</u>
Introduction . . . . .	60
Background . . . . .	61
Objectives of the Study. . . . .	64
Scope of the Study . . . . .	66
Approach to the Study. . . . .	67
Proposed Plans, Timetables and Controls. . . . .	68
Conditions . . . . .	68
Indication of Interest and Questions . . . . .	70
Related Projects . . . . .	70
Personnel Assigned to the Study. . . . .	71
Factors to be Considered in Awarding the Contract. . . . .	72
Deadline for Proposal. . . . .	73
Firm Offer . . . . .	73
Acceptance of Proposal . . . . .	74
Price Proposed for Study . . . . .	74
Signature. . . . .	76
Project Leader . . . . .	76
Cooperation Regarding Interviews, Etc. . . . .	77
Reports and Progress Payments. . . . .	77
Working Papers and Materials . . . . .	78
Proposal Format. . . . .	79

### Introduction

You are invited to submit a proposal in accordance with the specifications contained in this Request for Proposal. Please submit your proposal in the format specified with appropriate data in each section. Offerors should submit an original and 12 copies of their proposal.

Signed \_\_\_\_\_

## Background

Delmarva Power & Light Company is a public utility engaged in the generation, transmission, distribution and sale at retail (and at wholesale) of electricity and the distribution and sale at retail of natural gas.

History and Business of Delmarva Power & Light Company: Delmarva was incorporated in Delaware in 1909. In 1943 it acquired its two wholly owned operating subsidiaries, Delmarva Power & Light Company of Maryland and Delmarva Power & Light Company of Virginia, and in 1975 another wholly owned subsidiary, Delmarva Energy Company, was formed.

Delmarva Power provides electric service throughout most of the 5,700 square-mile Delmarva Peninsula. This area includes the State of Delaware, portions of nine Eastern Shore Counties of Maryland and the two Eastern Shore Counties of Virginia. In addition, the Company distributes natural gas in a 270 square-mile area in Northern Delaware.

Locations of the Company's generating stations on the peninsula are Edge Moor Power Station, Wilmington; Delaware City Power Station, Delaware City; Indian River Power Station, Millsboro; and Vienna Power Station, Vienna (Maryland). In addition, the Company receives generation from two coal-burning stations in Western Pennsylvania and from the Peach Bottom, Pennsylvania, and Salem, New Jersey, nuclear power stations.

Ownership of voting stock of Delmarva: Delmarva's common stock is owned by about 57,200 holders located in all of the states of the United States and in various foreign countries.

## Financial Highlights:

	1976	1975	Percent Increase (Decrease)
Revenues	\$286.4 million	\$276.0 million*	3.8
New Income	\$35.1 million	\$31.5 million*	11.4
Earnings per share	\$1.48	\$1.38*	7.2
Dividends Declared	\$1.20	\$1.20	--
Common Stock Outstanding (Average Shares)	18,820,521	17,579,509	7.1
Common Stock Book Value	\$15.01	\$14.79	1.5
Construction Requirements	\$76.0 million	\$80.5 million	(5.6)
Electric Sales	6.7 billion kwh	6.4 billion kwh	4.7
Gas Sales	13.8 million mcf	12.9 million mcf	7.0
Electric Customers	260,476	250,593	3.9
Gas Customers	73,352	73,827	(0.6)

\*Restated

It is essential that the ratepayers and the Delaware Public Service Commission be assured that the Company is being operated efficiently since costs are borne by those who use the services. Only if everything reasonably possible is being done to minimize costs in the long run will this Commission permit inclusion of such costs in the determination of the Company's revenue requirements and allowable rates.

Management audits have been employed to assess the operational efficiency of an organization and it is the opinion of this Commission that an independent evaluation of Delmarva's management and operational efficiency will assist the Commission in making a determination whether the utility is taking advantage of all opportunities to reduce costs. Perhaps of equal or greater importance, it is the hope and expectation of this Commission that the management audit will identify opportunities for additional cost savings.

The Commission has instituted a study designed to answer questions relative to the efficiency and economy of Delmarva's operations and the quality and effectiveness of its management. In this connection, it

requires that the study be an independent and professional one, conducted in the manner set forth in subsequent sections of this Request for Proposal (RFP).

## Objectives of the Study

The objectives of the study are:

To evaluate Delmarva's management of major operations, determining how efficiently Company resources are being used and if adequate and effective policies and procedures are in force.

To identify those areas where the greatest opportunities exist to improve management and operational practices, specifically those areas where cost benefits could be realized.

To develop general and specific actions which will lead to the realization of such opportunities along with estimates of cost to implement and potential cost benefits.

In evaluating Delmarva, performance measures should be developed which are specifically based on its geography, climate, customer mix and the nature and economy of its service territory.

The following subject matters are detailed for scrutiny:

1. Corporate planning - System reliability - Adequacy of reserve generating capacity
2. Engineering and construction
3. Power supply, transmission and distribution
4. General support services including location and organization of accounting and data processing
5. Fuel acquisition to include the scheduling of maintenance and its impact on fuel efficiency
6. Planned and forced outages

7. Personnel - Policies and Administration
8. Environmental use
9. Customer relations
10. Relations with other publics

The review should be heavily guided by the impact of policies, procedures and practices on required revenues. It should highlight above as well as below average performance and should contain information which can be used to correct any existing or potential problems.

The offeror must be prepared to testify as an expert witness on matters related to the study specified in the RFP. Payment for public testimony will be provided separately and should not be included in the proposed price for the currently requested study. The offeror should, however, specify anticipated 1978 hourly and per diem rates for such public testimony, if required.

The successful offeror will have to put forth persuasive evidence, both written and oral, of an ability to highlight attention to opportunities for improved management and operation of the utility in the public interest. The professional organization selected will have to communicate its study results in a manner which will maximize the public's understanding of the utility's operations, financial structure and the manner in which it is regulated.

## Scope of The Study

The scope of the proposed study is company wide - encompassing all functional areas such as operations, engineering, construction and customer service. It should facilitate identifying opportunities that cut across corporate organizational lines.

The report should include a comprehensive, quantitative evaluation of historical performance of the utility with measures of progress (or deterioration) over time and selective comparisons with other utilities having in mind differences or similarities in operating conditions and service areas.

It should describe and assess the overall organization structure and planning processes in the areas of demand forecasting, systems, operations and load management.

It should evaluate functions of cash management, budgeting and managerial accounting and control in addition to the financial organizational structure.

It should review the engineering organization use of contractor services as well as research and development activities.

It should assess Delmarva's performance in fuel procurement and management, power plant operations, power pooling, transmission and distribution maintenance and customers' contact operation.

It should cover the operations of data processing, purchasing and materials management, vehicle operation, support facilities management, work force utilization, insurance and claims, land management and other operations of a service nature to the utility operation.



It should evaluate Delmarva's policies and practices of recruiting, hiring, and promotion and cover wages and salaries, executive compensation including fringe benefits and perquisites, management development and training, labor relations and safety.

#### Approach to The Study

The proposed study should be conducted for the purpose of evaluating performance and identifying opportunities that meet the criteria stated in the previous parts of this study.

This will encompass analysis of Delmarva's records and those of the Public Service Commission relative to Delmarva's service, customer complaints and efficiency.

A series of interviews should be conducted with such personnel of Delmarva, the Public Service Commission, its staff and consultant and other "publics" deemed helpful in making the assessment required by the study.

## Proposed Plans, Timetables and Controls

The offeror's proposal must clearly state all plans for the study and contain a preliminary description of each major task to be undertaken, together with a discussion of the relationships among the tasks. In addition, the offeror must provide a preliminary, time-phased plan for the study. The timetable must show the calendar time required for the elements of the study and for the offeror's learning period, fact-gathering, development of findings and recommendations, and report writing.

The offeror must discuss in detail the controls that will be applied during the study to assure timely, professional, high-quality performance. The offeror shall furnish all necessary personnel, services and materials. The offeror must exercise special care in establishing interview teams and interview procedures. Preliminary outlines of any surveys or interview guides to be used should be included in the proposal to the degree practicable. The offeror also must discuss the measures to be taken to safeguard all reports and materials.

## Conditions

The RFP does not commit the Public Service Commission of the State of Delaware (hereafter PSC) to award a contract or to pay any costs incurred in the preparation of a proposal in response to this request. The Delaware PSC reserves the right to accept or reject any or all proposals received, to negotiate with all qualified sources or to cancel

this RFP in part or in its entirety. PSC reserves the right to request additional written data, information, oral discussion or presentation in support of any written proposal or required to clarify any aspect of any proposal.

PSC may require the selected offeror to participate in written or oral negotiations and to submit revisions, including price revisions, that may result from such negotiations. PSC reserves the right to accept other than the lowest offer. PSC also reserves the right to make any revisions, deletions or additions to the statements in this RFP. PSC may accept any proposal without conducting further written or oral discussions with any offeror.

PSC reserves the right to terminate this project prior to its completion by the offeror upon seven (7) days' written notice to the offeror. In the event of termination, the offeror will be paid for services rendered up to the time of termination.

## Indication of Interest and Questions

An offeror who is interested in making a proposal must give written notice to the project leader of this interest, such notice to be received not later than November <sup>9</sup>4, 1977. The written notice of interest must include the name, address and telephone number of the individual in the offeror's organization who has responsibility for preparing the proposal. A written indication of interest does not obligate or commit an offeror to make a proposal; however, PSC reserves the right to eliminate from consideration the proposal of an offeror who does not give a written indication of interest by the deadline.

Any question relating to this RFP must be submitted in writing to the project leader. Any answers to written questions will be supplied on an equal basis to all offerors who have expressed a written interest in making a proposal. Any changes or additions to this RFP will be made by written amendment and issued to all offerors who have expressed a written indication of interest.

## Related Projects

Each offeror should list projects currently in progress, or completed within the past three years, which the offeror considers to be similar to this study. Projects on which a proposal is pending may be included if so identified.

Each project should be described in sufficient detail to permit comparison with this study and should provide the name, title, address

and telephone number of an individual of the client organization who can discuss the project on a knowledgeable basis. Please place this information in an appendix of your proposal.

#### Personnel Assigned to The Study

Provide an organizational chart listing each person to be assigned to the study, and including each person's position within the firm, billing rate, experience, specific contribution to be made and other pertinent information. List the names of both the partner or officer in charge of the study and the project manager, and provide an estimate of their billable time for the study. List the estimated manhours to be applied by all other persons to be assigned. No persons other than those listed in the offeror's original proposal will be permitted to work on the study without the prior express approval of PSC.

Provide a resume for each person who will be assigned to the study, indicating the individual's knowledge of the areas related to this study and the qualifications applicable to the performance of the study. In addition, list three references for each person, along with addresses and current telephone numbers.

Please place this information in your proposal.

## Factors To Be Considered in Awarding The Contract

PSC will evaluate the proposals that meet the specifications of this RFP on the basis of the following factors:

1. Demonstrated ability to understand and perform the assignment.
2. Innovative suggestions to improve the study.
3. Description of the final product which PSC can expect to receive and the practical usefulness of the final report.
4. Demonstrated knowledge and understanding of the requirements of PSC and of the relationships that exist with the utility.
5. The staffing plan and the qualifications and past experience of the staff to be assigned to the study.
6. The specific approach to the study.
7. Offeror's prior assignments related to this study.
8. Proposed interview techniques, questionnaires, project tasks, etc.
9. Responses and recommendations of references listed in the proposal.
10. Total proposed contract price.

### Deadline For Proposal

All proposals must be received by the project coordinator no later than 4:30 P.M., Eastern Standard Time, December 16, 1977. Proposals received later than December 16, 1977 will not be considered.

Offerors may be requested to make presentations concerning their proposals during the week beginning January 2, 1978.

### Firm Offer

Proposals must contain a statement to the effect that the proposal is a firm offer until 4:30 P.M., Eastern Standard Time, January 31, 1978. Please provide this statement in your proposal.

Acceptance of Proposal

The original copy of your proposal may be used as the contract. Therefore, each proposal must include an acceptance paragraph for PSC to sign. Until a formal notice of acceptance is issued, no communication, either written or oral, by any member or employee of PSC shall be interpreted as a promise of acceptance of any proposal. The following acceptance paragraph should be provided at the end of your proposal:

If the foregoing proposal meets with PSC's approval, will you so indicate by signing the acceptance provided below and we will consider this as our agreement on the subject matter hereof:

Public Service Commission of  
the State of Delaware  
By:

Accepted this            day  
of                            , 1978.

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Price Proposed for Study

It is anticipated that the contract resulting from this RFP be on a "not-to-exceed" basis. You are requested to submit a proposal which is considered to be realistic for the approach you propose.



Using the format below, the offeror must provide a breakdown of the price proposal by hourly rates for every individual, giving the total time charges and expenses for each person. A maximum price must be submitted which includes an estimate of the total of fees, travel, subsistence and all other charges.

<u>Name</u>	<u>Billing Rate</u>	<u>Hours</u>	<u>Expenses</u>	<u>Total</u>
Partner				
Project Manager				
All others, by name				
All other fees or expenses				
Total maximum price				

\$ \_\_\_\_\_

Flexibility between classes and among members of the aforesaid classes is permissible if the maximum price is not exceeded.

In addition to the above format, each proposal must contain the following statement:

PSC shall pay (offeror) as full compensation for all authorized work performed and accepted, including all costs, fees and expenses, an amount not exceeding \$ \_\_\_\_\_.

All price information shall be placed in your proposal.

Signature

The proposal must be signed by an officer or partner authorized to bind the offeror contractually. The name, title, address and telephone number of this individual must be included.

The proposal should also include the name, title, address and telephone number of the officer or partner (if different from above) who may be contacted during the period of proposal evaluation.

Project Leader

The following individual is designated as PSC's Study Coordinator:

Harold E. Remley  
Chief Accountant

Mr. Remley will act as the primary point of contact and coordination for the entire study. He will represent PSC in all aspects of this project and will receive all proposals, invoices, reports and other correspondence relating to the project. All proposals, correspondence, etc. should be sent to:

Mr. Harold E. Remley  
Public Service Commission  
1560 S. DuPont Highway  
Dover, Delaware 19901

### Cooperation Regarding Interviews, Etc.

PSC will cooperate with the successful offeror in such areas as persons to be interviewed, questions to be asked on questionnaires and persons to receive questionnaires.

### Reports and Progress Payments

The successful offeror must make oral progress reports once each month. The final written report, as well as all work called for under the contract, must be completed not later than July 31, 1978. The offeror may be considered to have completed his contractual obligation upon submission of a final report that meets the requirements of this RFP.

A draft copy of the final report must be submitted to PSC at least three weeks before the final written report is due in order that PSC may ascertain that the offeror has complied fully with each facet of the contract. The offeror must submit an original and 25 copies of the final report. The final report must be complete and specific; and it must be supported by completed questionnaires, completed interview reports, statistical tabulations of all data compiled and all related supporting information.

In the event that any evaluation of management personnel in relation to their present jobs is made, it shall be contained in a separate report. This report, which is to be separate from the main report on the matters set forth in the "OBJECTIVES OF THE STUDY" section, will

be totally confidential. //

Progress payments will not be made more frequently than monthly, based upon invoices submitted by the offeror. Aggregate progress payments will not exceed 80% of the total accrued charges at date of invoice, with the remainder to be paid upon satisfactory completion of the study.

#### Working Papers and Materials

In order to safeguard the confidential nature of all information necessary to this study, all working papers and materials used or developed by the successful offeror in connection with this study shall remain confidential. These shall include, but not be limited to, completed questionnaires, surveys, interview outlines, financial data, drafts, written or oral information supplied by others and any other materials or working papers. In addition, all statistics, information and other data that is collected or written for this study may not be published or referred to either orally or in written form or used in any other manner without the express written approval of PSC.

By submitting a proposal in response to this RFP, each offeror agrees: (1) that PSC shall own and have unlimited rights to all interim and final written reports, and (2) not to assert any rights or establish any claim under existing copy-right, patent or data laws as to such reports.

## Proposal Format

- Section One: Approach to project, proposed plans, timetables, description of tasks to be performed, etc.
- Section Two: Information of related projects
- Section Three: Personnel, resumes, references
- Section Four: "Firm Offer" statement
- Section Five: Price of the proposed study

APPENDIX D

REQUEST FOR PROPOSAL  
PUBLIC UTILITIES CONTROL AUTHORITY  
STATE OF CONNECTICUT



# STATE OF CONNECTICUT

## PUBLIC UTILITIES CONTROL AUTHORITY

STATE OFFICE BUILDING

HARTFORD, CONNECTICUT 06115

29/1/12

Dear

In accordance with Section 16-8 of the Connecticut General Statutes, the Public Utilities Control Authority has determined that it is essential that a management audit be conducted of the corporate structure and operating and management efficiency of the hereinafter referred to as "the Company."

In accordance with the statute, the management audit will be under the supervision of the Management Audit Division of the Public Utilities Control Authority.

Pursuant to Section 16-8(b), we hereby submit the names of five management consultant firms from which the Company shall select one to perform the management audit. We further direct that the Company advise the Authority of their selection within forty-five days of the date of this letter.

The Company is directed to arrange the date, time, and place of interviews with the consulting firms during the selection process so that a representative of the Authority may be present. This requirement shall apply to all orientation or familiarization interviews prior to submission of proposals by the management consulting firms as well as discussions on or subsequent to the date of such submissions.

Three copies of the complete text of all written proposals shall be provided to the Authority as well as one copy of all correspondence between the utility and consultant during the entire management audit process. Each proposal submitted must contain the following provisions:

1. Objectives

The consultant shall submit a statement of his objectives in conducting the management audit and relate these objectives to the benefits to be gained by the Company and its ratepayers.

## 2. Approach

The consultant will provide a detailed plan explaining the methodology of his analysis. This plan shall include the specific procedures and methods used in data collection, data analysis, and the development of conclusions. The anticipated internal and external sources of information and data to be used in the report shall be identified. The consultant's use of comparative standards of evaluation, (e.g., inter-utility comparisons, intra-utility comparisons, historical trends, independent standards, etc.) shall be explained.

## 3. Scope

The scope of the audit will be a comprehensive overall analysis of the Company including but not necessarily limited to an examination of the following functional areas:

- (a) Organization and Management
- (b) Operations and Engineering
- (c) Financial
- (d) Data Processing
- (e) Personnel
- (f) Planning
- (g) Support, including Legal Services
- (h) Customer Services
- (i) Public Relations

A more detailed classification of the functional areas may be found in attachment #1.

## 4. Timetable

The consultant will specify the anticipated duration of the audit and will provide a preliminary time-phased plan for each component of the study.

## 5. Personnel Assigned

The consultants will submit a list of all personnel that will be assigned to the management audit process including their resumes and the nature of their specific responsibilities in the conduct of the audit.

## 6. Reporting Procedures

During the conduct of the audit, the consultants will provide to the P.U.C.A. advance bi-weekly notices of the scheduled planned activities for the ensuing



two weeks and a bi-weekly progress report detailing the audit steps completed. The consultant will also meet, as necessary, with members of the P.U.C.A. to discuss the audit's progress. During the course of the study, special reports detailing particular methods or findings may be required.

Preliminary, interim, and final reports or drafts of findings or recommendations shall be submitted simultaneously to the Authority and to the Company. Final written reports shall be considered to be public documents and as such shall be available for public inspection and distribution.

7. P.U.C.A. Staff Involvement

A member of the Management Audit Division of the P.U.C.A. may participate in various phases of the management audit process as a working member of the audit team. Assignments will be mutually agreed to by the director of the Management Audit Division and the consultant.

8. Verification Sessions

Verification sessions to confirm the validity of the data to be incorporated in the audit report and used in the development of the consultant's recommendations will be held, as necessary, between the consultant, the utility, and the P.U.C.A. staff.

9. Performance Measures

The consultant will identify and recommend meaningful performance measures for monitoring on a continuing basis the significant functions of the utility.

10. Final Report

The final report submitted by the consultant will contain a priority listing of recommendations and an explanation as to how these priorities were identified, a program including a timetable for the proposed implementation of the recommendations, an estimation of the cost of implementation, and an estimation of the value of the expected benefits. The P.U.C.A. will receive twenty copies of the final report.

11. Work Papers

At the conclusion of the audit, the consultant will make available to the P.U.C.A. summaries of significant work papers and source documents as requested.

12. Cost

The consultant's estimation of fees should include provisions for the consultant to attend, subsequent to the submittal of the final report, a one-day technical review session on the audit report with members of the P.U.C.A. and at least two days of formal public meetings. The consultant must also make himself available for additional meetings if required.

The Company is directed to exclude from consideration any management consulting firm which is unable to assure its availability and intention to commence the audit on a full-scale basis within forty-five days of the date of its selection, unless written permission for such postponement is obtained from the Authority.

In accordance with Section 16-8 of the Connecticut General Statutes all expenses of the audit shall be borne by the Company.

To assure the independence of the consulting firm selected, the Authority requires an affidavit from the consulting firm and from the Company certifying whether there has been any business or personal relationship between the management consulting firm or principals of the firm and the Company within the past seven years. Any relationships, business or personal, must be identified on the affidavit. The Authority reserves the right to determine whether any relationship has been of sufficient substance to impair the independence of the management consulting firm.

Subsequent to the submittal of the final report, the Authority, the Company, and the consulting firm may confer regarding successive analyses directed toward specific areas warranting further study for improved efficiencies and potential cost reductions. The Authority may elect to determine the breadth and scope of such successive analyses and to determine whether such analyses should be performed by the same management consulting firm or by a firm selected by the Company from a second list provided by the Authority.

Very truly yours,

PUBLIC UTILITIES CONTROL AUTHORITY

Charles J. Burns, Acting Director  
Utilities Operations and  
Management Analysis

CJB:jd

Organization and Management

Management communication and control  
Organizational structure  
Administrative procedures and control  
(records management, documentation, etc.)  
Degree of management integration  
Executive practices  
Decision-making process  
Duplication of functions  
Accountability  
Performance objectives and evaluation

Operations and Engineering

1. Operation and maintenance of plant equipment
  - Organization and training for emergencies
  - Preventive maintenance and scheduling practices
  - Reliability
  - Auxiliary systems (emergency, standby)
  - Inspection of physical properties
2. Operation and maintenance of transmission and distribution systems
  - Reliability
  - Design practices
  - Construction standards
  - Construction and maintenance practices
  - Work dispatch procedures
  - Material stores
3. Engineering and construction
  - Computer services
  - Construction budget and project coordination
4. Compliance with environmental requirements

Data Processing

System design  
Long-range planning  
Security  
Organization and management of data processing activities

## Financial

- Accounting
- Budgeting
- Cash management
- Asset utilization
- Cost control
- Property records systems and depreciation
- Inventory management
- Planning

## Planning

- Growth forecasting
- Environmental
- Organizational planning
- Economic analysis and planning
- Corporate strategic planning

## Support

- Parts inventory and storage facilities
- Legal
- Purchasing
- Contracting practices
- Risk management

## Personnel

- Labor-management relations
- Work-force management
- Salaries, training, job evaluation
- Recruiting methods

## Customer Services

- Billing and customer accounting
- Complaint handling
- Quality of services
- Handling of delinquent accounts
- Initial customer request for service

## Public Relations

- Public information and education activities
- Objectives
- Company's internal and external communications, policies, and methods
- Level of dissatisfaction among its public

## Conservation Measures

- Current conservation activities
- Future conservation objectives
- Economic impacts

APPENDIX E

A BIBLIOGRAPHY OF MANAGEMENT AUDIT  
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APPENDIX F

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