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THE MANAGEMENT AUDIT AS A REGULATORY TOOL: RECENT DEVELOPMENTS AND PROSPECTS FOR THE FUTURE

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EXECUTIVE SUMMARY

In the 1970s the upward spiral of ratepayers' bills triggered increased public concern over utility management practices. In the last half of the decade the management audit emerged as a regulatory response to this situation. By the end of 1979 nearly two-thirds of the state commissions had ordered a management audit of one or more investor-owned utilities within their jurisdictions to assess the effectiveness and efficiency of company operations and to make recommendations for improvement. Yet the management audit has still not achieved universal acceptance in the regulatory community.

This report provides information and suggestions to enhance the usefulness of a commission-ordered management audit. It approaches this task in two ways. First, the current "state of the art" is documented by describing the status and structure as well as the notable successes and failures of existing management audit programs. Second, the report offers suggestions for improving the conduct of a management audit by examining and rating (on such bases as cost, effectiveness, and ease of understanding) over seventy-five problem-solving methods and techniques that are commonly employed as research tools in management science, social science, policy science, and behavioral science. Selected from a compilation of over three hundred techniques, the ones presented are those that appear to have the greatest potential applicability in a management audit setting.

The state-of-the-art description offers a step-by-step treatment of a commission's role during each of twenty tasks of the management audit process. Besides examining several factors that can induce a commission to initiate and maintain a management audit program, it also considers arguments surrounding controversial issues such as who should pay for an audit and whether an audit's results (i.e., its findings and recommendations) should be incorporated in a rate hearing. The report's six appendices contain additional state-of-the-art information (e.g., sample requests for proposal to perform a management audit, descriptions of proposal-evaluation and consultant-selection processes, and a guide for monitoring the implementation of an audit's recommendations) obtained from commissions actively engaged in management audits.

Focusing primarily on the actual conduct of an audit (and therefore most relevant for those commissions already possessing--or planning to develop--"in-house" auditing capability), the discussion of techniques relates each method to one or more of a management audit's tasks. The techniques are classified into seven broad functional categories (e.g., problem definition, information collection, and data analysis). Readers desiring to learn more about particular techniques are referred to the published works that are the clearest, most usable sources of available information. The section on techniques concludes by challenging management auditors to modify and expand their methods in order to help solve the complex and often ill-structured problems confronting public utilities today.

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INTRODUCTION

Purpose of This Report

As public utilities continue their frequent requests for rate increases and as consumer advocates continue their frequent public criticisms of utility management, the effective and efficient operation of investor-owned utility companies, an issue that has always been a major concern of state regulatory commissions, has taken on even greater importance. A significant response to this heightened concern was the emergence during the 1970s of the management audit as a regulatory tool. For nearly a decade several commissions have been ordering such audits to help determine the effectiveness and efficiency of utility management and operations. At the same time other commissions have decided not to initiate management audits. Thus, the members of the regulatory community evidently have disparate views on the appropriateness and the usefulness of a mandated management audit.

The purpose of this report is to provide information and suggestions that can improve the usefulness of commission-ordered management audits. In carrying out its responsibilities as the research arm of state regulatory authorities, the National Regulatory Research Institute (NRRI) has assumed a leadership role in assisting commissions interested in management audits. In addition to responding to specific requests for technical aid, NRRI's contributions include a report published in 1979[1] and a three-day management audit workshop conducted in 1980.

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[1]The National Regulatory Research Institute, Commission Ordered Management Audits of Gas and Electric Utilities (Columbus, Ohio: The National Regulatory Research Institute, 1979).

As the next step in NRRI's management audit effort, this report elaborates on two distinct ways of achieving greater usefulness from such studies. The first is through the timely exchange of information among state commissions regarding their experiences with management audits. The second is by offering suggestions to upgrade management auditing methods based upon techniques drawn from operations research, financial auditing, cost-benefit analysis, systems analysis, planning, programming and budgeting (PPBS), and other established managerial approaches designed to improve operating efficiency. In other words, the report examines two fundamental issues: the current "state of the art" of commission-ordered management audits; and suggested techniques for improving the entire management audit process, especially the actual conduct of such an examination.

Intended Audience

The state-of-the-art discussion is directed primarily to those commissions that are in the beginning stages of considering or implementing one or more mandated management audits. The intent is to provide information on the experiences of other commissions and to sensitize the reader to the range of available options as well as to some of the implications of these options. For example, an appendix contains seven different kinds of requests for proposal (RFPs) to perform a management audit. Although similarities exist among them, each has its own unique features.

No single model or set of options is advocated. Instead the report is intended to serve as the starting point for a commission in making those choices that most nearly meet its needs, goals, or constraints. Since it offers some assurance that few if any resources will be devoted to "reinventing the wheel,"

the state-of-the-art description should enhance the usefulness of management audits for all interested commissions (and not just those that are new entrants into the management audit business).

Although potentially useful for all commissions involved (or planning to become involved) in management audits, the discussion of suggested techniques for improvement should have greatest value for regulatory authorities with ongoing management audit programs, especially those with "in-house" auditing capability. The need for improvement in the selection of management auditing methods and techniques stems from the fact that important attributes of current methods are often not made explicit. Unlike methods used in other formal regulatory processes, such as a rate case, the techniques employed in a management audit are typically described only in broad generalities. This is in stark contrast to the rate-case testimony of a productivity engineer or an economist who must make explicit his or her data sources, assumptions, statistical techniques, and computer models and then undergo cross-examination. Just as the regulatory process in general seems to benefit from the explication of methods used by economists, engineers, attorneys, and accountants, so too would the management audit process benefit as the management auditor's methods become known. Without this the danger exists that both a commission and a utility would endorse an auditor's recommendation that was based upon, for example, a poorly selected sample of data or the use of an inappropriate analytical technique. One consequence of the vagueness usually associated with auditing methods is that commissions often do not have the data needed to choose among techniques that differ along dimensions such as cost, effectiveness, user sophistication, information requirements, and ease of understanding.

1. Cost. The resources required to conduct a management audit vary significantly depending on the method(s) chosen. For example, the use of a "needs assessment" to examine a utility's strategic planning is much more expensive (and much more effective) than the use of "issue papers." A commission about to initiate an audit needs to know in advance the cost of the method(s) to be used by the auditor.

2. Effectiveness. Closely related to cost is the overall effectiveness of the method chosen. In most situations a reasonable assumption is that cost and effectiveness vary directly (i.e., the more effective a method is in documenting conclusively the need for a utility to change a particular management practice the more expensive it will be). However, tradeoffs between cost and effectivness are known in many cases and should be made explicit to the commission.

3. User Sophistication. Also related to cost is the amount of education, technical training, and experience required of the person(s) actually using the auditing technique. In many situations the least costly technique is the one that requires the smallest amount of user sophistication. Similarly, if two techniques rank fairly closely in overall effectiveness, the one requiring less user sophistication should likely be chosen. When selecting a management auditor, a commission must judge whether sufficient knowledge and background exist in each candidate to employ the techniques being proposed.

4. Information Requirements. The information required to use a particular technique can range from the creation of an entirely new data base to the use of existing data and/or personal, subjective judgment. Besides affecting an audit's cost in terms of dollars, information requirements can also influence an audit's cost in terms of time. If a particular technique requires data that a utility either does not collect or does not have in the desired format, the calendar time

to complete a management audit may increase significantly. An auditor should provide a clear picture of information requirements no later than during the examination's earliest planning stages.

5. Ease of Understanding. An evaluation of management auditing techniques along this dimension requires assessing the ability of regulators and the interested public to understand the findings and/or the recommendations that the audit produces. Other things being equal, a management audit report should contain results that are reasonably comprehensible. In general, a technique that produces reliable summary statistics (e.g., "the adoption of the recommended maintenance procedure should decrease the forced outage rate by 25%") generates more easily understood results than one that requires a reader to follow a complicated flow diagram. An obvious difficulty here is that over-emphasis on ease of understanding may result in the selection of a technique that produces a simple but invalid finding or recommendation instead of one that produces a valid but more complex result.

In a fashion similar to the treatment of the state of the art, the presentation of suggested methods to improve management audits does not advocate one particular set of techniques. Instead, separate ratings along each of the five dimensions discussed above (i.e., cost, overall effectiveness, user sophistication, information requirements, and ease of understanding) are provided for more than seventy-five techniques. To keep this report's length within manageable limits, detailed explanations of the techniques are omitted. Readers seeking additional information about individual techniques are referred to works that provide the necessary details. The chapter on methods ends with a bibliography citing eighty-nine sources of information on auditing techniques.

Although each technique subjected to the five-dimensional rating process was included primarily because of its potential applicability to one or more tasks found in a typical management audit, available evidence suggests that many of them have never been used in that context. This may be a reflection of the previously discussed lack of explicitness in management audit methods. Commissions working with outside consultants may decide to require a more specific explication of techniques in each proposal to perform an audit and may then use the information presented here as a guideline for proposal evaluation. Further, commissions conducting their own studies may consider some of the techniques discussed in this report as substitutes for or additions to their present management auditing methods.

Research Methods

Information for the state-of-the-art component of the report was largely obtained from two sources: interviews with management audit specialists during site visits to four state commissions (New York, Pennsylvania, Georgia, and Florida) by an NRRI research team, and materials prepared for a workshop on commission-ordered management audits sponsored by NRRI in June of 1980. Additional input was provided by a working group of state commission and NRRI staff established to serve as a clearinghouse for information about commission-ordered management audits. The authors also made extensive use of the NRRI library.

The treatment of auditing techniques began with reviews of completed management audit reports, surveys of past audits, and guidebooks for management audits and general consulting. The second step was an examination of the literature in management science, social science, policy science, and behavioral

science to identify approaches applicable to management audits. The authors then reduced the list of approximately three hundred techniques that resulted from this search process to those seventy-seven that they believe to be most relevant in a management audit setting. Ratings for each selected technique across the five dimensions were developed using appropriate reference sources and the authors' considered judgment.

Organization of the Report

This is the concluding section of the first of this report's four chapters. Chapter 2 offers a general overview of the management audit concept and provides a foundation for the discussion in subsequent chapters. Chapter 3 presents a treatment of the state of the art of commission-ordered management audits, including factors that facilitate the initiation of a management audit program and an examination of the various phases and tasks of the management audit process. Chapter 4 focuses on the improvement of management audit methods and techniques, categorizing them according to various decision-making and behavioral functions, relating them to management audit tasks, and rating each one on the five dimensions discussed earlier. The chapter concludes with a list of reference sources that provide further information on the techniques presented. The report also contains six appendices. In order, they are devoted to: (A) a list of management audits and related reports in the NRRI library, (B) a survey of the scope of management audits, (C) sample requests for proposal, (D) proposal evaluation and consultant selection, (E) illustrative recommendations in management audit reports, and (F) the New York State Department of Public Service guidelines for monitoring implementation of a management audit. The

report concludes with a bibliography of management audit literature and publications.

CHAPTER 2

THE MANAGEMENT AUDIT CONCEPT—ITS ROLE IN REGULATION

Introduction

In addition to offering a general overview of the management audit concept, the purpose of this chapter is to provide a foundation for the discussion of commission-ordered management audits that continues throughout this report. Considered here are a brief history of management audits, the definition of a management audit, the purposes it serves, and the relationship between the management audit and the regulatory process. The chapter concludes by examining some reasons for the lack of total acceptance of the management audit in the regulatory community, in particular the costs and benefits of such a study and the "adversarial" relationship created when a commission orders an audit.

A Brief History of Management Audits

Although formulated conceptually as early as 1932, the management audit was finally put into practice in the 1960s and 1970s.[1] Of the fifty-one management audit reports in the NRRI library, the earliest year of publication is 1975 (see appendix A). Not surprisingly, the upswing in management audit activity during the past few years is closely associated with the proliferation of utility requests for rate increases that began shortly after the 1973 oil embargo.

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[1]George M. Whitmore, Jr., "A Management Audit: How to Utilize It," in Handbook of Business Problem Solving, ed. Kenneth J. Albert, (New York: McGraw-Hill, 1980), pp. 1-51 to 1-65.

Whitmore (1980) observes that the need for management audits has emerged because the existing auditing technology (i.e., financial and operational audits) was not broad enough to consider "the rapid increase in business complexities (particularly with the advent of automation and other technological innovations), the increased attention that government regulatory agencies have been giving to business, shifting and expanding markets, and the establishment of public bodies actively concerned with the conduct of businesses."[2] Some of the earliest management audit activity occurred when legislation permitted the United States General Accounting Office (GAO) to expand the scope of its examinations far beyond traditional financial and accounting matters.[3] Except for these governmental studies, management audits historically have been examinations performed confidentially for a company's executive leadership. Now an increasing number of audits are examinations of management required by some outside third party (e.g., a public utility commission). No longer is the final report necessarily confidential. In fact, virtually every regulator-mandated audit becomes part of the public domain. Whitmore predicts

> In the years ahead, . . . publicly oriented management audits will spread into unregulated (or less regulated) industries as well as into the public sector of the economy because the factors that led to their application to utilities already exist elsewhere, are developing and intensifying rapidly, and will inevitably require response. . . . Both the general and the business press report almost daily of questionable management practices. The many government regulatory bodies (or their equivalents) constantly pressure business to improve its "citizenship" in countless ways. Consumerism and environmentalism have matured into fundamental and powerful forces, felt directly or through government action by most sectors of private enterprise.[4]

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[2]Ibid., p. 1-53.

[3]Ibid., p. 1-53, and Leo Herbert, Auditing the Performance of Management, (Belmont, Calif.: Lifetime Learning Publications, 1979).

[4]Whitmore, op. cit., p. 1-54.

Definition and Purpose of a Management Audit

As explained by Whitmore,

> A management audit is . . . a diagnostic examination, conducted by an appropriately skilled and professionally objective analyst, of how well an organization is managed. Its purpose is to assess all facets of management and operations in the context of the external environment, to confirm the areas that are well managed, to identify opportunities for improvement, and to form practical recommendations for capitalizing on those opportunities. . . . A variety of institutions (including utilities, government, and health and educational institutions, few of which have yet met the challenge to deliver high-quality services at reasonable cost) are using them to reconcile the diverse and often conflicting interests of different groups and to retain or restore confidence in an organization's ability to perform effectively.[5]

As discussed in the next chapter, this is the definition of a "comprehensive" audit, by far the most common type of study mandated by a regulator.[6] Although voluntary rather than mandatory, an individual's general physical examination is analogous to a utility's comprehensive management audit. Each is an examination of an ostensibly "healthy" patient (although each could have been initiated by symptoms of illness) that attempts to discern those systems that are functioning properly (efficiently) from those that are not and to prescribe (recommend) ways for improving the malfunctioning systems.

The analogy between a comprehensive management audit and a physical examination can be used to illustrate the fallacious reasoning behind two cynical criticisms often aimed at a managament audit. Both reflect a lack of understanding of the study's purpose. First, utility representatives may decry the examination as a "witch hunt" or a "fishing expedition," a fault-finding

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[5]Ibid., p. 1-51.

[6]See chapter 3, pp. 37-38.

mission where the management auditor must "prove" that inefficiencies exist in the company even though none is actually present. Second, consumer advocates may debunk the audit as a "whitewash," an ineffectual effort by a "brainwashed" auditor that extols the utility's strengths and sugarcoats (or ignores) its weaknesses.

Neither criticism really attacks the validity of the management audit concept. In a sense, a physical examination is and should be a fishing expedition, allowing the examiner to conduct tests of bodily functions that on the surface appear to be normal. Further, if the tests confirm that the functions are normal, reporting the results to the patient (and perhaps to other interested parties) could hardly be considered a whitewash.

The witch hunt and whitewash observations are fundamental challenges of the management auditor's ability to be an independent, competent, and objective analyst who renders a balanced assessment of how well a company is managed. Unfortunately, there is no foolproof way to ensure the auditor's integrity. Thus, a commission must expend considerable effort in selecting a consultant to conduct a study.[7] Like umpires and referees of sporting events, management auditors must "call them as they see them." In their typically awkward situation (i.e., selected by the regulator but paid by the company) they must maintain impeccable credentials as evidence of their independence and objectivity.

As new, improved techniques are brought to bear upon management audits, the concern over the auditor's objectivity may lessen. At the present time one

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[7]See the discussion of the consultant-selection process in chapter 3, pp. 41-47. Just as in a physical examination, a "second opinion" of a utility's management could be obtained through a second audit. However, the added cost of such an approach makes the selection of the first management auditor all the more important.

of the best indicators that a management audit was conducted objectively is precisely the witch hunt/whitewash dispute. As long as the utility complains that the report is too critical and consumer groups protest that the report makes the company look too good, the management auditor may well have rendered an objective, balanced assessment of how well the utility is managed.

Management Audits and the Regulatory Process

Given the nature of a management audit and assuming that the report provides an unbiased portrait of the utility and reasonable recommendations for improvement, the question remains: How (if at all) does such an examination fit into the regulatory process? Does ordering a management audit constitute a basic responsibility of a regulatory authority? Or is the management audit an interesting, potentially beneficial tool that really has no place in public utility regulation?

Obviously, the central issue here is one of regulatory philosophy. How much should a commission intervene in a utility's affairs? At one extreme on this question is the position that the appropriate level of intervention is the least amount of intervention. Anything beyond this is an unwarranted infringement into management's prerogatives. Regulators in this "camp" would argue that unless a crisis or an emergency exists, their responsibilities are to set the utility's rate of return and see that the company provides good service. They would order a management audit only in very unusual circumstances.

At the opposite philosophical pole is the attitude that a regulator must take any step that promises to improve the efficiency of a utility's operations and enhance its cost control capability. Failure to do so would indicate that a regulatory authority was not acting fully in the public interest. Proponents of

this position are much more likely to order management audits than those following the least-amount-of-intervention philosophy. The any-step-for-improvement attitude also lays the groundwork for a commission to institute a management audit program,[8] whereas a programmatic view of the management audit is virtually impossible with the least-amount-of-intervention approach.

As is the case with any set of extreme positions, neither is likely to be a totally accurate description of the actual viewpoint held by many commissions. Most will find themselves somewhere in the middle with leanings one way or the other. As explained in the next chapter, the number of commissions ordering management audits has risen significantly in the last seven years. This can be attributed to one or both of the following causes: (1) a large number of commissions switching to the any-step-for-improvement philosophy, and (2) an outbreak of crisis or emergency situations that have induced several commissions advocating the least-amount-of-intervention philosophy to order management audits. Since the available evidence suggests that many of the new entrants are not considering management audits programmatically,[9] the second cause mentioned above probably accounts for most of the increased activity.

The Lack of Total Acceptance of Management Audits in the Regulatory Community

Despite the increased activity, the management audit has not achieved total acceptance among regulators. Adherence to the least-amount-of-intervention philosophy is only a partial explanation for this lack of universal utilization

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[8]See chapter 3, pp. 20-21.

[9]Ibid.

of management audits. At least two other reasons, the perceived costs and benefits of a management audit and the "adversarial" relationship involved in such a study, are examined in the following paragraphs.

At the heart of the cost-benefit issue is whether or not a management audit is "worth it." Largely determined by the scope of the examination, the type of auditor (outside consultant or commission staff), and the size and complexity of the utility being studied, the cost of an audit frequently exceeds $200,000 and has reached $1,300,000. The first question is whether ratepayers realize benefits that exceed or at least equal the value of the resources consumed in performing an audit. If they do not, a management audit should be rejected on economic grounds regardless of any arguments made by zealous proponents of the any-step-for-improvement philosophy.

Further, even if an audit is economically beneficial, a commission may still reject it if other regulatory procedures promise even greater benefits. A commission is constantly faced with decisions as to the optimal allocation of finite resources (i.e., its own budget and the budgets of the ratepayers in its jurisdiction).[10] It may decide that, although benefits exceed costs, a management audit is not a "high payoff" exercise and that ratepayers stand to benefit more from other regulatory activities (e.g., energy conservation programs and audits of fuel adjustment clauses). Thus, the cost-benefit issue also involves a relative test where a management audit must compete with other regulatory tools for a place on a commission's agenda.

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[10]A commission must always consider ratepayers' budgets because the cost of most regulatory tools is ultimately borne by utility customers. For example, in the most typical situation, ratepayers end up paying the entire fee charged by a consultant to conduct a management audit. See chapter 3, p. 26 and pp. 55-57.

The absolute test of costs and benefits (i.e., which of the two is larger?) for a comprehensive management audit resembles the economic arguments surrounding a general physical examination. Is the examination's value (to the patient and to all others who benefit) at least equal to its cost? Especially if the individual is feeling fine and appears to be in good health? There is no generally accepted answer to this question. In direct opposition to the old "an ounce of prevention is worth a pound of cure" viewpoint, many physicians would respond, "A physical examination for someone who feels and appears healthy is not worth it. A patient should only visit a physician when there is a good degree of certainty that something is wrong, when the patient believes that symptoms of illness are present."

Regardless of regulatory philosophy, many commissioners may have similar feelings toward subjecting an ostensibly healthy utility to a management audit. The benefits to a company's customers from any improvements recommended by an auditor may be dwarfed by the study's cost. Accordingly, just as with a physical examination, a utility's (patient's) ability to self-diagnose problems (illness) that require a management audit (physical examination) becomes very important.

This self-diagnosis aspect of the management audit/physical examination analogy leaves several unanswered questions. First, is a highly complex (and perhaps decentralized) organization such as a utility able to diagnose its own problems as well and as quickly as an individual can determine his or her own physical maladies? Second, if errors in self-diagnosis are made, in which direction do they tilt? For example, an individual may incorrectly decide that a particular physical problem is serious and make an "unnecessary" visit to a physician. Conversely, a truly serious physical difficulty may go undetected or

may simply be ignored. Which type of error will occur more frequently? For an individual, the unnecessary visit to a physician probably happens more often. Could the same be said for a utility, i.e., that it would more likely have an unnecessary management audit performed than overlook or ignore a truly serious problem?

Finally, what are the consequences and who stands to lose when an error in self-diagnosis occurs? Especially when the error involves a serious difficulty that is undetected or ignored? Unless the illness is contagious, virtually all of the diagnostic error's impact falls on the patient. However, the same may not be true in the utility situation where the error may have a widespread effect on ratepayers and other groups that have economic interests in the company (e.g., its suppliers, creditors, etc.). A critical observer of the public utility sector could argue that since in many situations a company can pass on to its customers the economic burden of this type of error, efforts to achieve reasonably accurate self-diagnosis by a utility are likely to fail.[11]

An additional concern in the cost-benefit area involves actual measurement of benefits. For some segments of a utility's operations (e.g., cash management, inventory management, and customer accounting and billing), the dollar saving attributed to the implementation of a management audit's recommendations can be determined directly. However, in other areas (e.g., planning) quantification of benefits may be difficult if not impossible. Further, some benefits may be measurable only at some future time long after the audit is completed. Thus, the cost-benefit calculation is limited by a lack of precision.

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[11]The costliness of a comprehensive audit and the belief that a utility may lack either the ability or the incentive for reasonably accurate self-diagnosis have prompted at least one commission to advocate a "reconnaissance" audit. See chapter 3, pp. 37-39.

Regulators who tend to discount "intangible" or "unmeasurable" benefits are more likely to reject a management audit on economic grounds than those who view these intangibles as important products of such a study.

Finally, a commission-ordered management audit may fail to achieve acceptance because of the "adversarial" relationship it creates. For example, a utility that correctly diagnoses a serious problem may be reluctant to inform a commission because it fears a management audit. Instead, the company decides to hire a consultant itself to assist in analyzing the problem and recommending feasible solutions. This consultant would be an advocate as opposed to an adversary that the utility believes would perform a commission-ordered audit.

Some careful thinking here points out the error in the utility's reasoning. Whether retained by the company directly or selected by a regulator, a management auditor must be neither advocate nor adversary. To render a balanced assessment of a utility's management, an auditor must be independent (i.e., unbiased) and competent. A management auditor is no more adversarial than a public utility commission is during a rate case proceeding. Both must be impartial, objective experts. Whenever a utility objects about the adversarial nature of a commission-ordered management audit, its real concern often may be the fact that the final report becomes a public document.

CHAPTER 3

WHERE WE ARE--THE MANAGEMENT AUDIT PROCESS TODAY

Introduction

A cross-sectional view of public utility commissions reveals a rather wide divergence in the degree of current management audit activity--ranging from no involvement at all to a full-time staff of professionals conducting their own studies. An indication of the proliferation of management audits across regulatory jurisdictions over time can be obtained by comparing pertinent information from NARUC Annual Reports.[1] For example, table 32 in the 1975 report lists fourteen state commissions as having ordered a total of thirty completed audits. Comparable data from the 1979 report (table 30) are twenty-five commissions and sixty-six audits. In addition, eight other commissions are listed as having ordered one or more audits that evidently had not been completed. Thus, in the period between the 1975 and the 1979 NARUC reports, the number of commissions that had never ordered a management audit decreased from thirty-seven to eighteen.

Every commission involved in the management audit business has employed the services of outside consultants. As of autumn 1981 no more than a handful of commissions (Connecticut, Florida, Missouri, New York, and Pennsylvania) had ordered a management audit that was conducted exclusively by in-house personnel, and even fewer could be considered extensively experienced in staff-performed audits. Accordingly, except for the commissions mentioned (and

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[1]National Association of Regulatory Utility Commissioners, Annual Report on Utility and Carrier Regulation (Washington, D.C.: National Association of Regulatory Utility Commissioners, 1975 and 1979).

perhaps a few others that are actively developing in-house audit capability), a regulator's management audit process today focuses on various relationships with consultants (e.g., selecting them and reviewing their work) and not on the actual conduct of an audit. Further, the concern for these consultant relationships also exists for a commission that has completed one or more in-house studies because its management audit program typically is a mixture of consultant-conducted and staff-performed examinations. Even the most ardent advocates of management audits express skepticism that a program could ever be conducted entirely with commission personnel.

The purpose of this chapter is to describe the "state of the art" of management audits for the majority of those commissions that have ordered such studies. After a consideration of the factors involved in establishing and maintaining a management audit program, the discussion proceeds to a breakdown of a typical study into its various phases and tasks. The chapter concludes by examining two controversial issues: the relationship between a management audit and a rate case, and the decision as to who should pay for a management audit. The treatment of methods and techniques employed in the entire management audit process is presented in the next chapter.

Establishing a Management Audit Program

The focus of this section and the next is on a management audit program, a planned and usually routinized set of ongoing commission activities involving management audits. Ordering one (or even a few) audit(s) does not necessarily mean that a commission has a program. Although neither a legislative mandate nor a staff of in-house auditors is required, a program does need some sort of continuing commission commitment. For example, a program probably does

exist if one or two influential individuals within a commission have as one of their major responsibilities the maintenance and development of relationships with consulting firms that perform management audits. There is some evidence that several commissions do not consider management audits on a programmatic basis. Instead, they view each study as an individual, totally independent event.[2]

If the regulatory world possessed a great degree of certainty and if the evidence supporting several assertions made by proponents of management audits were conclusive, a rule of thumb such as, "If conditions X, Y, and Z exist, then a regulator should institute a management audit program," could probably be derived. However, since no such universal prescription is available, this section describes several factors closely associated with the creation of existing management audit programs. In addition, some of the major obstacles to establishing a management audit effort are examined.

A Credibility Crisis--The Necessary Condition

The single most important ingredient for the origination of a management audit program is a lack of public confidence in the utility, the regulator, or the entire regulatory process.[3] Stemming principally from two public perceptions, this credibility crisis usually escalates as utility rates increase.

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[2]A comparison of information contained in the 1975 and the 1979 NARUC Annual Reports, op. cit., leads to this conclusion. Eight commissions listed in the 1979 report as having ordered one or more management audits (Arizona, Illinois, Indiana, Iowa, Maryland, Michigan, Oregon, and Vermont) evidently did not have any new activity for an extended time period because the management audit information that each jurisdiction transmitted to NARUC for the 1975 survey is identical to that reported for the 1979 survey. The NARUC report does indicate that Maryland's program was terminated in 1974, but it provides no explanation for the other seven commissions.

[3]See William R. Stratton, "Management Efficiency Studies--A Consultant's Dream or an Efficient Tool? Ruminations of a Regulator," Proceedings of the

1. Perceived Utility Mismanagement. A controversial rate case (especially if it involves an "unpopular" utility) evokes public outcry that a substantial part of the allowed rate increase could have been avoided if the company were better managed. In many instances perceived operating inefficiencies are the essence of public concern. However, the attitude that a utility is poorly managed can result from several other stimuli--some externally imposed on the company and others generated by the company itself.

a. The OPEC Embargo and the Resulting Petroleum Price Increases. Although no utility can be held responsible for these events, consumers may inquire, "Why didn't management adapt more quickly to a changing environment?" This question is especially germane for a company that, despite frequent and significant excesses of its demand forecasts over actual consumption, continued to construct more and more generating capacity.

b. Utility Condescension Toward Customers. A company that projects an overly paternalistic image (e.g., "There is no point in explaining this situation to our customers because they couldn't possibly understand the complexity of the problems we face.") may more readily be confronted with charges of mismanagement than a utility that shares its concerns with consumers in an atmosphere of open communication.

Sixteenth Annual Iowa State University Regulatory Conference on Public Utility Valuation and the Rate Making Process (Ames, Iowa: Iowa State University, 1977), pp. 31-35. Stratton made his presentation during the second session of this conference. The first session was entitled "Improving the Credibility of Regulators and the Regulatory Process."

c. Capital Market Reaction. Although potentially attributable to many factors, a continued decline in the market value of a utility's stock or a downgrading of its financial instruments by investor services such as Moody's or Standard and Poor's constitutes prima-facie evidence that the company is performing poorly.

d. Revelation of Improprieties. Public opposition to a utility is virtually automatic whenever a scandal involving company management (e.g., embezzlement of corporate funds by one or more executive officers) is made known.

2. Perceived Regulatory Inertia and Impotence. Regulators exacerbate the credibility crisis whenever they convey the impression of being unwilling or unable to effect improvements in utility management. Consumer groups may believe that a commission is a captive of the companies it is supposed to regulate and simply "rubber stamps" all requested rate increases.

Facilitating Factors

Although it is a necessary condition, a credibility crisis by itself is not a sufficient condition for the establishment of a management audit program. In an attempt to regain public confidence a regulator will likely "do something." The probability that management audits result is enhanced to the extent that the following facilitators are present.

1. A History of Public Skepticism of Utilities. This attitude may be especially important if it predates the OPEC embargo.

2. An Any-Step-for-Improvement Regulatory Philosophy. As mentioned earlier, this approach rejects the notion of the least-amount-of-intervention

philosophy that any action beyond rendering decisions in rate cases is an unwarranted infringement into the prerogatives of utility management. A proponent of the any-step-for-improvement philosophy would argue that the ability to render intelligent rate-case decisions requires management audit capability to design tests and mechanisms to determine whether a particular expense has been prudently incurred and to evaluate a utility's cost containment efforts.

3. A High Degree of "Professionalism" Within a Commission. Commission leadership can promote the origin and especially the growth of a management audit program by valuing highly the expertise and specialized skills needed to perform management audits well.

4. A Belief That a Management Audit is a Rational, Effective Tool for Determining Whether a Company is Operating Efficiently. Besides a professional spirit, influential individuals at a commission (and probably also in the state legislature) must possess some faith in the management audit itself. This is especially true because there may be no directly observable benefits from a management audit until long after the audit report has been completed. Further, commissioners must be able to consider the audit worthwhile even if its overall conclusion is that the utility examined is highly efficient.

5. Commission Exposure to Other Ongoing Management Audit Programs. A valuable resource for any commission entering the management audit business is advice from other regulators who have already established such programs. This type of assistance (most likely given enthusiastically) prevents "reinventing the wheel," offers insight into mistakes and pitfalls to be avoided, and provides a comparative reference model (i.e., an existing management audit program to be emulated).

6. A History of Successful Experiences with Outside Consultants. Every existing management audit program has utilized, to some degree, the talents of consulting firms. A favorable attitude toward consultants (or at least a willingness to work with them) is very important in starting a management audit program. Besides conducting audits, consultants may also instruct commission staff in auditing methodology.

7. Utility Awareness of the Nature of a Management Audit. "Fear of the unknown" can be a serious problem, especially in the potentially threatening situation posed by a management audit. The more that utility executives know in advance about an audit (e.g., what an audit can and cannot do and the benefits to be conferred upon the company for undergoing such an examination), the more likely that the institution of a management audit program runs smoothly. In at least one state the first utility subjected to an audit recognized that it was "in trouble" and understood that its complete cooperation was essential in order to make the audit the important initial step in its efforts to improve operations and regain public confidence.

8. A Legislative Mandate for Management Audits. A few states (most notably Connecticut, Georgia, and New York) have enacted laws that either require or permit the conduct of management audits. Obviously a legislative requirement ensures the institution of a management audit program. On the other hand, permissive legislation simply obviates the commission's formal ordering of an audit. The commission staff may (or may not) become involved in management audits as it sees fit.

Although it constitutes strong evidence of governmental support for management audits, legislation can be a "mixed blessing." For example, a law may require recurring audits at specified intervals (e.g., once every five years),

thereby imposing a constraint upon a management audit division without guaranteeing that the resources needed to accomplish the task are available. Although leaders of management audit efforts in states without legislation make the general observation that a law would be helpful, they also point out that some of the existing statutes are perhaps not as beneficial as they were intended to be.

9. Availability of Resources. Although cost may vary depending upon the nature and scope of the examination, management audits can easily place a significant amount of strain on a regulator's budget. This is especially true as a commission develops "in-house" management audit capability. Even though a utility "pays" for the cost of an examination conducted by outside consultants (and then, in most cases, passes these amounts through to its customers), costs incurred by a commission for administering consultant-conducted audits, training its own staff in management audit methodology, and performing audits itself are typically paid for using commission revenues. Thus, in a very real sense, a commission may feel that an in-house audit is too expensive despite the fact that its actual total cost is only a fraction of the amount a utility would pay for a similar study done by a consulting firm.

The completion of the first staff-conducted management audit is a significant milestone accomplished by only a handful of state commissions to date. In one instance monies were provided by a state revenue source earmarked for regulatory purposes. In another situation staff training was funded in part by a grant under PURPA. In all cases adequate resources combined with enough of the other facilitating factors to give these commissions the ability to perform management audits on an in-house basis.

Inhibiting Factors

The likelihood of a commission instituting a management audit program in response to a credibility crisis decreases with the existence of the following inhibitors or obstacles. In general, each inhibiting factor represents the absence of one of the facilitators discussed in the previous section.

1. A History of Public Approval of Utilities. If most people believe that rate increases are caused by forces outside the utility's control and that the utility is an efficient operation, a credibility crisis originated by a dissident minority group of customers could easily diffuse itself, perhaps without any commission action, in a short period of time.

2. A Least-Amount-of-Intervention Regulatory Philosophy. As mentioned earlier, a proponent of this approach would likely view a management audit as an unwarranted intervention into a utility's affairs. The management audit more properly fits in the tool kit of a commission with an any-step-for-improvement philosophy.

However, depending upon the way that it is structured, a management audit can provide widely varying degrees of commission intervention. To combat a credibility crisis, even a least-amount-of-intervention regulator could opt for a management audit. With the proper arrangements (e.g., permitting the company to select the auditor, establish the scope of the examination, and determine the distribution of the final report), ordering a management audit becomes a publicly discernible action involving only a minimal amount of regulatory infringement on utility operations.

3. A Concern That the Costs of a Management Audit Exceed Its Benefits. As discussed previously, the benefits directly attributable to a management audit

are often difficult to identify and sometimes impossible to quantify. Therefore, the establishment of a management audit program is highly unlikely if a commission's leadership believes that the cost of an audit exceeds the value of a utility's improvements resulting from the study.

4. An Unfavorable Attitude Toward Outside Consultants. Commissions with unsuccessful previous experiences with consultants (e.g., "They are high-priced individuals who do not speak our language.") as well as those with limited experience (e.g., "We have a long-standing policy that discourages the employment of consultants.") may be reluctant to start a management audit program.

5. Utility Ignorance of the Nature of a Management Audit. If a utility's management does not know what to expect, a threatening environment is virtually certain to surround a management audit. A company may attempt to prevent a commission from forming a management audit section. If that fails, the utility's uncooperative attitude may seriously impede (if not totally frustrate) the actual audit effort.

6. Lack of Resources. As mentioned, management audits can be very expensive. Administering a consultant-based program requires less commission funding than maintaining a program where audits are conducted both by consultants and by staff. Lack of resources could easily be the principal inhibitor to the establishment of a management audit program, especially for a commission desiring to develop its own in-house auditing capability.

Developing and Maintaining a Management Audit Program

Assuming that a commission institutes a management audit effort, the following factors can serve to nurture the program so that it becomes a full-fledged regulatory resource.

1. Active, Sustained, and Enthusiastic Support from Commission Leadership. Besides recognizing the usefulness of a management audit in their kit of regulatory tools, commissioners must take management audit reports seriously, offer constructive criticism and encouragement, and provide the management audit section with sufficient resources and time to accomplish its tasks.

Perhaps the most important indicator of enthusiastic support is the position assigned to the management audit group in a commission's organization chart. Although no single location can be specified as ideal for every commission, in general the management audit section should be placed in a high-level staff position. It should not be established as an appendage of some line function (e.g., financial auditing). The leader of the management audit group should have easy access to the most influential individuals in the commission. One way of accomplishing this is to minimize the length of the leader's reporting channel. At the extreme, the management audit group could report directly to the commission chairperson. More typically, at least one intermediary, such as an executive director or a bureau chief, will be positioned between the management audit section and the commissioners themselves. To no small degree the success of a management audit program depends upon the continued support of this intermediate executive.

2. Clearly-Defined Management Audit Objectives. Nothing can undermine an initial management audit effort as easily as overly-ambitious expectations. An audit is not intended to solve all the major problems confronting a particular utility. To avoid misunderstanding, a management audit group should carefully explain to all interested parties (e.g., commissioners, consumer groups, state legislators, etc.) the nature of the examination process and the types of results that can reasonably be anticipated.

3. Full Disclosure of Management Audit Activities to Commission Leadership. In addition to protecting itself from any exaggerated expectations, a management audit group must also keep its commissioners apprised of all the potentially controversial issues that arise during the conduct of its work. As the commissioners are often in the public eye, a prudent policy for a management audit group is to avoid any "surprises at the top." Commission leadership benefitting from such full disclosure will likely be very supportive of future management audit efforts.

4. Development of In-House Management Audit Expertise. As mentioned earlier, administering audits performed by consultants does not place as great a demand upon a commission's budget as actually conducting such studies with in-house personnel. This occurs because a utility normally pays for a "consultant" audit but a commission pays for a "staff" audit. However, the real cost of a management audit (to whoever ultimately bears the burden--the ratepayer, the taxpayer, or the utility's owners) conducted by consultants will usually exceed that of a similar examination performed by staff. Although they still rely on outside experts, most commissions seriously developing management audit programs are attempting to realize these cost savings through the acquisition of in-house capability.

Cost savings is only one motivation for establishing management audit expertise within a commission. Others include more autonomy and improved ability to communicate with consultants. From the viewpoint of a management audit section, the development of in-house staff constitutes strong evidence of a commission's commitment to the overall program. Permanent, fully-funded positions must be allotted to the staff auditors.

5. A Reasonable Management Audit Workload. Regardless of the degree of involvement of in-house personnel, a management audit group may find itself overloaded, especially if its assignments are mandated by legislation. An unrealistic workload forces management audit administrators to spread themselves "too thinly," thereby thwarting efforts to keep current with each consultant-based audit in progress. Further, an excessive workload may be especially dangerous for in-house audits since the commission staff--often newly recruited and always highly valued--are confronted with deadlines that are impossible to meet. In one state this problem is aggravated by legislation that requires the commission to monitor a utility's implementation of the recommendations contained in its management audit report. Although its constructive spirit is obvious (in several states where no such law exists, the monitoring function is not well organized), this type of law can impose serious time constraints upon a management audit section.

Dissecting a Management Audit

Table 3-1 contains a breakdown of the management audit process into six separate phases. Each phase consists of two or more tasks. The following discussion emphasizes those components of a typical consultant-conducted study that require substantial commission involvement.

Phase 1: Initiate the Management Audit

Included in this first phase are two tasks--identifying the need for an audit and deciding to order that a study be performed. Both can be accomplished in essentially two ways--on either an ad hoc or an automatic basis.

TABLE 3-1: THE BASIC PHASES AND TASKS OF THE MANAGEMENT AUDIT PROCESS

Phase	Task
1. Initiate the Management Audit	1. Identify the Need for an Audit 2. Decide to Order an Audit
2. Plan the Management Audit	3. Determine the Goals and Objectives of the Audit 4. Determine the Scope and Type of Audit 5. Determine the Audit's Resource Requirements 6. Select the Consultant 7. Develop and Approve the Audit's Work Plan
3. Conduct the Management Audit	8. Establish and Maintain a Working Relationship with the Utility and the Commission 9. Collect the Basic Facts 10. Perform Analysis to Develop Findings and Draw Conclusions 11. Develop Alternatives for Recommendations 12. Present the Report and Recommendations
4. Make Decisions Regarding Acceptance of the Report and Recommendations	13. Review of the Report by the Utility and the Commission 14. Response to the Report by the Utility 15. Reach Agreement on the Recommendations and the Implementation Plan
5. Monitor the Implementation of the Management Audit's Recommendations	16. Establish a Plan for Implementation Monitoring, Reporting, Control, and Evaluation 17. Execute Monitoring Schedule 18. Evaluate Implementation Progress and Take Any Necessary Corrective Action
6. Evaluate the Overall Results of the Management Audit	19. Document the Results Achieved by the Audit 20. Assess the Audit's Net Benefits and Costs

Source: Authors' construct

The ad hoc approach to the initiation of a study involves the recognition that there is a gap between a utility's actual performance and the public's expectations or desires. The evidence that such a gap exists may emanate from a rate hearing, an investigation by the news media, or a special study conducted by consumer advocates or commission staff. These sources may reveal utility management problems such as construction cost overruns, excessive fuel adjustment rates resulting from questionable fuel procurement practices, poor plant availability, unsatisfactory responses to consumer complaints, and inadequate load forecasting methods. The decision to order an audit occurs when the regulator is persuaded by the evidence that the gap is sufficiently wide to trigger such an examination.

The ad hoc basis is obviously a reactive way to initiate a management audit. The study becomes an integral part of a commission's response to an expressed public concern about a company's management practices. As mentioned earlier, the establishment of an entire management audit program usually occurs in this fashion.[4]

The automatic approach to initiating an examination is usually associated only with a commission possessing serious and substantial commitments to a management audit program. No manifestation of inefficiency is required. Instead, the need for an audit is based on the premise that every utility ought to be examined at least once in a specified time period.[5] If studies are conducted

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[4]The first management audit ordered by a commission is almost always initiated in an ad hoc manner. Whether an ongoing management audit program also results depends upon whether enough of the facilitating factors are present and whether the commission commits itself to the development and maintenance of the management audit function.

[5]Among the few commissions using the automatic approach the most popular interval is once every five years.

less frequently, the risk that a company begins to deterioriate becomes too large. The decision to order "automatic" audits is often made long before the examination of any specific utility begins. Either legislation is enacted or a commission issues a rule requiring that every investor-owned utility undergo a management audit within a stated amount of time.[6] From that point, since the examinations have now already been ordered, the commission's management audit staff typically can schedule studies as it sees fit (provided, of course, that the law or rule is satisfied) without obtaining any additional commissioner approval.[7]

Once established, the automatic basis is a much less dramatic way of initiating a management audit than the ad hoc approach. An automatic audit may be performed entirely without any sign of public concern over a utility's operations. Indeed, the audit report from an automatic examination may indicate that no serious weakness exists in a company's current practices. Since they become a routinized component of a commission's agenda, audits initiated on an automatic basis are usually directed toward early detection and prevention of potential problems.

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[6]A practical but occasionally troublesome modification to such a rule involves restricting the list of utilities subject to automatic audits to only the largest companies (using, for example, total operating revenue as an indicator of size). While this approach may be an important factor in maintaining a reasonable audit workload for a jurisdiction with many small utilities, it may also mean that some of the least efficient companies are not examined on a regular basis. The leaders of several management audit groups believe that the utilities in greatest need of assistance are the smaller companies because size and efficiency tend to be inversely related. They also express the concern that, because many of these smaller utilities are family-owned and operated, company management may easily be able to divert business assets to personal use.

[7]However, sharing information with commissioners is usually the best policy for a management audit group. See the earlier discussion of developing and maintaining a management audit program.

The existence of automatic audits can induce anticipatory behavior on the part of a utility yet to be studied. Rather than wait for a regulator-mandated examination, the company engages its own management auditor. Then, when the commission-ordered study takes place, the utility receives high commendation mainly because its own audit enabled it to "clean house." At least two very different approaches have been employed by commissions as responses to utility anticipatory activity. In one state the utility's own study was strongly opposed. The utility was warned that expenses incurred for its audit would not be recoverable from ratepayers. This effectively squelched the company's effort. Yet in another state similar utility action was viewed favorably. The leader of the management audit group believed that anything that causes earlier improvement in utility operations should be encouraged. Accordingly, in that person's opinion, an added strength of automatic initiation of audits is that many (hopefully all) companies undergo audits voluntarily in anticipation of commission-ordered studies.

Phase 2: Plan the Management Audit

Five tasks comprise this phase--the phase of a consultant-conducted study to which commission staffs usually devote the largest amount of their time. To ensure that misunderstandings are kept at a minimum, a regulator must establish an audit's goals and objectives, overall scope, and resource requirements. The selection of a consultant is the task with which commissions probably have the most experience. It requires careful consideration each time a new study is ordered. If a commission's management audit group does nothing else, it should plan the audit and, in so doing, carry out an effective consultant selection

process. The following discussion covers some of the important decisions and activities in the planning phase.

Many related but somewhat different goals and objectives for management audits have been advocated. They include:

1. Keeping utility rates low
2. Defending commission decisions
3. Gathering evidence for a rate case
4. Reviewing the efficiency of utility operations
5. Setting incentives for utility improvement
6. Identifying areas that constitute actual or potential problems
7. Investigating specific problem areas that were identified before the audit began
8. Developing a plan for remedial action
9. Educating the commission and/or the general public
10. Training commission staff to conduct their own management audits

To avoid the previously discussed problem of inordinate expectations, an audit's goals and objectives should be clearly spelled out during the planning phase. If initiated on an ad hoc basis, a study will likely have its goals enumerated in a commission's formal order. The goals of an ad hoc audit will generally be more specific than those of an automatically-initiated examination. While the former may address concrete issues that surfaced before any audit was ordered, the latter may involve an assessment of overall efficiency or an attempt to determine whether any significant (but, at the time the study begins, unobserved) problem areas exist. Without a set of understandable and agreed-

upon goals and objectives, an audit initiated on an automatic basis is needlessly exposed to charges of being a "witch hunt."[8]

To a large extent the nature of an audit engagement is determined by the study's goals. For example, if training commission staff is a goal, arrangements must be made for the commission's personnel to work with the consultants. If the audit is to educate the general public, the report must be written in nontechnical language--free of all unnecessary jargon.

Determining the audit's scope is also inextricably related to the setting of goals and objectives. If the study is to review in depth the overall efficiency of a company's operations, a comprehensive management audit is needed. On the other hand, if only a few selected areas are to be examined, the study becomes a focused audit.

As illustrated by their titles in appendix A, a large majority of the audits performed to date have been comprehensive studies. In general, the first commission-ordered examination of any utility will have a comprehensive scope. Although it does not necessarily mean "look at everything," comprehensive does imply that many functional areas are scrutinized. By presenting a tally of major areas and particular topics within each area studied in thirty-nine comprehensive audits, appendix B illustrates the scope of a typical examination. In some cases an audit takes on multiple stages. A comprehensive audit identifies major problem areas that are then examined in more detail in a second-stage focused study. Another kind of multiple-stage approach results when a consultant is requested to assess a utility's progress in implementing the recommendations of a previously-conducted audit.

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[8]Of course, the goals of an ad hoc audit may also be poorly specified, thus qualifying it as a candidate for a similar charge.

As discussed in the preceding chapter, the cost-benefit calculus of a comprehensive audit parallels that of an ostensibly healthy individual's general physical examination. There is growing sentiment among commission management audit specialists that a comprehensive study of a utility exhibiting no discernible symptoms of inefficiency is too costly. They believe that the benefits to ratepayers from this type of examination likely falls short of the resources consumed in conducting it. Accordingly, they advocate a focused audit where the scope is limited to those functional areas with the greatest likelihood of inefficient operations and the greatest potential dollar savings achievable through recommended corrective action.

Although relevant for all audits, the concept of materiality or significance is probably most important for a focused study. An auditor should not devote a substantial amount of time to documenting the inefficient nature of a particular operation and suggesting ways for improvement if the overall payoff in terms of cost savings is relatively low. Several difficulties are associated with determining the scope of a focused audit. First, how can a commission or a consultant know beforehand that attainable improvements in a particular functional area will produce significant cost savings? If uncertainty about this issue exists, should the audit's scope include or exclude the area in question? Second, and perhaps more importantly, what assurances exist that the study's focus is not too narrow? Have efforts to reduce the audit's cost eliminated from the examination an area that could have provided substantial benefits to ratepayers?

No completely satisfactory answers can be given to these questions. The scope of a focused audit should be established only after careful consideration of all available information. Commission staff (perhaps with the aid of consultants) may be able to use their own experiences (including the results of previous

studies) to remove low payoff areas (e.g., if the dollar amounts are relatively small to begin with, improvement may mean very little) and to include all areas with large potential benefits.

One approach to setting a focused study's scope involves the use of a reconnaissance audit. The purpose of such an examination is to identify those aspects of a company's operations that require further study. Compared to a comprehensive audit, a reconnaissance study may cover as many functional areas, but does not contain as much in-depth scrutiny of any one area. In a jurisdiction where audits occur according to an automatic cycle, the first study of any company may be comprehensive. After that a commission may order periodic reconnaissance audits that may or may not trigger focused examinations of particular problem areas. Because a reconnaissance study offers the strong assurance that no major problems have gone unnoticed and because it is less costly than a comprehensive audit, several experts believe that the combination of a reconnaissance audit and a subsequent focused study (if it is necessary) is the approach of the future for commission-ordered examinations.

A focused audit can also provide the input for inter-utility comparisons, the cross-sectional analyses frequently advocated by regulators and consumer groups but almost always condemned by company management. A recent example is an audit conducted for the Florida Public Service Commission that studied the purchasing function of four Florida telephone companies.[9] Although the regulatory advantages of such an examination are apparent, extreme care is required in setting its scope that, instead of focused, is more accurately

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[9]Theodore Barry and Associates, Cross-Sectional Purchasing Study of Four Florida Telephone Companies, prepared for the Florida Public Service Commission, January 1981.

described as "pinpoint." Besides offering high potential for cost savings, the functional area(s) selected must have enough common features across the utilities examined to withstand the criticism from company representatives that any cross-sectional analysis is invalid because each entity's operations are unique.

Another type of cross-sectional comparison offers potential benefits for a commission's management audit staff. If possible, two or more similar studies should be conducted at the same time. The purposes of this "parallel" scheduling are to enable the management audit group to share experiences with each other, to consider whether the approach used to solve a particular problem that arose in one examination may be equally applicable in similar circumstances in another, and to discuss the strengths and weaknesses of various auditing techniques.

As long as the management audit group's responsibilities in each study are approximately alike, the opportunity for staff interaction as the audits progress, rather than the actual nature and scope of the examinations, takes on primary importance. Thus, the potential benefits from parallel scheduling exist regardless of whether a commission assumes the role of project manager for two consultant-performed comprehensive examinations or, in the spirit of the previously mentioned Florida study, it utilizes its own staff to conduct focused audits of the same functional area(s) of two or more utilities. Ideally, the companies involved would resemble each other across several dimensions (e.g., total annual revenue, market size, customer mix, service area, and types of inputs used to generate power). Because it believes that its staff receives a genuine opportunity for on-the-job training and professional development from this approach, at

least one commission makes a conscious effort to schedule its management audits in parallel.[10]

At the heart of the planning phase is the consultant selection process. Although actual practices may vary, the process consists of several elements that are highly uniform from state to state. It involves three principal subtasks: preparing a request for a proposal (RFP) to perform an audit, evaluating proposals submitted by firms bidding on the contract in order to reduce the number of candidates to three to five "finalists," and conducting intensive interviews with key personnel from each finalist. Appendix C contains seven RFPs from six different states (one each from Connecticut, Georgia, Michigan, New York, and Ohio, and two from Pennsylvania). Criteria for evaluating proposals as well as a description of the evaluation process are often included as components of an RFP. However, appendix D contains five separate proposal evaluations from four states (two from Florida and one each from Michigan, New York, and Pennsylvania).[11] Many RFPs also describe the interviews to be conducted with consulting firms that become finalists.

In a nutshell, the selection process is an effort to secure the services of an independent, competent consultant capable of performing an audit within the time and budgetary constraints imposed by the commission. Although paid by the utility, the consulting firm must recognize that its primary client is the commission. In most cases the commission is solely responsible for choosing the

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[10]For some regulators, resource constraints may preclude parallel scheduling.

[11]For the sake of completeness, the appendices include as many "current" RFPs and proposal evaluation forms as NRRI had acquired at the time of this report. Although no two of these documents are exactly alike, a close examination reveals that in several cases commissions have modeled their approaches after one another.

consultant. Since virtually every commission has, at one time or another, secured the assistance of one or more outside experts, the following discussion focuses on those aspects of the process that are specifically related to selecting a consultant to conduct a management audit of a public utility.[12]

Of primary importance is the content of the RFP. Each request must be tailored to the specific audit sought. However, New York and Pennsylvania, two commissions that view management audits programmatically,[13] have developed generic RFP forms. Although designed for a comprehensive study, each would require only minor changes to become appropriate for other types of audits.[14]

To ensure the consultant's independence (i.e., that no conflicts of interest exist), the RFP usually requires the proposer to disclose any working relationships that have existed between itself and the utility during the recent past (often the preceding five years). A commission uses this information to decide whether a firm should be eliminated from consideration on a particular audit because its previous relationships may impugn its independence. In addition, the

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[12]If a commission has never obtained a consultant, it should seek the advice of other agencies within its state government that have done so. The RFPs in appendix C offer examples of approaches to several important elements (e.g., spelling out timetables, specifying desired outputs, and monitoring a consultant's progress) of any consultant selection process.

[13]See the discussion in the first two sections of this chapter.

[14]See appendix C. Strictly speaking, New York's generic form is not an RFP but "A Guide for Management Consultants Performing Management Studies of New York State Utilities at the Request of the New York Public Service Commission." The actual RFP, by far the shortest such document in the appendix, is a two-and-one-half page cover letter for this guide written by the commission's secretary. Pennsylvania's generic form is the first of that commission's two RFPs contained in the appendix. The second Pennsylvania RFP involves a rather complex request and illustrates a way to modify the generic form to meet specific needs. It also differs from all the other RFPs in the appendix in that it seeks consultant assistance on two audits to be conducted by commission staff.

RFP may contain a statement that the consultant selected to conduct the audit is prohibited from working for the utility for some period of time, usually one or two years, after the study is completed.[15]

Since a management audit's findings are not always congruent with the needs of a regulator, the RFP frequently specifies that the consultant "quantify" as many of the study's recommendations as possible. This means: "Please tell us how many dollars the utility will save if it follows your advice."[16] This push for quantification can be attributed to two related factors. First, as mentioned earlier, a repeated criticism of management audits is that they fail to provide observable, measurable benefits for the companies examined and their customers. Second, a popular perception is that, if given the choice, a utility will opt for enhancing service over reducing (or containing) cost. Since a commission often intends to use a management audit as a means of redirecting a company's priorities toward cost saving (or revenue enhancement without a rate increase), quantification is a particularly critical need. Its absence means that a regulator's assessments of post-audit performance cannot include direct comparisons between actual results and estimates made by the consultant. A way of gaining some insight into the degree of quantification that will be present in the final report is to require a description in a consultant's proposal of the analytical methods to be employed in the study.[17]

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[15]Of course, a commission always reserves the right to rehire for the second part of a two-stage audit the consulting firm that performed the first part of the study. This would not be considered a violation of the prohibition mentioned.

[16]One commission goes so far as to use the term "dollarization" of recommendations in its RFP.

[17]Of course, not all management audit recommendations are quantifiable. See the discussion in the next chapter.

A final noteworthy aspect of an RFP is its emphasis on the personnel performing an audit. At least three distinct types of personnel matters may arise. First and foremost is the requirement that a consultant provide resumés of those individuals who will actually be conducting the audit.[18] This is based on the well accepted idea that the selection of a consulting firm really is the selection of a subset of a firm's personnel. The credentials, abilities, and experience of these individuals make a far more important contribution to a study's success than does their firm's overall reputation. An ordinary requirement is that a consultant's lead personnel on an audit may not be changed without a commission's permission. The second personnel issue concerns the degree of involvement of commission staff in an audit. If staff training is one of the study's objectives, it should be spelled out in the RFP. A commission should inform all consultants at the outset that it expects the firm chosen to assume the roles of both auditor and instructor during the proposed engagement. The third and last personnel matter is unique to the Ohio RFP among those contained in appendix C. It includes a provision to ensure compliance with a law enacted in November 1980 requiring that fifteen per cent of all the state's contracts be set aside for minority business enterprises.

After the issuance of an RFP but substantially before the due date for responses, a commission may conduct a pre-proposal conference. The purposes of this meeting, involving representatives from the commission, the utility, and all consulting firms interested in bidding on the project, are to share information and answer questions. For example, the commision may wish to clarify the role it expects to play in the upcoming examination. A consultant may have some

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[18]If a consulting firm becomes a finalist, a commission will likely request in-depth interviews with several of these people.

questions that were not completely answered by the RFP. The utility may provide some additional financial data that were not available when the RFP was prepared. To paraphrase the leader of one management audit group, the pre-proposal conference is an attempt to defuse any threatening atmosphere created by the initiation of the audit process and to calm any fears arising from the potentially strained relationship between utility and consultant. At least one commission tape records the entire session to accommodate any consultants unable to attend.

Although many RFPs contain similar language to explain the criteria for assessment of proposals (e.g., cost, experience and competence of the consultant's staff, clarity and conciseness of the proposal, soundness of auditing methods and techniques, technical understanding of the utility's various functional areas, and demonstrated ability to distinguish between those areas that require close scrutiny and those that do not), the RFP evaluation process exhibits considerable variation from state to state. In one commission the proposal review committee consists of both management audit staff and representatives from other functional areas. These latter individuals add objectivity to the process. Another commission evaluates proposals using only management audit personnel. To achieve consistency in evaluation, the leader of the management audit group assigns one staff member to review each consultant's proposed audit treatment of the same functional area. The staff then meets to discuss each proposal in its entirety.

Some commissions have developed formal numerical rating schemes for proposal evaluation. Appendix D illustrates some of these with contributions from Florida, Michigan, and Pennsylvania. Two distinct Florida evaluation forms are included in the appendix, reflecting the commission's effort to tailor the

evaluation to the particular audit under consideration. Perhaps the most unique item in the appendix is Pennsylvania's "Contractor Qualifications Multiplier," that relates a consultant's previous experience to the size of the task at hand. Other commissions such as New York have no formal numerical scoring system. Instead they assign qualitative ratings such as excellent, satisfactory, or unsatisfactory to key aspects of the proposal. The appendix contains New York's "proposal evaluation form" to provide a contrast to the more formal documents developed by the other states.

Standardization of RFP evaluation across jurisdictional boundaries is most unlikely. The process amounts to a screening device whereby a commission reduces the number of bidders to a group of finalists. On only the rarest of occasions would a consultant be selected solely on the basis of a proposal. Accordingly, many regulators view proposal evaluation as an important but intermediate step in choosing a consultant. The lengthy interviews with the finalists, explained in Section 8 of New York's "Guide for Management Consultants" (see appendix C), become the final, most critical element of the selection process.

Once a consultant has been chosen, a commission's management audit group must offer both an explanation and encouragement to each "losing" firm. Each unsuccessful bidder will probably want to obtain some concrete reasons for the rejection of its proposal. Ensuring that these consultants respond to future RFPs requires adroit handling of this situation by a commission's staff. Although the "best" consulting firm should be retained for each management audit engagement, an unresolved issue is whether the best firm should always be the same firm. On the one hand, a commission might attempt to "spread the workload around" and thereby encourage new perspectives and approaches. On

the other, retaining the same consultant for several studies may enhance the auditor's ability to recommend that a utility employ the successful management practices observed during previous audits of other companies.

After consultant selection but before the actual examination begins, the final task of the planning phase, the development and approval of the audit work plan, takes place. Usually the consulting firm has already prepared and submitted a general work plan as a component of its proposal. Now it develops a detailed work plan for each area to be examined. Section 6 of New York's "Guide for Management Consultants" provides an explanation and an example of the work plan's elements. In New York and in other states a consultant may not begin to examine a particular functional area without formal commission approval of the detailed work plan for that area.

Essentially the work plan is input oriented. A commission is not telling the consultant how to conduct the audit. Rather, it is asking, "Is the consultant planning to devote the 'right' amount of time to a particular task?" If the answer is yes, the commission approves and accepts the scope and level of detail. If the answer is no, a meeting between commission staff and consultant may be arranged to resolve the differences. Techniques for preparing work plans are discussed in the next chapter.

Phase 3: Conduct the Management Audit

Upon completion and approval of the detailed work plan the audit proceeds into its third phase--the actual conduct of the study. Table 3-1 lists five tasks to be accomplished in this phase. Since this chapter emphasizes a commission's role during a consultant-performed examination, the discussion here does not

consider specific methods and techniques employed by the management auditor/ consultant. These are covered in the next chapter.

From a commission's perspective a management audit conducted by a consultant could be based on a "turnkey" contractual agreement. Essentially this means that a commission does nothing from the selection of a consultant to the completion of the audit report. Then the commission takes delivery of the finished product.

On the other hand, a rather different approach involves a commission acting as a "contract manager" with the consultant as a subcontractor. Here the regulator monitors the study's progress through direct observation, frequent interim reports, and periodic meetings with the consultant. An example of a commission's role in a contract manager setting is contained in Section 7 of New York's "Guide for Management Consultants" (see appendix C).

The turnkey/contract manager distinction represents the two endpoints of a continuum that could be called "Degree of Commission Involvement in a Consultant-Conducted Audit." A commission's choice as to its position on that continuum depends upon several factors. First, how much control over the consultant is needed or desired? Obviously the contract manager approach affords greater opportunity for control than does the turnkey method. Even in situations where control is not the primary consideration (e.g., where the commission expects its management audit staff to provide it with up-to-date information on each study in progress), the contract-manager arrangement may be preferable. Although turnkey is less costly during the conduct of an audit, the contract manager method may avoid major difficulties later. For example, the Connecticut RFP (see appendix C) provides for "verification sessions," meetings held between consultant, utility, and commission staff to confirm the validity of

the data to be incorporated in the audit report and used in the development of the consultant's recommendations. A strict turnkey approach could permit disputes between consultant and utility over important issues such as data validity to remain unresolved through completion of the final report.

A final consideration in the turnkey/contract manager choice involves a commission's attitude toward developing in-house management audit capability. Most management audit specialists would agree that a commission cannot conduct its own management audits until it has monitored several consultant studies. Thus, if training staff to perform audits is one of the study's primary goals, a commission should opt for some variant of the contract-manager approach.

Phase 4: Make Decisions Regarding Acceptance of the Report and Recommendations

Some individuals, especially those who believe that every regulatory action must be adversarial, may have the notion that a management audit is an end in itself. Perhaps caused by the courtroom climate of so many regulatory proceedings, this attitude considers an audit as simply a contribution of additional evidence of company mismanagement compiled by an expert witness. The only remaining step is for a regulator to mete out appropriate punishment. Persons possessing this viewpoint are understandably upset whenever an audit report comments favorably on efficiently-run aspects of a company.

To accomplish any of its typical objectives (e.g., cost savings for rate-payers and improved utility operating practices), the management audit process cannot end with the completion of the examination and the submission of the consultant's report. Although it may suggest several changes that the consultant

believes will improve company performance, the report itself is not an instrument of change. Instead, change must occur within the utility. As with a physical examination, the patient (utility) must accept the physician's (consultant's) diagnosis (findings) and decide to act in accord with the prescriptions (recommendations) designed to help regain a healthy state (efficient and effective management and operations).

The fourth phase of the management audit process involves the efforts of the three directly involved parties--commission, consultant, and utility--to resolve as many differences as possible and thereby achieve agreement as to future actions. The three tasks in this phase (see table 3-1) may run quite smoothly or they may offer severe stumbling blocks. Although procedural differences among jurisdictions may exist (e.g., as to who is entitled to review the report first and how the study will be made public), a commission's management audit group usually plays a key facilitator role throughout this phase.

Once a consultant presents a draft report, the review by the utility and the commission can be accomplished in several ways. After a simultaneous two-week inspection by both company and commission staff, one approach involves a meeting of all three parties to discuss the document. The report is then finalized by incorporating any revisions resulting from this meeting that the consultant considers necessary. The revisions typically involve correction of factual errors and improvement of the report's clarity.

One additional step in this review process affords a commission a greater amount of influence over a report's contents. Here a consultant prepares task reports for each of a company's functional areas that are sent only to the commission for review. The commission staff then releases each task report to

the utility, and, after an appropriate amount of time for the company's own review, a three-party meeting is conducted for each task area. The draft report, consisting of the task reports, management summary, and recommendations is then given similar treatment to that described in the preceding paragraph. The leader of one management audit group believes that the additional time devoted to the review of task reports is worthwhile because it ensures that "the consultant hasn't given anything away."

As suggested by that last observation, a spirit of negotation may often underlie the review process. Besides resolving disputes as to the nature of the facts, these three-party sessions also likely involve a considerable amount of give-and-take as to the nature and tone of the consultant's recommendations. Commission and utility may be in complete agreement in some areas but in others their respective positions may differ widely. As illustrated in appendix E, recommendations in management audit reports are often ranked or prioritized. From a commission's viewpoint, obtaining a utility's public willingness to follow high-priority recommendations may even be more important than ensuring that a consultant has not given anything away. Accordingly, a commission may be willing to "give in" on some lower level recommendations in exchange for company consent on some more important matter(s). A meeting to discuss the report affords the parties the opportunity to conduct such negotiations far in advance of any public dissemination of findings and recommendations.

The utility's response to the report begins when the company is permitted to review the document, continues through its participation in the meetings discussed above, and ends with the insertion of its comments in the final draft. In several states the utility's comments are the last additions to the report before it becomes part of the public domain. By involving a utility throughout

the process, a commission attempts to ensure that no surprises occur when the report is issued. The report's publication is usually noted in a simple, factual press release issued by the commission stating that the audit is completed but ordinarily avoiding any lengthy discussion of findings and recommendations.

Phase 5: Monitor the Implementation of the Management Audit's Recommendations

A utility may accept or reject each management audit recommendation. Acceptance, however, does not automatically mean that the company will implement (i.e., carry out) the suggested changes in a timely manner. Since failure to implement thwarts the accomplishment of a management audit's purposes, a commission may decide to take appropriate steps to guarantee that promises are indeed converted into actions.

Despite the importance of verifying that recommendations are carried out, activity in this area has been uneven. In most cases either the utility or the consultant provides a written implementation plan within a specified time period (thirty to ninety days) after issuance of the report. Beyond that, actual practices differ widely.

Some commissions retain a consultant (usually the one that performed the examination) to monitor and report on implementation. Others monitor only on a random basis, choosing to check on the progress of high-priority recommendations. This approach to monitoring becomes more serious when the utility files for a rate increase. Then the failure to implement recommended changes to reduce costs may serve as compelling evidence that the company is not fully justified in requesting rate relief. Finally, the New York Department of Public Service provides an example of an ongoing, in-house, extensive implementation

monitoring program. Appendix F is New York's "Guide for the Implementation of Management Study Recommendations," a document that describes the procedures involved and includes the forms used in the monitoring effort.

When done correctly, monitoring is a time-consuming activity. Further, unlike other aspects of the management audit process, monitoring requires little creativity. It can easily become a tedious assignment. New York's monitoring efforts undoubtedly are motivated in no small way from that state's management audit legislation. The Department is mandated not only to conduct management audits (either in-house or by hiring consultants) but also to monitor implementation of recommendations. Legislation in other states may require the former but not the latter. In describing the evolution of their management audit groups, the leaders of such efforts explain that they did not anticipate the significant amount of resources needed for adequate monitoring. The monitoring techniques presented in the next chapter may help to improve the effectiveness and reduce the costs of this phase of the management audit process.

Phase 6: Evaluate the Overall Results of the Management Audit

Although an assessment of a management audit's costs and benefits is often done ex ante ("before the fact," as when a regulator decides whether to initiate a study) and cost-benefit data (e.g., the auditor's projections of the monetary and nonmonetary advantages and disadvantages of implementing each recommendation) are frequently found in the final report, research on an audit's overall effects ex post ("after the fact") remains to be performed. As several management audit specialists observe, it is too early in the history of commission-ordered management audits to evaluate their overall results. Thus, an important item on the future research agenda is to determine analytically

whether a commission actively engaged in the management audit business is correct in its belief that these studies "pay for themselves." Such research would be based at least in part on the "counterfactual" method--an attempt to determine what the situation would have been had a management audit not been conducted.

Sources of Controversy

Two contested items are the appropriate relationship between a management audit and a rate case and the appropriate means of financing an audit. Although some experts in regulatory affairs question its underlying logic, a fairly consistent pattern has emerged for the recovery of an audit's cost. However, the management audit/rate case debate is far from being resolved. A strong case can be (and frequently is) made in support of either side of this issue. This section highlights the arguments surrounding these two controversial topics.

Management Audits and Rate Cases

The proponents for incorporating an audit's findings in a rate hearing believe that all available evidence should be brought to bear upon a utility's request for a rate increase.[19] They argue that a management audit should be included because a rate case is the mainstream of commission activity. A direct linkage with a rate case enhances a management audit's importance (as well as

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[19]The ultimate management audit/rate case connection occurred for a period of about two and one-half years in Maryland (1972-74). The commission required a management audit of a large utility (revenue in excess of $25 million) each time it was involved in a new rate hearing. The plan was scrapped because the frequency of rate cases made the audit cost on ratepayers unbearable. See the 1979 NARUC Annual Report, op. cit., table 30, footnote 4.

the management audit group's prestige). Further, a rate-case connection likely improves the quality of an audit report because the auditors have stronger motivation to quantify their results. Finally, regulators may use the audit's findings to establish an incentive rate-of-return system whereby a utility is rewarded if it achieves a certain degree or level of efficiency.[20]

These arguments do not persuade the leaders of some of the ongoing management audit programs who express serious concern about the wisdom of coupling an audit and a rate case. They fear that an audit would become not only more difficult but ultimately impossible to perform. Entanglement with a rate case would likely signal the end of the management audit function because it would seriously impede a utility's willingness to cooperate freely and openly with the audit team. One commission's leadership feels so strongly about this issue that its rate section will ordinarily not be kept current with the status of management audits in progress and the agenda of its management audit section. From the utility's perspective an advantage of separating audit from rate case is that any cost savings resulting from implementing an audit's recommendations constitute a temporary windfall that disappears only when the next rate case is heard.

Who Should Pay for a Management Audit

With only a few exceptions the pattern of cost recovery for a management audit is standard practice across jurisdictions. If a consultant conducts the study, the utility pays the consultant and then recovers the cost as an above-the-

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[20]See, for example, William P. Pollard, Conrad Six, John J. Reilly, David M. Boonin, and John L. Dial, Rate Incentive Provisions: A Framework for Analysis and a Survey of Activities (Columbus, Ohio: The National Regulatory Research Institute, 1981).

line expenditure over some extended time period (most frequently five years). If the commission staff performs the audit, the costs are recovered through whatever funding sources the commission has available. A utility does not pay directly for a staff-conducted audit. Even when consultants are involved, a utility would not pay for expenditures incurred by a commission in its roles as project manager, implementation monitor, etc. Thus, except in those cases where funds from a federal grant are available, the burden for a commission's management audit costs falls upon a state's citizens--in the form of either general tax revenues that are allotted to a commission in the usual budgetary process or, in some states, a utilities regulatory tax that is earmarked for commission purposes. One recent consultant-conducted audit did deviate from the usual approach by having one-half of the study's cost (not in excess of a stipulated maximum) recovered from the utility's shareholders as a below-the-line item.

The principal argument surrounding the cost recovery issue involves the degree of financial responsibility that should be ascribed to a company's owners. Some observers believe that a utility's shareholders are insulated from any losses caused by inefficiency because these are easily passed through to ratepayers.[21] Further, the presence of a rate-case connection may not make a difference. As mentioned previously, if an audit is not tied to a rate case, a company reaps a short-term windfall. If it is connected, a utility may earn an incentive rate of return for taking some actions (i.e., implementing a management audit's recommendations) that it should have taken earlier on its own volition.

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[21]The modern era of "regulatory gimmickery" may make this pass-through even easier than it was previously. See Douglas N. Jones, "A Defense of Rate Regulation in the Classic Style," Public Utilities Fortnightly, (June 19, 1980), pp. 76-78.

The arguments supporting the predominant cost recovery pattern are based on the mandated nature of an audit and the belief that a ratepayer does benefit from any slowdown in rate increases attributed to an audit's impact on utility efficiency. In addition, a practical consideration resulting from a modified version of the "law of large numbers" may be the most important factor in deciding who pays: When spread over all customers (and especially if amortized over a relatively long period--say, five years), the cost of a management audit per ratepayer is extremely low, frequently amounting to no more than a few pennies per person per year.[22]

[22]Of course, the same could be said of the cost of a management audit per shareholder of a widely-owned utility.

CHAPTER 4

WHERE WE ARE HEADED--DIRECTIONS FOR IMPROVING MANAGEMENT AUDIT METHODS

Since a management audit is primarily a systematic study of one or more utilities, the ability to conduct such an examination requires a good understanding of its critical elements: the overall approach, the type and method of analysis employed within the approach, the specific techniques available or utilized within each method of analysis, and the tools or instruments supporting each technique.

A two-step search process was performed to derive this chapter's inventory of problem-solving methods applicable to a management audit. First, a review of final audit reports, surveys of completed audits, and guidebooks for management audits and general consulting identified techniques that have already been used in one or more management audits. Although not exhaustive, the review included materials that appeared to be representative of the most sophisticated utility management audits performed to date--studies that employed a variety of approaches, methods, techniques, and tools.

The second step in the search process was a review of the literature in management science, social science, policy science, and behavioral science to obtain additional methods that could be applied to a management audit. Throughout the entire search, explicit efforts were made to inventory qualitative as well as quantitative techniques. An important consideration for the inclusion of any technique in this report is its potential to contribute to the critical issue of utility cost control.

A comparison of the inventories obtained in each step of the search process reveals that many apparently appropriate methods, especially several qualitative

techniques discussed in this chapter, were either under-utilized or not used at all in the management audits reviewed. Although their skillful application might result in major improvements in both the conduct of an audit and the execution of its recommendations, qualitative techniques were largely ignored in the studies that were reviewed.

The review also suggests that most management audits have focused on recurrent, routine problems, using standard, routine methods of analysis. Yet the current period of rapid change in the utility industry has resulted in novel situations that suggest use of innovative techniques to define problems and generate solutions. Such techniques are available and have been widely and successfully used in other settings. Their application to the "ill-structured" problems experienced by today's utilities could reap substantial rewards.

Finally, there are numerous ways to combine techniques in a single audit. This chapter serves to bring individual techniques to the reader's attention, but it does not provide any recipe to blend techniques in an optimal manner. Because each audit has its own unique attributes, no such prescription is possible. Commission staff and consultants retained as management auditors may use the information presented here to invent more effective approaches by combining techniques to suit individual audits.

The Management Audit as a Problem-Solving Process

Once a need for a management audit is identified, its actual execution becomes a project to be managed. What type of project is it? Basically it is like any other complex, collectively undertaken problem-solving project. There are two fundamental questions: how well is the utility performing, and what improvements can be introduced to enhance its performance? As its mandate,

an audit team tries to answer these questions. To provide answers, it undertakes a comprehensive, systematic sequence of managerial activities and applies various techniques and methods of analysis and action. It employs a general problem-solving approach that draws from three overall categories of methods. Further, project management goes beyond these analytical procedures by combining them with specific audit tasks and project management functions.

The general approaches that consultants and management scientists draw upon in systematic studies similar to commission-ordered management audits are variously labeled operations research (OR), systems analysis (sometimes referred to as policy analysis), and program analysis. Each prescribes a series of analytical or behavioral steps that are sequenced to move from problem definition to some result that terminates the process. As table 4-1 demonstrates, the basic phases or steps are quite similar. But there are some important differences in emphasis that must be considered in stipulating the overall process an audit is to follow. Operations research tends to put more weight on building quantitative models of the utility operations under study. OR processes rely both on mathematical techniques that require high expenditures of resources and on specially trained researchers. But they provide quite precise, effective solutions for repetitive, highly patterned problems that typically characterize the operational level of management decision making in a utility. Although highly developed, the OR set of techniques omits consideration of more qualitative types of analysis required at higher levels of utility management.

Systems analysis, policy analysis, and program analysis are terms referring to general approaches that go beyond OR to include steps that emphasize special development of organizational and operational objectives. Policy analysis and program analysis are refinements that have developed in recent years. Policy

TABLE 4-1: OPERATIONS RESEARCH, SYSTEMS ANALYSIS, AND PROGRAM ANALYSIS PROBLEM-SOLVING PROCESSES

OPERATIONS RESEARCH	SYSTEMS ANALYSIS/ POLICY ANALYSIS	PROGRAM ANALYSIS
1. Formulating the research problem	1. Clarifying the problem	1. Defining the problem
2. Constructing the model	2. Determining objectives and criteria	2. Identifying relevant objectives
3. Testing the model	3. Searching out and designing alternatives	3. Selecting evaluation criteria
4. Deriving a solution from the model	4. Collecting data and information	4. Specifying client groups
5. Testing and controlling the solution	5. Building and testing models	5. Identifying alternatives
6. Implementing the solution	6. Examining alternatives for feasibility	6. Estimating costs of each alternative
	7. Evaluating costs and effectiveness	7. Determining the effectiveness of each alternative
	8. Interpreting results	8. Presenting findings
	9. Questioning assumptions	
	10. Opening new alternatives	
Source: Ackoff, 1962	Sources: Quade, 1975; Quade and Boucher, 1968	Source: Hatry, et al, 1976

analysis takes the strategic level decisions of a utility as a focus of study, accepting the importance of longer term, more uncertain events and actions as crucial to long- and short-term performance. Specific functional areas of operation or program structures (as they are called in the public sector) are the main concern of program analysis. Program analysis has also been extended to treat program implementation and evaluation. Linked to operations analysis, program analysis can emphasize productivity improvement programs.

Unlike OR, systems analysis and its relatives relate models and solutions directly to their impact on goal achievement. Again unlike OR, these approaches put more emphasis on the search for solutions that are not well patterned or structured. They also evaluate alternatives on the basis of multiple objectives, criteria, and comparatively intangible factors through analysis of effectiveness, feasibility, and cost. Finally, they emphasize not just the implementation of a narrow technical solution but the dynamics of gaining acceptance for broad program or organizational proposals for change, assisting implementation, and providing for careful monitoring and evaluation of progress and results. As with OR, each systems-analysis approach tends to draw upon a tool kit of specialized procedures during the various stages of the problem-solving process.

In shaping its specific process for each examination, a management audit team should become familiar with and draw upon the basic logic of each of the three general approaches. All have relevance for the three types of audits--comprehensive, focused, and reconnaissance. The OR approach and techniques have more application in the focused audit if operational concerns are primary. The systems approach provides an important set of assumptions for a management auditor. By taking the total organization as the focal unit and relating it

to its operating environment at all times, the systems approach minimizes the errors resulting from "not seeing the forest for the trees." Avoidance of this type of error is an essential prerequisite for the success of reconnaissance audits and the synthesizing of wide-ranging recommendations flowing from comprehensive audits. In short, the injunction to an audit team is to take a "holistic" view of the problem and its solutions. Careful scrutiny of the various organizational functions of a public utility can draw heavily upon the ideas and techniques provided by program analysis and its extensions to program implementation and evaluation. For utility operations, a newer stream of productivity improvement techniques associated with program analysis can be applied (Mali, 1978). The rest of this chapter draws on techniques and procedures from each of the major approaches disscussed here, suggests how they apply to the utility management audit process, and assesses their overall usefulness.

Techniques for Conducting a Management Audit

The broad perspectives on problem solving covered in the last section are linked to hundreds of specialized techniques for attacking particular subproblems. This report identifies over 75 such techniques that have clear potential for use by a management audit team. Although discussion of each technique is brief, its explication and evaluation can serve as a vehicle for commission staff to reexamine familiar approaches and to learn about others of which they may be unaware. Knowledge of the range of techniques and their potential can also aid in thorough, searching evaluation of consultants' proposals, promotion of new, fruitful avenues for consultants' work, and tight management of the initiation, conduct, and implementation of an audit.

Table 4-2 shows the twenty tasks of the management audit process (see table 3-1) cross-referenced with decision-making functions that can be applied in the performance of those tasks. The first six functions closely parallel the steps in doing scientific research for decision making. Thus, they fit the general problem-solving functions prescribed in systems and operations-research approaches. A seventh function that is frequently omitted in these approaches--social and behavioral functions or activities--is included in the table.

In table 4-2 an "X" signifies a strong role for the function identified at the top of that column for the task identified in that row. Some functions are appropriate for only a few tasks. Social processes, on the other hand, are important in 11 of the 20 management audit tasks.

For each of the seven functions, there is a variety of particular techniques available that may increase the efficiency and effectiveness of a management audit. The following pages present some relevant analytical and social process techniques that can be applied to each function. Each of the seventy-odd techniques is briefly described and evaluated on five dimensions of importance to a management audit team and regulators. This report does not attempt to make an overall ranking or rating for each technique, nor for the function to which it applies. The evaluations provide guidance to the user, who must decide on a technique's merits given the weighting of each dimension's importance in its operating context. The citations given for each technique refer to published works that represent the clearest and most usable sources of information.

The five dimensions on which each technique is evaluated as high (H), medium (M), low (L), and their combinations are:

1. The operating cost of using the technique (including dollars, time, and effort involved)

TABLE 4-2: MATRIX OF MANAGEMENT AUDIT TASKS WITH RELEVANT ANALYTICAL AND SOCIAL FUNCTIONS

Phases and Tasks of Management Audit Process		Problem Definition	Information Collection	Data Analysis and Modeling	Decision Analysis and Evaluation	Program Planning and Scheduling	Monitoring and Evaluation	Social Processes
Phase 1	1. Need for Audit	X	X					X
	2. Decide to Order Audit				X			X
Phase 2	3. Goals and Objectives	X				X		X
	4. Scope and Type	X				X		
	5. Resource Requirements					X		
	6. Select Consultant				X			X
	7. Develop and Approve Work Plan	X				X		
Phase 3	8. Establish and Maintain Working Relationship					X		X
	9. Collect Basic Facts		X					
	10. Perform Analysis			X				
	11. Develop Recommendations				X			
	12. Present Recommendations							X
Phase 4	13. Review of Report by Commission and Utility							X
	14. Utility Response							X
	15. Reach Agreement on Recommendations				X			X
Phase 5	16. Establish Monitoring Plan					X		
	17. Execute Monitoring Schedule		X				X	
	18. Evaluate Implementation Progress				X		X	X
Phase 6	19. Document Results Achieved		X	X			X	
	20. Assess Benefits and Costs	X			X		X	X

Source: Authors' construct

2. The effectiveness of the technique in producing the desired result (including quality, creativity, and acceptance of the solutions/results)

3. The degree of user sophistication required to employ the technique in practice (varying from specialized training and several years' experience in application to lay-person use)

4. The information requirements demanded by the technique (from a large amount of new, valid, reliable, and quantitative information requiring special processing to the use of existing data and/or personal, subjective judgment)

5. The ease of understanding the results produced by the technique's application (including clarity, logic, and similarity to other familiar techniques and processes)

Problem Definition

All problem-solving processes start with a dissatisfaction with the way things are as compared to what is desired and doubts about what can be done to reduce that dissatisfaction. How a problem is initially defined and redefined in the course of a management audit is crucial for an audit's success. As noted earlier, a management audit is frequently triggered by some need expressed by consumers, legislators, commissioners, or others. A commission is faced with deciding what the cause(s) of the problem might be and what to do about it.

Two critical concerns must be kept in mind in making explicit the difference between what is and what ought to be. The first is whether attention is directed to the right problem. The second is understanding the problem's nature. Only after these concerns are resolved can a commission know whether a management audit should be conducted and, if so, with what focus.

Before committing large amounts of money, time, and effort to collecting information, doing analyses, and building expectations, a commission must first ask whether there is a risk of solving the wrong problem. Is the current situation accurately known? Does a commission know where it wants to go, the result it

wants to produce? Once there is certainty that a problem truly in need of solution exists, a regulator can begin to learn something about it and examine its nature. Routine problems differ greatly from nonroutine ones. Well-structured problems are typically accompanied by substantial knowledge and understanding of the current and desired situation and the means to bring about the desired transformation. Appropriate techniques and methods, usually relying on formal, mathematical models, are available in most cases for such problems that may be found in day-to-day utility operations. Many cost-savings problems facing utilities fall into this category. However, there are many managerial and strategic problems that face a utility manager and a project leader of a management audit that are at best moderately structured. In such a case, regulator, auditor, and utility may have but a slim grasp of the current situation, vague concepts of goals, and no known means of getting wherever they are headed.

Among the techniques reviewed here are approaches that aid in minimizing the risk of solving the wrong problem and those that provide a basis for defining moderate to ill-structured problems, as well as the more common routine problems. The techniques apply to many tasks and subtasks during a management audit. Throughout the management audit process, project managers, consultants and analysts are stating, defining, bounding, deepening, redefining and structuring subproblems that are elements of the overall problem of producing an effective audit.

As highlighted in table 4-2, the first task where problem definition is crucial is the identification of the need for an audit and of the audit type (comprehensive, focused, or reconnaissance). A concise statement of need enables an audit team to find the correct problem, focus resources, and gain

utility and commission concurrence. Processes and techniques are available to an audit staff to generate an understanding of the basic issues, constraints, and assumptions of the project and to gain the acceptance and involvement of the utility and other parties. Any of the techniques listed in table 4-3 may be used either alone or in combination to help identify the need for an audit (task 1).

A formal needs-assessment survey is the most costly technique on the list, but is appropriate where a statement of the dissatisfaction has not been articulated. The techniques other than needs assessment are not as well developed. Despite their qualitative nature, they do seem to be moderately effective. They do not require high user sophistication or high resource costs, yet they provide results that are easy to understand and use.

All the problem-definition techniques could possibly be used in sequence for one project. First would come a needs assessment. Then there could be an exchange of issue papers describing a problem's elements, causes, consequences, and potential solutions. These papers would help to focus issues and secure agreement. Hierarchical and classification analysis could then be undertaken by staffers drawing on the issue papers and needs-assessment results. The analysis could be submitted to commission staff, commissioners, utility management, and outside consultants. The parties involved could then meet formally or informally and use discussion group techniques to establish problem boundaries and set priorities for study.

Drawing upon the identification of need and preliminary work on problem definition, an audit staff can also elicit from the relevant parties the goals and objectives for an audit (task 3), using the statements of goals and objectives developed in issue papers and discussion groups. The boundaries of the overall problem and subproblems provide the basis for establishing the scope and type of

TABLE 4-3: TECHNIQUES FOR PROBLEM DEFINITION

Management audit tasks involving problem definition include identifying the need for an audit (task 1), determining goals and objectives (task 3), determining the scope and type of audit (task 4), developing and approving a work plan (task 7), and assessing net benefits and costs of an audit (task 20).

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Needs assessment	Identification of expressed or latent needs and their relative priorities through surveys of stakeholders	Starling, 1979; Hatry, 1976	H	H	H	H	M
Issue papers	Written descriptions to structure major problems and alternative actions without a full analysis	Hatry, 1976; Quade, 1981; Dunn, 1981	M	M	M	M	H/M
Hierarchy analysis	Logical division and classification of possible, plausible and actionable causes of problematic situations	Dunn, 1981	L	M/L	M/L	L	H
Classification analysis	Logical division and classification of problem components to define and classify problematic situations	Dunn, 1981	L	M/L	M/L	L	H
Discussion groups	Structured, purposeful face-to-face exchange of ideas and opinions among members of a small group	Beal, et al, 1962; Rosenfeld, 1973; Johnson and Johnson, 1975	L	M/L	L	L	M

Source: Authors' construct

audit (task 4). Breaking the problem down into subproblems provides the basis for the tasks to be completed as stated in the work plan (task 7). In the final task of the audit process, the initial problem definition should be related to the overall assessment of the management audit to determine whether the initial need/problem has been satisfactorily attacked and resolved (task 20). If not, the audit cycle may start again with a new needs-identification and problem-defining process.

Information Collection

The collection of facts concerning a utility's operations and performance is both a basic audit task and a central analytical function in any systematic study in the social sciences. Thus, a well developed set of techniques for data collection is available from the social science literature for direct use by an auditing team. Data collection cannot really begin without a clear definition of the problem and a detailed work plan that states the objectives, end products, central questions, core activities, and data sources for each audit task (see the discussion of task 7 in chapter 3). The problem definition and work plan provide the bases for determining what information is necessary to answer key questions. In a management audit, this information provides the study's findings. Given the mountain of utility data that is potentially available, an audit team must be able to separate the wheat from the chaff when selecting data that truly relate to core questions.

For any utility function or operation under careful scrutiny, questions that require qualitative or quantitative information are likely to be posed about the following:

1. Typical problems

2. Organization structure
3. Job description and staffing
4. Budgets and costs
5. Policy and procedure
6. Planning
7. Performance measures and results
8. Operating activities

For each function or operation selected for study, the audit team must ask the basic questions "who," "what," "where," "when," "why," and "how."

Once a determination is made as to what facts are critical, the team must select the appropriate techniques of data/information collection. There are four general methods to apply:

1. Directly observe people and operations in action
2. Review reports and documents that provide a historical record
3. Actually test working procedures
4. Obtain people's responses from interviews and surveys

All of these methods involve the use of a careful plan and schedule for data collection, the development of basic question guides (for interviews, observations, tests, survey instruments, and document reviews), and worksheets to systematically record the data for the development of findings and later integration into the final audit report.

Given the high cost of collecting facts on all aspects of a subject, an auditor must frequently find a representative subset of the data, or sample, for careful study. Fortunately, there exists a well developed theory of statistical sampling that an audit team can draw upon for this purpose (Kish, 1965; Cochran, 1977). Table 4-4 summarizes the many types of samples that can be used

TABLE 4-4: TYPES OF SAMPLES AND THEIR STRENGTHS AND WEAKNESSES

Type of Sampling	Brief Description	Advantages	Disadvantages
A. Simple random	Assign to each population member a unique number; select sample items by use of random numbers	1. Requires minimum knowledge of population in advance 2. Free of possible classification errors 3. Easy to analyze data and compute errors	1. Does not make use of knowledge of population which researcher may have 2. Larger errors for same sample size than in stratified sampling
B. Systematic	Use natural ordering or order population; select random starting point between 1 and the nearest integer to the sampling ratio (N/n); select items at interval of nearest integer to sampling ratio	1. If population is ordered with respect to pertinent property, gives stratification effect, and hence reduces variability compared to A 2. Simplicity of drawing sample; easy to check	1. If sampling interval is related to a periodic ordering of the population, increased variability may be introduced 2. Estimates of error likely to be high where there is stratification effect
C. Multistage random	Use a form of random sampling in each of the sampling stages where there are at least two stages	1. Sampling lists, identification, and numbering required only for members of sampling units selected in sample 2. If sampling units are geographically defined, cuts down field costs (i.e., travel)	1. Errors likely to be larger than in A or B for same sample size 2. Errors increase as number of sampling units selected decreases
1. With probability proportionate to size	Select sampling units with probability proportionate to their size	1. Reduces variability	1. Lack of knowledge of size of each sampling unit before selection increases variability
D. Stratified 1. Proportionate	Select from every sampling unit at other than last stage a random sample proportionate to size of sampling unit	1. Assures representativeness with respect to property which forms basis of classifying units; therefore yields less variability than A or C 2. Decreases chance of failing to include members of population because of classification process 3. Characteristics of each stratum can be estimated, and hence comparisons can be made	1. Requires accurate information on proportion of population in each stratum, otherwise increases error 2. If stratified lists are not available, may be costly to prepare them; possibility of faulty classification and hence increase in variability
2. Optimum allocation	Same as 1 except sample is proportionate to variability within strata as well as their size	1. Less variability for same sample size than 1	1. Requires knowledge of variability of pertinent characteristic within strata
3. Disproportionate	Same as 1 except that size of sample is not proportionate to size of sampling unit but is dictated by analytical considerations or convenience	1. More efficient than 1 for comparison of strata or where different errors are optimum for different strata	1. Less efficient than 1 for determining population characteristics; i.e., more variability for same sample size
E. Cluster	Select sampling units by some form of random sampling; ultimate units are groups; select these at random and take a complete count of each	1. If clusters are geographically defined, yields lowest field costs 2. Requires listing only individuals in selected clusters 3. Characteristics of clusters as well as those of population can be estimated 4. Can be used for subsequent samples, since clusters, not individuals, are selected, and substitution of individuals may be permissible	1. Larger errors for comparable size than other probability samples 2. Requires ability to assign each member of population uniquely to a cluster; inability to do so may result in duplication or omission of individuals
F. Stratified cluster	Select clusters at random from every sampling unit	1. Reduces variability of plain cluster sampling	1. Disadvantages of stratified sampling added to those of cluster sampling 2. Since cluster properties may change, advantages of stratification may be reduced and make sample unusable for later research
G. Repetitive: multiple or sequential	Two or more samples of any of the above types are taken, using results from earlier samples to design later ones, or determine if they are necessary	1. Provides estimates of population characteristics which facilitate efficient planning of succeeding sample, therefore reduces error of final estimate 2. In the long run reduces number of observations required	1. Complicates administration of fieldwork 2. More computation and analysis required than in nonrepetitive sampling 3. Sequential sampling can only be used where a very small sample can approximate representativeness and where the number of observations can be increased conveniently at any stage of the research
H. Judgment	Select a subgroup of the population which, on the basis of available information, can be judged to be representative of the total population; take a complete count or subsample of this group	1. Reduces cost of preparing sample and field work, since ultimate units can be selected so that they are close together	1. Variability and bias of estimates cannot be measured or controlled 2. Requires strong assumptions or considerable knowledge of population and subgroup selected
1. Quota	Classify population by pertinent properties; determine desired proportion of sample from each class; fix quotas for each observer	1. Same as above 2. Introduces some stratification effect	1. Introduces bias of observers' classification of subjects and nonrandom selection within classes

Source: Russell L. Ackoff, The Design of Social Research (Chicago, University of Chicago Press, 1953), pp. 124-5.

(Ackoff, 1953) and the strengths and weaknesses of each. These sampling techniques are critical to work measurement or time and motion studies (Smith, 1978), social and organizational surveys (Dillman, 1978), broad-based interviewing (Gorden, 1975), and tests of procedures and control systems.

Some important considerations for an audit team in selecting among the four basic methods and three specific interview and survey techniques are presented in table 4-5. A team must also consider the quality of the data or evidence it must marshall to document findings to key questions. Is the information directly germane (valid) to the issue or question posed? Are the data stable (reliable) or highly variable over time? Are there built-in biases? Are the data sufficient to establish a finding? Are the data precise enough to meet the objectives of the study?

The most frequently used management audit data-collection method is the direct interview. It provides a means to collect not only specific information but also judgments. Usually, interviewees are chosen by judgmental sampling in terms of who is known to possess the desired information. In planning and scheduling interviews, an audit team determines the number of interviews required, the types of interviews, and the individuals to interview. Careful consideration is given to the time, place, and conditions of the interview, as well as the substantive questions to pose, the sequencing of questions, and the type of rapport to be established with the interviewee. In planning for each interview, an audit team should establish specific objectives, assemble known relevant information, determine the specific information needs, and prepare an interview guide. Training in the art of conducting interviews is critical for all personnel involved in an audit. Commission staff can observe and work jointly with outside consultants in early audits to gain this experience. Reviewing the notes

TABLE 4-5: FACT-COLLECTION PROCESSES AND CONSIDERATIONS

Collection Process	Usually Used to Collect	Advantages	Disadvantages
Obtain People's Responses:			
Interviews	Judgments Data Other contract points Other questions to be answered	Flexible Fuller understanding of data Allows preselling of study results	Time consuming Expensive
Telephone Surveys	Data Preferences	Efficient Broad geographic coverage High completion rates	Cannot observe interviewee Needs simple questions
Mail Surveys	Large quantities of structured data	Very broad coverage High quantity	Low completion rates Requires high-quality lists
Reviews of Documentation	Relevant published data	May cover broad scopes Efficient	Difficult to obtain "feel" for data
Observations of Activity	Data on work flow Time and motion information	Measures actual activity rather than official procedures	Can generate strong negative feelings from client's staff
Tests of Procedures	Data on parameters of computer programs Inputs and outputs of control systems	Positive verification of procedure accuracy	Requires careful coordination with client's staff

Source: L. Thomas King, Problem Solving in a Project Environment (New York: John Wiley & Sons, 1981), p. 91.

of the past interviews done internally or by outside consultants is also a good method of skill development.

As suggested in table 4-6, methods of observing people and their activities require a considerable investment of resources to generate new information that may be highly accurate but not easily understood by nonpractitioners of these techniques. A review of reports and documents involves much less cost than direct observation for about the same level of user sophistication, but both ease of understanding and accuracy are likely to be relatively low. Testing working procedures requires considerable information initially and an experienced user but is not exceptionally expensive to do. The result may be difficult to analyze but can be highly rewarding in terms of telling an audit team whether one or more of a utility's functions is meeting claimed or required standards of performance.

The three techniques for asking people questions all require trained users. Of the three, direct interviews are the most expensive, given a relatively large number of interviewees, but they do not require as much knowledge about problems or processes ahead of time as do the other two, since questions can be clarified or followed up during the interview. Supplying results that are easily comprehended, interviews are effective not only as generators of data but also as opportunities to try out and promote conclusions.

Both telephone and mail surveys call for trained survey researchers. Because each question is boiled down into a short and simple form that can be answered quickly, considerable knowledge of what to ask is necessary ahead of time. But both techniques generate well-structured data in large quantity that may be helpful in assessing conditions that might vary from individual to individual, work group to work group, or plant to plant. Of course, given the

TABLE 4-6: TECHNIQUES FOR INFORMATION COLLECTION

Management audit tasks involving information collection include identifying the need for an audit (task 1), collecting basic facts (task 9), executing the implementation plan's monitoring schedule (task 17), and documenting results achieved through information collection and review of implementation progress reports (task 19).

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Observe people and processess	Measure, time, count or otherwise document a work situation by direct observation	King, 1981; Herbert, 1979; Smith, 1978; Arens and Loebbecke, 1980	H	H/M	H/M	H	M/L
Review reports and documents	Collect information from existing published and unpublished documents	King, 1981; Herbert, 1979; Arens and Loebbecke, 1980	L	M	H/M	L	M
Test working procedures	Review a system or procedure to determine whether performance is in accordance with formal documentation or statutory or regulated standards	King, 1981; Herbert, 1979; Smith, 1978; Arens and Loebbecke, 1980	M	H/M	H/M	H	M/L
Obtain reponses from people:							
Direct interview	Ask question face-to-face using an interview guide, and record the answers in handwritten notes according to a format, or on tape	King, 1981	H	H	H/M	M	H/M
Telephone survey	Ask questions over the telephone, using an interview guide, and record the answers in notes according to a format, or on tape	King, 1981; Dillman, 1978	M	M	H/M	H	M
Mail survey	Collect information from selected people through a carefully developed and tested questionnaire	King, 1981; Dillman, 1978; Miller, 1977; Babbie, 1973; Rosenberg, 1968	M	M/L	H/M	H	M

Source: Authors' construct

complex nature of a management audit's information requirements, many combinations of methods may be selected and applied to problems and subproblems within a single study.

Data Analysis and Modeling

When an audit team has collected data (task 9), it begins the formal process of data analysis. A rich arsenal of tested, reliable analytical tools is available. As with fact collection, a team uses the problem definitions and work plan as guides for the selection of appropriate techniques. The nature of the data collected also affects these choices. A wide range of techniques requires quantitative data based on interval and ratio scale measures. The techniques reviewed rely primarily on quantitative data in order to describe, summarize, display, and mathematically model the collected facts. These techniques are the tools of operations research and systems analysis. Each assists in the twin activities of breaking down the problem into subelements and developing conclusions at an appropriate level of detail for the problem under study. Although qualitative techniques are not assessed in this section, much analysis does rely on general, less specialized tools such as classification, definition, pattern searching, attribute or descriptor listings, matrices of qualitative element relationships, and diagrams of relationships between factors and variables.

The quantitative techniques can be classified in terms of their use for modeling, statistical analysis, and display. The modeling techniques are largely drawn from the literature on operations research. They are principally applied at a utility's operational level. Thus, focused management audits are likely to use one or more of these techniques. Comprehensive audits as well as focused

audits may recommend that a utility apply the techniques or hire outsiders to do so. In each case, relatively well-structured problems are being studied. Before applying one or more of these techniques, an analyst receives a statement of the problem and the specific goals or objectives to be achieved. Some more specialized techniques that are commonly considered part of the "tool kit" of the management scientist, such as econometrics, systems dynamics, and causal models, are not presented because they are rarely applied in the conduct of an audit per se, even though they may be prescribed for use by a utility as a way to tackle problems that surfaced during an audit.

The assessment provided in table 4-7 suggests that modeling techniques based on mathematical theories of queuing, simulation, inventory control, linear programming, goal programming, and dynamic programming tend to be moderate to high cost activities, yet rather effective if their initial requirements are met: clear objectives, a well-structured problem, and valid, reliable quantitative data. Each requires specialized training of the type provided in engineering, operations research, and management science curricula. The information must meet high standards for use. Often requiring special processing, it must be quantitative and systematically collected. To employ these modeling techniques appropriately, many utilities must augment their information systems to provide data that had not been generated previously.

These same assessments generally apply to the set of statistical techniques that may be employed during the conduct of an audit. The statistical methods are applied to provide quantitative summaries of facts, to explore distributions of data, to determine associations and dependencies between variables or factors, to test the significance of these associations for drawing conclusions, to make projections, and to search for groupings of similar objects and information

TABLE 4-7: TECHNIQUES FOR DATA ANALYSIS AND MODELING

Management audit tasks involving data analysis and modeling include analysis of facts, development of findings and drawing conclusions on areas of strength and weakness (task 10) and documenting results achieved through information collection and review of implementation progress reports (task 19).

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
MODELS							
Queuing theory	Describes and analyzes "waiting lines" to schedule arrivals or provide facilities so costs of waiting customers or idle facilities are minimized	Siemens, et al, 1973; Ackoff and Sasieni, 1968; Wagner, 1970	M	M/H	M	M/H	M
Simulation	Synthesizes or duplicates a real system in a mathematical form and experiments with the simplified version of reality to draw inferences about the real system's behavior	Siemens, et al, 1973; Ackoff and Sasieni, 1968; Wagner, 1970	H	M	H	L/M	L/M
Inventory control	Manages the amount and timing of acquisition of usable but idle resources to minimize cost	Siemens, et al, 1973; Ackoff and Sasieni, 1968; Wagner, 1970	M	M/H	M	M/H	M
Linear programming	From a large number of feasible allocations of resources, determines the optimal allocations to achieve a specific objective	Siemens, et al, 1973; Ackoff and Sasieni, 1968; Wagner, 1970; McKenna, 1980; de Neufville and Stafford, 1971	M	M/H	M	M/H	M
Goal programming	Extends linear programming to attain multiple objectives as closely as possible	McKenna, 1980; Lee, 1972	H	M/H	M/H	M/H	L/M

TABLE 4-7 (continued)

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Dynamic programming	Solves problems in which each decision has on impact on subsequent decisions	Siemens, et al, 1973; Wagner, 1970; de Neufville and Stafford, 1971; Turban and Loomba, 1976	H	M	H	M/H	L
STATISTICAL TECHNIQUES							
Summary descriptive statistics	Arranges, summarizes, or otherwise conveys characteristics of a set of numbers	Wonnacott and Wonnacott, 1972; Blalock, 1979	L	M	L	L	H
Exploratory data analysis	Organizes, presents, and transforms sets of numbers to help search for ideas about how things work	Erickson and Nosanchuck, 1977; Tukey, 1977; Hartwig and Dearing, 1979	L/M	M	L/M	L	M/H
Hypothesis testing	Compares predicted statistical characteristics with actual ones to determine the probability that the prediction is true	Wonnacott and Wonnacott, 1972; Blalock, 1979; Plane and Oppermann, 1977	L/M	M/H	M	L/H	M/H
Correlation analysis	Measures the degree to which change in one variable is related to change in another	Blalock, 1977; Wonnacott and Wonnacott, 1972; Churchill, 1979; Neter and Wasserman, 1974	L	M/H	M	M	M
Regression analysis	Measures the relationship between a dependent variable and one or more independent or predictor variables by determining the goodness of fit between them	Neter and Wasserman, 1974; Aaker, 1971	L/M	M/H	M	M	M

TABLE 4-7 (continued)

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Discriminant analysis	Distinguishes between two or more groups of cases on the basis of characteristics on which the groups are expected to differ	Churchill, 1979; Aaker, 1971	M	M	M	M	M
Time series analysis	Uses past values of a variable to find a historical pattern and extrapolate the pattern into the future	Makridakis and Wheelwright, 1978: Churchill, 1979; Ostrom, 1978;	M	M	M	M	M/H
Analysis of variance	Measures the relationship between a dependent variable and one or more independent or predictor variables by determining the probability that the predictor yields results different from those that could be expected from random selection	Iversen and Norpoth, 1976; Churchill, 1979; Neter and Wasserman, 1974; Lindman, 1974	L/M	M	M	L/M	M/H
Factor analysis	Takes many intercorrelated variables and finds out whether an underlying pattern of relationships exists such that the original variables may be rearranged into groups	Kim and Mueller, 1978; Churchill, 1979; Harman, 1967; Aaker, 1971	M	L/M	M/H	M	L/M
Cluster analysis	Forms groups of objects or variables so that there is high homogenity within the groups and high heterogeneity among the groups according to specified criteria	Aaker, 1971; Churchill, 1979;	M	L/M	M/H	M	L/M

TABLE 4-7 (continued)

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Multidimensional scaling	Plot in multidimensional space people's preferences or perceptions of similarity of objects to find underlying patterns of relationships	Kruskal and Wish, 1978; Churchill, 1979; Shepard, Romney, and Nerlove, 1973; Aaker, 1979	M	M	M/H	H	L/M
DISPLAYS							
Tables	Present data or statistics in rows and columns to aid the understanding of relationships of variables or categories of objects	Churchill, 1979; Schmid and Schmid, 1979	L	M	L/M	L/M	H
Graphs	Present data as dots, often connected by lines, according to mathematical rules as an aid to understanding of relationships of objects or variables	Schmid and Schmid, 1979; Rosenstein, Rathbone, and Schneerer, 1964	L	H	M	M	M/H
Index numbers	Express changes in economic variables over time or space by summarizing them as percentages with reference numbers used as the denominators	Hamburg, 1977	M	H	M	L/M	M
Indicators	Express productivity as a checklist of items completed in relation to total items expected	Mali, 1978 Anselin, Pike, and Smith, 1981	L	M	M	M/H	M

Source: Authors' construct

items. Some important differences in assessment should be noted. The most widely used tools are the descriptive statistics that provide summaries on the data's central tendencies (averages or means, modes, and medians) and dispersions (ranges, percentiles, variances, and standard deviations). They are inexpensive to produce with modern statistical computer packages, are easy to understand, minimize information requirements, and demand a modicum of specialized training to use. For well-structured problems, these descriptive statistics do not always provide the most effective results desired by decision makers, but they may be effective for moderately- and well-structured problems at the operational and managerial levels of a public utility. They can also be used for some aspects of strategic-planning analysis.

Besides their actual and potential use in management audits, correlation, regression, and time series techniques are also used in a utility's various forecasting functions. Because a management auditor typically does not prepare a forecast during the conduct of an examination, a long list of forecasting techniques is omitted from table 4-7. Instead, the table provides the reader with a reference under time series analysis (Makridakis and Wheelwright, 1978) that contains a detailed explanation of many forecasting methods.

The final set of techniques, listed as displays in table 4-7, is aimed at presenting quantitative information to an audience, whether via oral briefing or written reports. Mastery of these tools is extremely important to the success of an auditing team. As the assessment indicates, they are basically low cost techniques that are quite effective at presenting information in both simple and complex formats. All the display types are widely used by audit teams during the analysis process and in presenting findings. Training of audit staff in their

use is relatively straightforward and is likely to have a high payoff in terms of understanding by the commission, utility management, and the public.

Decision Analysis and Evaluation

Once data are analyzed, the findings must be synthesized to provide alternatives for decision making. First, an auditing team must decide which findings warrant the development of significant recommendations for utility action. A team usually wants to go beyond stating a problem and making a recommendation to generate a set of feasible alternative courses of action a utility might take to address a diagnosed problem. When the alternatives are in hand, some means of evaluating their merits must be found so that a preferred solution can be recommended in the audit report. Given a complex organization such as a public utility and the use of a comprehensive audit, a team must also consider how a total set of recommendations fits together. The specialized techniques that aid an audit team in performing these analytical tasks are grouped by whether they focus upon value assessment, structuring of alternatives and objectives, or economic analysis (see table 4-8).

Public utility decisions typically involve attempts to achieve several objectives simultaneously. Specialized techniques are available to map utility or worth structures for these objectives. These value-assessment techniques provide a basis for soliciting from decision makers or analysts a weighting of objectives and criteria. They all derive from subjective appraisals of relevant parties. The four basic types of value assessment methods, in order of increasingly precise measurement, are sorting, ranking, rating, and scoring. The most widely-used methods are ranking and rating. These can be applied to set priorities and to select proposals or projects for implementation. For more

TABLE 4-8: TECHNIQUES FOR DECISION ANALYSIS AND EVALUATION

Management audit tasks involving decision analysis and evaluation include deciding to order an audit (task 2), selecting a consultant (task 6), developing alternatives for recommendations (task 11), reaching agreement on recommendations and an implementation plan (task 15), evaluating progress of the implementation plan and taking corrective action (task 18), and assessing net benefits and costs associated with a management audit (task 20).

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
VALUE ASSESSMENT							
Sorting: Q-sort	Sorting of value statements on cards, according to a predefined criterion as "priority" to give information to stimulate discussion by decision makers	Souder, 1980; Sinden and Worrell, 1979; Nutt, 1980; Brown, 1980	L	M	L	M	H
Ranking: paired comparisons	Use of a matrix listing items to be ranked to compare preferences and find inconsistencies	Souder, 1980; Sinden and Worrell, 1979; Nutt,1980	M	M/H	L	L	M
Rating: distribution of points	Assign ranks and then assign relative values to generate number that can be used in arithmetical operations	Souder, 1980; Sinden and Worrell, 1979; Nutt, 1980	L	M/H	L	L	H
Scoring: multi-attribute utility measurement	Locate each outcome on each dimension of value and combine the location measures by a rule that represents the importance of each value compared to the others	Gardiner and Edwards, 1975; Sinden and Worrell, 1979; Churchman, 1975;Nutt, 1980; Edwards, 1977	M	H	M	M	M

TABLE 4-8 (continued)

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
ALTERNATIVES AND OBJECTIVES STRUCTURING							
Scenarios	Systematic description of conditions under which a system is assumed to be performing to evaluate that performance	Brown, 1968	H	M	M/H	M/H	M
Morphological analysis	Use of graphs and matrices to represent possible solutions to a problem visually to help evaluate the solutions	Zwicky, 1969	M	M	M	L	M/H
System hierarchies	Lists purposes of a system to enlarge problem solution space and ensure that the right issues are addressed	Nadler, 1981	M	M	M/L	M/L	M/H
Decision trees (subjective probability and decision analysis)	Diagrams showing decision points, alternatives, events, and outcomes to clarify the decision process, risks, and consequences	Souder, 1980; Warfield, 1976; Raiffa, 1970	M/L	M	M/L	M	M
Objectives trees	Diagrams showing desired events, outcomes, and the activities needed to make the events happen	Warfield, 1976	M/L	M/L	I	M	M/H
Fault trees	Decision trees that focus on the consequences of not selecting particular actions	Souder, 1980	M	M	M	M	M

TABLE 4-8 (continued)

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
ECONOMIC ANALYSIS AND ASSESSMENT							
Cost-benefit analysis	Measures benefits and costs in the same units, usually dollars, to allow for comparison of differences between benefits and costs for each action	Mishan, Sugden, and Williams, 1978; Thompson, 1980; Sinden and Worrell, 1979; Frost, 1975; Dunn, 1981	H	M/H	M/H	H	M
Cost-effectiveness analysis	Compares each alternative by its dollar or resource costs and effectiveness, measured by the degree to which the desired objective will be attained	Quade and Boucher, 1968; Quade, 1975; Dunn, 1981	M/H	M/H	M/H	M/H	M
Breakeven analysis	Addresses relationship of volume and cost by analyzing the interaction of fixed costs, variable costs, and revenues	King, 1981; Brigham, 1979	M	M	M	M	M
Incremental cost analysis	Focuses on variable costs of the alternatives being considered	King, 1981; Brigham, 1979	M/L	M/L	M/L	M/L	M/H
Opportunity cost analysis	Focuses on the return that would be foregone in alternative investments by choosing one alternative	King, 1981; Brigham, 1979	M	M/L	M	M	M/H
Return-on-investment analysis	Compares the value of the initial investment with expected savings or increases in income	King, 1981; Brigham, 1979	M/H	M	M/H	M	M
Present value analysis	Discounts costs and incomes occurring in different time periods so they can all be compared based on their value at the present time	King, 1981; Brigham, 1979	M/L	M	M	M/L	M

Source: Authors' construct

significant, multiple-objective decisions, the multi-attribute utility (MAU) technique and its variants are appropriate because they allow a total score for each alternative to be derived in standard (though subjectively determined) units of measurement. The MAU procedures are more costly, require more sophisticated users, have higher information requirements, and are less intuitively grasped than the other value assessment techniques listed in table 4-8. They do, of course, provide more precise or accurate evaluations.

Many ideas on how to solve problems come directly from information provided by the persons interviewed during an audit. Also, many problems have a set of well-known, tried and tested solutions from which to select. However, others may require generating new ideas before solutions can be easily structured for careful comparison and choice. These idea-generating techniques are discussed later as social processes. To structure alternatives that have been generated, an audit team can explore combinations of alternative dimensions using morphological analysis. This technique provides high quality, creative combinations at low cost and with little user training. The resulting multidimensional box diagrams or matrix tables are easily understood by users. Similarly, simple to complex scenarios can be developed, projecting and testing how potential solutions work out over time, given variations in basic design components and processes.

The objectives or goals to be achieved by alternative solutions are either already given or, where new utility directions are called for, can be created using an idea-generation technique for goal setting (see the discussion of social processes later in this chapter). Once provided, objectives can be structured to show their interdependencies visually. A mapping of relationships between goals can include short- to long-term, specific to general, and instrumental to

ultimate. Systems hierarchies, objective trees, decision trees, and fault trees are all techniques that provide a tree-diagram representation of the interrelationships among one or more of the following: goals and objectives, alternative means, and the probability of events, outcomes, or consequences. All are easy to understand and require only moderate user sophistication. They are low cost but moderately effective ways to structure alternatives relative to each other and to objectives.

The final set of techniques for decision analysis and evaluation rests principally on the use of economic data and reasoning in order to structure, compare, and select the preferred solution to recommend for action. All require financial data to some extent.

As most management audits inquire into the financial performance of utilities and wish to assess the costs and benefits to the utility and its consumers of proposed actions, the cost-benefit family of techniques is the most widely applied during the conduct of an examination. Essentially the technique uses nine steps (see table 4-9, taken from Dunn, 1981) to quantify the total monetary costs and benefits of the various alternatives under consideration. Many commissions ask consultants to attempt to attach such values to all recommended actions so that a summary statement of projected cost savings may be included in the final audit report. In its pure form, cost-benefit analysis attempts to measure costs and benefits in dollars as a standard unit of value, using market or other objective determinations of all relevant items (as contrasted with the subjective evaluation approaches discussed previously). The basic decision rules to apply are clear and easy to follow. For example, one rule is to choose the alternative that shows the largest net benefits or has the best benefit-to-cost ratio. As the assessment in table 4-8 suggests, the cost-benefit

TABLE 4-9: NINE TASKS IN CONDUCTING A COST-BENEFIT ANALYSIS

Task	Description
1. Specification of Objectives	Conversion of goals into objectives after structuring problem.
2. Identification of Alternatives	Dependent on problem structuring, which implies alternative explanations and solutions of problems.
3. Collection, Analysis, and Interpretation of Information	Information from available data or feasibility analysis. Requires forecasting.
4. Specification of Target Groups	Listing of all affected groups (stakeholders), including losers and beneficiaries.
5. Identification of Types of Costs and Benefits	Description of costs and benefits by type: inside vs. outside; directly vs. indirectly measurable; primary vs. secondary; net efficiency vs. redistributional.
6. Discounting of Costs and Benefits	Costs and benefits adjusted for inflation and interest rates.
7. Estimation of Risk and Uncertainty	Use of sensitivity analysis and a fortiori analysis.
8. Specification of Criteria for Recommendation	Apply criteria of Pareto improvement, net efficiency improvement, internal rate of return, distributional improvement.
9. Recommendation	Choice of alternative best satisfying criteria.

Source: William N. Dunn, Public Policy Analysis (Englewood Cliffs, N.J.: Prentice-Hall, 1981), p. 249.

method is a costly but effective technique. It requires extensive training and practice and, for pure application, poses severe information requirements. But the final selection process and the tallying of costs and benefits are easy to grasp for the potential user.

A variant of cost-benefit analysis is cost-effectiveness analysis. In many managerial decisions, monetary values cannot be placed on the benefits (or goals) to be achieved, while costs can usually be determined monetarily. By substituting units of output for monetary measures, cost-effectiveness analysis compares alternatives on the extent that each achieves various levels of output relative to money spent. Several forms of this technique are available. Many management audit decisions can draw usefully upon cost-effectiveness analysis at the operational and middle-management levels of utility decision making. It is less costly and has less demanding informational requirements than cost-benefit analysis.

The final five techniques of economic assessment in table 4-8 are standard today in the financial community and widely used by utilities. They tend to be moderately easy to understand and moderately effective, given their primary foci. Some sophistication is required of the user, suggesting that audit teams should include experienced financial and economic analysts on most engagements. These techniques involve costs in terms of information for analysis and time and effort to analyze and interpret data. They can be used in conjunction with the other methods discussed in this section.

Project Planning and Scheduling

Throughout a management audit, planning and work scheduling are essential to produce effective results efficiently. Although much planning work is and

can be done through informal, less systematic processes, there are several audit tasks that require use of the more specialized techniques of project planning and control. As mentioned in the previous chapter, an audit team or consultant must develop a general work plan before actually conducting an examination. In generating recommended actions for a utility, an audit team needs to develop a planned sequence of implementation activities to be executed once the recommendations are accepted.

The specialized techniques in table 4-10 are useful in conducting a management audit as well as valuable for utilities in implementing projects in response to an audit's recommendations. Milestone and Gantt charts are found in offices everywhere; using a matrix format, they simply show the flow of activities over time with symbols for responsibilities, the extent of work completion, and the like. As with other techniques, they serve to direct a study's activities by focusing project resources efficiently, to achieve better communication among all parties involved in an audit, to provide a mechanism for developing control over the auditing process, to lower contractual risks, to provide timely warnings, and more generally to discipline the project team's thinking. The allocation of responsibility for project activities can be accomplished at low cost by use of linear responsibility charts (LRCs), matrices that depict the various tasks or roles, the individuals involved, and the nature of their responsibilities. LRCs are most useful where six or more persons are involved for an extended period of time.

The remaining six techniques in table 4-10 draw upon the use of graph theory and are more limited in application, depending both on the ability to make specific estimates of input (e.g., manpower) requirements and on the amount of resources, including computer assistance, available for planning. Of these,

TABLE 4-10: TECHNIQUES FOR PROJECT PLANNING AND SCHEDULING

Management audit tasks involving project planning and scheduling include determining goals and objectives of an audit (task 3), determining the scope and type of audit (task 4), determining resource requirements for an audit (task 5), developing and approving a work plan for conduct of an audit (task 7), establishing and maintaining a working relationship with the utility and the commission (task 8), and establishing a plan for monitoring, reporting, control and evaluation of implementation (task 16).

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Milestone/Gantt chart	Displays a list of job assignments over time on a linear scale that shows the duration of each job	Souder, 1980; Cleland and King, 1975; Cook, 1971	L	M	L	L	H
Precedence diagram	Diagrams a sequence of tasks using a circle and arrow network to show which tasks must precede others	Souder, 1980; Cleland and King, 1975; Cook, 1971	L	M	L	L/M	M/H
Delta chart	Portrays activities and events, responsibilities and their logical connections	Warfield, 1976; Warfield and Hill, 1972	M	M/H	M	M	M/L
Critical path method (CPM)	Uses an algorithm the results of which are displayed by lines labeled with jobs and numbered nodes showing where jobs start and end, to determine the optimal schedule for jobs with well-defined durations and manpower requirements	Souder, 1980; Cleland and King, 1975; Cook, 1971	M/H	M/H	M	M/H	M

TABLE 4-10 (continued)

Management audit tasks involving project planning and scheduling include determining goals and objectives of an audit (task 3), determining the scope and type of audit (task 4), determining resource requirements for an audit (task 5), developing and approving a work plan for conduct of an audit (task 7), establishing and maintaining a working relationship with the utility and the commission (task 8), and establishing a plan for monitoring, reporting, control and evaluation of implementation (task 16).

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
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Precedence diagram	Diagrams a sequence of tasks using a circle and arrow network to show which tasks must precede others	Souder, 1980; Cleland and King, 1975; Cook, 1971	L	M	L	L/M	M/H
Delta chart	Portrays activities and events, responsibilities and their logical connections	Warfield, 1976; Warfield and Hill, 1972	M	M/H	M	M	M/L
Critical path method (CPM)	Uses an algorithm the results of which are displayed by lines labeled with jobs and numbered nodes showing where jobs start and end, to determine the optimal schedule for jobs with well-defined durations and manpower requirements	Souder, 1980; Cleland and King, 1975; Cook, 1971	M/H	M/H	M	M/H	M

precedence diagrams are the least expensive, the easiest to understand, and the simplest to use. They also have the lowest information requirements. However, their effectiveness is only moderate compared to alternative methods. Delta charts and the program evaluation and review technique (PERT) are medium cost methods requiring some user experience. Both have fairly low communicability. PERT requires more new information than Delta charts. Both can be used with good or excellent effect. The graphical evaluation and review technique (GERT) is similar to PERT; but because it allows for iterative processes, GERT is more costly and requires more user skill.

The critical path method (CPM) and decision box network (DBN) are both quite expensive techniques with moderately high information requirements. They call for some degree of user sophistication. CPM is somewhat easier for a layman to grasp than DBN. Both can be very helpful in planning and scheduling projects for an audit team willing and able to make the investment.

Monitoring and Evaluation

Feedback on what a utility does after a management audit is completed is, of course, vital to the long-term success of an audit. Provision must be built into an audit's implementation plan for a schedule to assist in comparing actual utility performance with that expected to result from the audit's recommendations (tasks 17 and 18) and to document results of implementation (task 19). Without such information, a commission cannot evaluate the performance of a audit itself (task 20).

The most costly and, at the same time, the most effective of the six methods for evaluation identified in table 4-11 is a controlled experiment. Within one utility, program effectiveness is compared systematically, using

TABLE 4-11: TECHNIQUES FOR MONITORING AND EVALUATION

Management audit tasks involving monitoring and evaluation include executing the monitoring schedule in the implementation plan (task 17), evaluating the progress of implementation and taking corrective action (task 18), documenting results achieved through information collection and review of implementation progress reports (task 19), and assessing net benefits and costs associated with a management audit (task 20).

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Before and after comparisons on primary measures of performance	Compares results on performance measures immediately before implementation of the management audit recommendation and at an appropriate time after implementation	Hatry, Winnie, and Fisk, 1973; Weiss, 1972	L	M/L	M/L	M/L	H
Time trend projection of pre-program data versus actual data	Compares actual post-program data to estimates projected from time periods before implementation	Hatry, Winnie, and Fisk, 1973; Weiss, 1972; Cook and Campbell, 1979	M	M/L	M	M	M/H
Comparison with other utilities	Compares data from a utility implementing the program with data from utilities that are not	Hatry, Winnie, and Fisk, 1973; Weiss, 1972	M/H	M	M/H	M/H	M/H
Controlled experimentation	Compares the performance of work units that have introduced changes with those that have not; to ensure control, the units selected for study are selected randomly and then randomly assigned to receive the change or to be held out as a control group; measures are made before and after the change on both the experimental and control work units	Hatry, Winnie, and Fisk, 1973, Weiss, 1972; Cook and Campbell, 1979	H	H	H	H	M/L

TABLE 4-11 (continued)

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Comparison of planned to actual performance	Compares actual data to target performance levels set earlier	Hatry, Winnie, and Fisk, 1973; Weiss, 1972	L	M/L	M/L	M/L	H
Completion reporting using pre-planned schedules	Uses reporting forms that match the project schedule to show extent of completion of tasks and problems requiring corrective action	Cook, 1971; Mali, 1981; Souder, 1980; Souder, 1978	L	L	L	L	H

Source: Authors' construct

carefully selected separate groups, one or more of which carried out an audit recommendation while the other or others did not. An experiment requires highly-trained specialists and its results are not easily communicated to laymen. This technique has not been used as an adjunct to a management audit up to now. Yet it offers the potential of providing high quality information on utility performance in the context of well-structured problems and focused audits.

The least costly but also the least effective technique listed in table 4-11 is reporting on the completion of tasks using forms that match the implementation schedule. The procedure is easy to use and to understand and requires little initial information (see appendix F).

Comparison with other utilities, particularly of financial indicators, is a technique that has sometimes been used in management audits. The costs, user knowledge, and basic information requirements of this method are fairly high, but its logic is quite obvious. Because utilities differ so much in their fundamental operating constraints, the results of these comparisons may have underlying errors and may not be readily accepted by the audited companies.

The other three techniques listed in table 4-11 are low or medium in cost, effectiveness, user sophistication, and information requirements and high in ease of comprehension. All are concerned with systematic evaluation of a utility's performance over time.

Additionally, a more qualitative assessment of an auditing or consulting team's performance can be achieved by surveys of clients served, or through debriefing sessions among commissioners, commission staff, utilities, and consultants. Finally, external peer review of an audit can be performed to secure objective, professional evaluation.

Social Processes

Specialized techniques are frequently considered as limited to analytical functions such as problem solving and research, but this is not entirely true. Development of structured procedures for generating ideas and reaching decisions in groups is progressing rapidly. Efforts to expand this set of techniques are undertaken in part because of the frequent failure of groups to accept results generated by more specialized analytical processes performed by individuals. In addition, the use of group decision making is increasing in many organizations that are attempting to move from strict hierarchical decision making to decentralized, participative processes appropriate for rapidly changing operating conditions and large scale enterprises. Where two or more organizations--such as a commission and a utility--must coordinate their actions, group decision-making processes are frequently necessary.

In the case of a management audit, not only must an auditing team act together, but there is also a clear need to work jointly with the utility to come to agreement on what is being audited, what conclusions can be verified, and what problems require utility action. A commission itself must find a way to decide on initiating an audit (tasks 1 and 2). The procedures it uses to do this may involve a structured group-decision technique. Establishing audit goals (task 3), interviewing and selecting consultants (task 5), establishing and maintaining the working relationship with the utility (task 8), presenting, reviewing, and agreeing upon recommendations (tasks 12, 13, 14, and 15), periodic evaluations of implementation progress (task 18), and more encompassing reviews of the costs and benefits of a particular audit or the management audit process in general

(task 20) all draw upon formal and informal social processes that may be amenable to the specialized techniques discussed in this section.

As shown in table 4-12, the social process methods that are most useful during the conduct of a management audit are of three basic types: (1) those that facilitate generation of novel ideas, (2) group decision-making processes, and (3) systematic processes for managing the relationships among consulting team, utility, and commission. For many of an audit team's normal activities, problems, objectives, and solutions can be clearly stated and are agreed upon by everyone. But in addition to these straightforward situations, an audit team and other parties involved typically run into highly amorphous issues that must be resolved. The success of the audit process rests at least in part on overcoming these barriers through creative activity to generate novel ideas or solutions. The outcomes of such techniques can be better problem diagnosis, better project management, and the development of innovative solutions.

Brainstorming, brainwriting, synectics, and the nominal group technique are tested, effective means to generate new ideas when they are needed during the conduct of an audit. Essentially, they are ways to focus individual and group energies on idea generation without premature evaluation of the ideas and without undue social pressure for conformity. The four techniques can be used to generate ideas about problem elements, objectives, criteria, attributes, dimensions, causal factors, consequences, actions, indicators and measures, issues, stakeholders, and others. An audit team should consider drawing upon them frequently and tailoring specialized uses for them.

All four techniques are low to moderate in cost, taking only a few minutes or hours of a group's time. They do not require much user training and are learned quite readily by participants. Information requirements are minimal as

TABLE 4-12: SOCIAL PROCESS TECHNIQUES

Management audit tasks involving social processes include identifying the need for an audit (task 1), deciding to order an audit (task 2), determining goals and objectives of an audit (task 3), selecting a consultant (task 6), establishing and maintaining a working relationship with the commission (task 8), presenting recommendations and reports (task 12), review of reports by commission and utility (task 13), responding to reports (task 14), reaching agreement on recommendations and implementation plans (task 15), evaluating progress and taking corrective action (task 18), and assessing benefits and costs (task 20).

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
IDEA-GENERATION TECHNIQUES							
Brainstorming	Group sessions to generate a large quantity of ideas verbally, with evaluation deferred	Stein, 1975; Osborn, 1957	L	M	L	L	H
Brainwriting	Group sessions to generate a large quantity of ideas by writing them down, reading others' ideas, and repeating the process.	Warfield, 1976; Geschka, Schade, and Schlicksupp, 1975	L	M	L	L	H
Synectics	Stimulates creativity by following through analogies farther and farther afield from the problem	Prince, 1970; Gordon, 1961	M	H	M	M	M
Nominal group technique	Structured procedure of silent writing of ideas followed by discussion and voting that aids idea generation by increasing individual participation (see next page)	Delbecq, 1975	L/M	M	L/M	L	H

TABLE 4-12 (continued)

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
DECISION-MAKING TECHNIQUES							
Nominal group technique	Structured procedure of silent writing of ideas followed by discussion and voting that aids decision making by reducing errors in aggregating individual judgment into group decisions (see preceding page)	Delbecq, 1975	L	M	L/M	L	H
Devil's advocate method	Subjects proposal by one group to critical analysis by a second individual or group	Cosier, 1978; Schwenck and Cosier, 1980	L/M	M	L/M	M	M/L
Negotiation	Exchange of information with the intention of changing relationships	Nierenberg, 1973; Bacharach and Lawler, 1981	M	M/H	M/H	M/L	M
Hearings	Formal oral proceedings before tribunals to present evidence and resolve disagreement	Davis, 1975; Beal, Bohlen, and Roudabaugh, 1962	H	M	M/H	H	M
Discussion groups	Structured, purposeful face-to-face exchange of ideas and opinions among members of a small group	Beal, Bohlen, and Roudabaugh, 1962	L	M/L	L	L	M
CONSULTANT/MANAGEMENT RELATIONSHIPS							
Force-field analysis	Diagrammatic representation of opposing forces of varying strength to identify factors aiding and inhibiting change	Lewin, 1951; Mali, 1981	M	M/H	L/M	L	M

TABLE 4-12 (continued)

Name of Technique	Summary Description	Citation	Cost	Overall Effectiveness	User Sophistication	Information Requirements	Ease of Understanding
Audience analysis	Identification of factors that may affect the communicability and persuasiveness for different segments of the market for a proposal, report, or decision and presentation of the product so as to maximize communication and persuasiveness for each segment	King, 1981; Makay and Fetzer, 1980	L	M	M	M/L	M
Briefings/verification	Presents technical information orally, often with visual or other aids, in a way that communicates the information clearly and precisely	King, 1981; Makay and Fetzer, 1980	M	M	M	M/H	M
Counseling	One-on-one discussion in which a consultant helps a client to think through a problem objectively	Blake and Mouton, 1976; Morris, 1979	M/H	M/H	L	M	H
Reporting on process findings	Presents technical information in writing in a way that communicates the information clearly and precisely	Makay and Fetzer, 1980; Damerst, 1972	M	M	L/M	M	M/H

Source: Authors' construct

the ideas are largely a reflection of the creative repertoire of the participants involved. Each creative session can be supplemented with information collected via other techniques. The length and number of sessions can be manipulated easily to fit the schedules of participants and needs of the task. Varying the techniques tends to be attractive to participants. The results of the idea-generating sessions are easily understood by participants and other users because they are summarized in plain English.

Synectics is the most demanding of these techniques in terms of participants' time and effort because it requires drawing widely different analogies to probe potential problem definitions and solutions. The leader of the session must have training and experience with the technique.

The nominal group technique (NGT) is now widely used in industry. In the first phase of this group problem-solving process, participants silently generate ideas in response to a specific task statement. The NGT can be directed by a member of the group who has participated previously in such a session and read the instructions for its conduct (Delbecq, 1975).

The nominal group technique is also appropriate for group decision making. After generating ideas, NGT steps include recording of ideas, discussion of their clarity and merits, voting on the importance of the ideas, discussion of the vote, and a final vote. Thus, the final product after a session lasting an hour or two is a list of ideas that have been prioritized. The NGT is an effective technique due to its moderately high quality innovative ideas, its capability to eliminate errors, and its acceptance by participants. It tends to neutralize pressures for social conformity and dominance by individuals.

Other group decision-making techniques include the use of the "devil's advocate" approach, formal or informal negotiation sessions (between

commission and consultant or between commission and utility), formal hearings on the merits of ordering audits or on an audit's recommendations and their implementation, and a wide array of more familiar face-to-face discussion groups. With the exception of formal hearings, these methods can be employed at low cost with moderately effective results. Negotiation does require skilled participants and a solid understanding of the dynamics of negotiation processes. Discussion groups vary in effectiveness depending on the skills of their leaders and the ability of group members to fulfill a set of essential group roles. Frequently, an audit team that works together on several assignments will develop these capabilities. Many audit teams use the devil's advocate approach internally; one member presents a summary of findings, conclusions, and recommendations in a written or oral report, and other members aggressively challenge them and test their support. The consultant's preliminary report can also be challenged and tested this way by commission and utility staffers to clarify ambiguities, eliminiate errors, build consensus, and come to reasoned conclusions.

Maintaining a positive relationship between the parties involved is a crucial concern of audit management. Although interpersonal skills are the basic tools required, some specialized techniques are available. One such method is the force-field technique developed by Kurt Lewin (1951). An auditing team frequently faces the question of how to decide what changes to introduce in a utility or in the management of the audit process. To help make this decision, a team can generate ideas (using one of the techniques noted previously) on forces working for the change and those acting as obstacles. Each of these can be ranked or rated to build an overall assessment of the feasibility of specific changes under consideration. This qualitative, structured thought process can

save discussion time and avoid implementation problems by identifying in advance the sources of resistance and the levers of inducement to change. A force-field session can be accomplished in a couple of hours. The technique is easy to use and can draw upon each participant's personal information base, although it can also be supported by systematic information collection of the identified forces.

In order to be understood and persuasive, the presentation of findings and recommendations in oral and written form demands a careful analysis of potential audiences. As in market analysis, the population to be informed of an audit's results can be segmented to determine which aspects of the report (product) are most attractive and/or disquieting to which audiences. The audit team can use audience analysis to generate requirements and appropriate communication strategies and tactics for each target group.

Throughout the audit process--not just with the final report--an audit team can use special processes such as briefings with utility or commission staff to verify facts, findings, and conclusions or to gain acceptance and commitment to action by a utility. One-on-one consultation or counseling sessions between audit team members and utility employees are very effective, though costly, means of joint problem solving and promotion of action. These approaches are widely practiced by specialists in organizational change.

The social processes listed in table 4-12 and other less-structured ones are important for the overall success of the management audit process. They help develop the mutual understanding among parties that is essential for an objective appraisal of a utility, the acceptance of feasible utility actions, and actual implementation of recommended actions in the interests of the public and the regulated company.

Conclusion

This chapter has reviewed a wide variety of techniques for accomplishing the tasks of a management audit. Some are simple, others complex. Some are quantitative, some qualitative, and some a mixture of mathematical and nonmathematical operations. They require vastly different amounts and types of experience and competence on the part of the user. And some are directly aimed at controlling utility costs, while others are only tangentially concerned with this issue.

No single technique or set of techniques is appropriate across the board. The techniques for any particular audit must be chosen to suit the problems of the particular utility or utility function at that particular time in its history. What set of methods fits depends on the nature of the problem and whether it is at the strategic, managerial, or operational level of the organization. Thus, the primary challenge posed by the inventory of social science techniques is for commission staff to begin to explore suggested avenues for improving the quality of the audit process, its products, and their impacts.

A review of completed audits demonstrates that there has been steady improvement over time, as commissions and consultants have gained experience with auditing tasks. But there is room for large gains in audit effectiveness. A comparison of methods used in an inventory of existing audits with potentially applicable techniques suggests, first, that more emphasis should be placed on strategic planning. The demands being made on utilities and the constraints imposed on them in meeting those demands have changed radically. Yet much of the focus in many management audits tends to be on routine, operational issues. Second, there appears to be a greater need for formal evaluation and feedback

throughout the auditing process. Third, there is potential for more positive impact from an audit if more effort is made to consider social processes and to build into an audit meaningful, structured collaborative techniques for participation by stakeholders, including the public. This not only would aid in the completion of the sequence of auditing tasks by helping to generate and solve "the right problems," but, in contrast to the detached approach that is now standard, also would help build consensus and commitment to implementation of an audit's recommendations.

The inventory of techniques is presented with the hope that it opens some windows through which a reader can gain new perspectives on how to examine the operation of a regulated utility. It remains to the interest and ingenuity of individuals in public utility commissions to implement the techniques reviewed in this report.

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APPENDIX A

MANAGEMENT AUDITS AND RELATED REPORTS AT THE NRRI

This appendix contains a list of 51 management audits (44 conducted by consultants and seven by commission staff) and six related reports (four prepared by utilities and one each by a consulting firm and a commission's management audit section) in the NRRI library. The reports are classified first by state (22 states are included) and then, for the six states having more than one report, in reverse chronological order (i.e., the most recent first). Also included is a list of firms that prepared one or more of the "outside consultant" reports and the state(s) in which each firm provided its services.

ALABAMA

Report on the Financial Audit and Management Study of the Alabama Power Company and Southern Company Services, Inc. Prepared for State Committee on Public Utilities. Price Waterhouse and Co. (April 1978).

ARKANSAS

Management Review. Prepared for Arkansas Power and Light Company. Theodore Barry and Associates (March 1977).

CALIFORNIA

An Operational and Management Audit of PG and E (Pacific Gas and Electric Company), Executive Summary and Volumes 1 and 2. Prepared for the California Public Utilities Commission. Cresap, McCormick, and Paget, Inc. (June 1980).

COLORADO

Colorado-Ute Electric Association. Prepared for the Public Utilities Commission of Colorado. Arthur Young and Company (February 1978).

DELAWARE

Management Audit of Delaware Power and Light Company. Prepared for the Public Service Commission of Delaware. Theodore Barry and Associates (August 1978).

FLORIDA

Cross-Sectional Purchasing Study of Four Florida Telephone Companies, Two Volumes: Final Report and Executive Summary. Prepared for the Florida Public Service Commission. Theodore Barry and Associates (January 1981).

Management Audit: Florida Power Corporation, Two Volumes: Management Audit and Executive Summary. Arthur Young and Company (August 1980).

GEORGIA

Management Audit of Georgia Power Company. Prepared for the Georgia Public Service Commission. Theodore Barry and Associates (May 1981).

ILLINOIS

Report on a Comprehensive Study of the Management Efficiency and Effectiveness of the Central Illinois Public Service Company, Volume I: Executive Summary and Volume VI: Non-Technical Report of the Results of the Management Review. Prepared for the Illinois Commerce Commission. Ernst and Ernst (December 1976).

INDIANA

Management and Operations Review of Indiana and Michigan Electric Company. Prepared for the Public Service Commission of Indiana. Theodore Barry and Associates (December 1975).

Phase 1 Review: Management Study of Indiana and Michigan Electric Company. Prepared for the Public Service Commission of Indiana. Theodore Barry and Associates (July 1975).

IOWA

Review of Management and Operations. Prepared for the Iowa Electric Light and Power Company and the Iowa State Commerce Commission. Touche Ross and Company (August 1976).

KENTUCKY

Big Rivers Electric Corporation Management and Operation Review. Prepared by order of the Public Service Commission of Kentucky. Theodore Barry and Associates (September 1977).

MAINE

Audit of Operational Effectiveness. Prepared for Bangor Hydro Electric Company. Temple, Baker, and Sloane, Inc. (March 1978).

MICHIGAN

Management Efficiency Review of the Detroit Edison Company. Prepared for the Michigan Public Service Commission. Theodore Barry and Associates (December 1977).

MISSOURI

Management Audit of Missouri Power and Light Company. Prepared for the Missouri Public Service Commission. The Missouri Public Service Commission Office of Management Services (January 1980).

NEW JERSEY

Audit: Public Service Electric and Gas Company--Fuel Adjustment Clause. Prepared by Division of Audits, State of New Jersey Department of Public Utilities (June 1978).

NEW YORK

Existing Generating Plants Maintenance Management Reviews, Management and Operations Study, Phase II, New York State Electric and Gas Corporation. Prepared for the New York State Public Service Commission. Theodore Barry and Associates (May 1980).

A Customer Service Measurement and Reporting System for Natural Fuel Distribution Corporation. Prepared for the New York Public Service Commission. Arthur D. Little, Inc. (May 1980).

Management and Operations Study of the Central Hudson Gas and Electric Corporation. Prepared for the New York Public Service Commission. Theodore Barry and Associates (March 1980).

A Report on the Management and Operations Study of Jamaica Water Supply Company. Prepared by the Utility Management Audit Section, New York State Department of Public Service (January 1980).

Implementation of Staff Recommendations by Orange and Rockland Utilities, Inc. Prepared by the Utility Management Audit Section, New York State Department of Public Service (January 1980).

Management and Operations Study of New York State Electric and Gas Corporation. Prepared for the New York Public Service Commission. Theodore Barry and Associates (June 1979).

Comprehensive Management and Operations Study of the Niagara Mohawk Power Corporation, Phase II Report. Prepared for the New York Public Service Commission. Arthur Young and Company (January 1979).

Niagara Mohawk Power Corporation's Management of Its Gas Business. Prepared by the Utility Management Audit Section, New York State Department of Public Service (December 1978).

An Evaluation of Long Island Lighting Company's Major Project Management Process (Hicksville, New York). Three volumes prepared for the New York Public Service Commission. Booz-Allen and Hamilton (December 1978).

An Evaluation of Long Island Lighting Company's Major Project Management Process (Mineola, New York). Prepared for the New York Public Service Commission. Booz-Allen and Hamilton (December 1978).

A Report on the Fossil Fuel for Electric Generation Procurement Methods of New York State Electric Utilities. Prepared by the Utility Management Audit Section, New York State Department of Public Service (August 1978).

Report to the New York State Public Service Commission on Management Audits of National Fuel Gas Distribution Corporation, Phase 1. Arthur D. Little, Inc. (July 1978).

Niagara Mohawk Power Corporation: Management Audit Recommendations Project Control Procedures Manual. Arthur Young and Company (May 1978).

Hydroelectric Operations and Maintenance Study of Niagara Mohawk Power Corporation. Prepared by the Utility Management Audit Section, New York State Department of Public Service (March 1978).

Comprehensive Management and Operations Study of the Niagara Mohawk Power Corporation, Phase 1 Report, Volumes 1, 2, and 3. Prepared for the New York Public Service Commission. Arthur Young and Company (September 1977).

Management and Operations Study of Orange and Rockland Utilities, Inc. Prepared by the Utility Management Audit Section, New York State Department of Public Service (June 1977).

Con Edison Management and Operations Study, Volumes III, IV, V, VI, and VII. Prepared for the New York Public Service Commission. Arthur D. Little, Inc. (May 1976).

Con Edison Management and Operations Study, Executive Overview: Phase II Projects. Prepared for the New York Public Service Commission. Arthur D. Little, Inc. (May 1976).

Comments of Consolidated Edison Company of New York, Inc., Two Volumes: Comments on Volume I of Management and Operation Study and Comments on Volume II (March 1975).

Con Edison Management and Operations Study, Volumes I and II. Prepared for the New York State Public Service Commission. Arthur D. Little, Inc. (January 1975).

NORTH CAROLINA

Final Report of the Management Performance Audit of Carolina Power and Light Company, Three Volumes. Prepared for the North Carolina Utilities Commission. Booz-Allen and Hamilton (January 1977).

OREGON

Management and Operation Review of the Pacific Power and Light Company. Prepared for the Public Utility Commission of Oregon. Theodore Barry and Associates (October 1976).

Management Effectiveness and Operating Efficiency of Portland General Electric Company, Two Volumes: Volume 1: Executive Summary, Volume 2: Analysis. Prepared for the Public Utility Commission of Oregon. Arthur D. Little, Inc. (April 1976).

PENNSYLVANIA

General Public Utilities Corporation Pennsylvania Operations Management and Operations Study. Prepared for the Pennsylvania Public Utility Commission. Theodore Barry and Associates (September 1980).

Philadelphia Electric Company Implementation Plan Progress Report. Prepared for the Pennsylvania Public Utility Commission. Philadelphia Electric Company (September 1980).

A Management and Operating Audit of the Duquesne Light Company's Warwick No. 3 Mine. Final Report. Prepared for the Duquesne Light Company and the Pennsylvania Public Utility Commission. C. V. Peake, Inc. (June 1980).

Columbia Gas of Pennsylvania, Inc., Management Audit. Prepared for Columbia Gas of Pennsylvania and the Pennsylvania Public Utility Commission. Stone and Webster Management Consultants, Inc. (April 1980).

Report of Management Audit of Mid-Penn Telephone Corp., Kittanning, Pennsylvania. Prepared for the Pennsylvania Public Utility Commission. K. W. Tunnell Company, Inc. (March 1980).

Philadelphia Electric Company Implementation Plan. Two Volumes. Prepared for the Pennsylvania Public Utility Commission. Philadelphia Electric Company (February 1980).

Phase 1 of a Management Audit of Philadelphia Electric Company. Prepared for the Pennsylvania Public Utility Commission. Cresap, McCormick, and Paget, Inc. (November 1979).

Philadelphia Suburban Water Company: Company Response to the 1978 Management Audit. Prepared for the Pennsylvania Public Utility Commission (November 1978).

Management Audit of Philadelphia Suburban Water Company. Prepared for the Pennsylvania Public Utility Commission. Final Report. Arthur Young and Company (September 1978).

Management and Operations Audit of Pennsylvania Gas and Water Company. Prepared for the Pennsylvania Public Utility Commission. Theodore Barry and Associates (September 1978).

Pennsylvania Power Company Phase I Management Audit. Prepared for the Pennsylvania Public Utility Commission. Touche Ross and Company (Undated).

RHODE ISLAND

Management and Operation Audit of Providence Gas Company. Prepared for the Rhode Island Public Utility Commission. Ebasco Services, Inc. (November 1977).

VERMONT

Management Audit of Electric Utilities in Vermont, Six Volumes: Volume I: Central Vermont Public Service Corporation (January 1977); Volume II: Green Mountain Power Corporation (January 1977); Volume III: Vermont Electric Power Company (March 1977); Volume IV: Burlington Electric Light Department (February 1977); Volume V: The Twenty-two Smaller Electric Utility Companies (April 1977); Volume VI: Summary (June 1977). Prepared for the Vermont Public Service Board. Theodore Barry and Associates.

VIRGINIA

VEPCO's Implementation Progress and a Case Study of the Bath County Project. Prepared for the Virginia State Corporation Commission. Theodore Barry and Associates (December 1980).

Review of Virginia Electric and Power Company's Management of Power Station Engineering and Construction Programs. Prepared for the Virginia State Corporation Commission. Theodore Barry and Associates. (January 1978).

Direct Testimony before the State Corporation Commission of Virginia (concerning Report to Virginia State Corporation Commission: Virginia Electric Power Company, April 1975). Arthur D. Little, Inc. (June 1975).

Report to Virginia State Corporation Commission: Virginia Electric Power Company. Arthur D. Little, Inc. (April 1975).

Consulting Companies Cited

Arthur Andersen and Company: Kentucky

Theodore Barry & Associates: Arkansas, Delaware, Florida, Georgia, Indiana, Kentucky, Michigan, New York, Oregon, Pennsylvania, Vermont, Virginia

Booz-Allen and Hamilton: New York, North Carolina

Cresap, McCormick, and Paget, Inc.: California, Pennsylvania

Ebasco Services, Inc.: Rhode Island

Ernst and Ernst: Illinois

Arthur D. Little, Inc.: New York, Oregon, Virginia

C. V. Peake, Inc.: Pennsylvania

Price Waterhouse and Co.: Alabama

Stone and Webster Management Consultant, Inc.: Pennsylvania

Temple, Baker, and Sloane, Inc.: Maine

Touche Ross and Company: Iowa, Pennsylvania

K. W. Tunnell Company, Inc.: Pennsylvania

Arthur Young & Company: Colorado, Florida, New York, Pennsylvania

APPENDIX B

SCOPE OF MANAGEMENT AUDITS

A report (Survey of Management Audits in the Electric Utility Industry) published in 1979 by Price Waterhouse and Co. (PW) reviewed 28 comprehensive management audits completed between 1975 and 1978. Seven of the studies were initiated by utility management, while the other 21 were ordered by either a regulatory authority or a state legislature. As a part of its review, PW tabulated subject areas (i.e., particular utility functions) examined in each of these audits and classified them into twelve broad categories.

This appendix summarizes the PW results and adds to it a similar tabulation for 11 other commission-ordered management audits. Most of these studies were conducted after those surveyed by PW. The companies examined and the year of completion for these recent audits are (see appendix A for a complete citation for each study):

1. Columbia Gas of Pennsylvania (1980)
2. Florida Power Corporation (1980)
3. General Public Utilities Corporation (1980)
4. Georgia Power Company (1981)
5. Missouri Power and Light Company (1980)
6. New York State Electric and Gas Corporation (1979)
7. Orange and Rockland Utilities, Inc. (1977)
8. Pacific Gas and Electric Company (1980)

9. Pennsylvania Gas and Water Company (1978)
10. Pennsylvania Power Company (undated)
11. Philadelphia Electric Company (1979)

The table presented in this appendix provides an indication of trends in management audit coverage. In general, the recent studies scrutinize more functional areas than do those in the PW survey. Topics such as government relations, taxes, depreciation, new technology, and meter testing, reading, and service are examined in one or more of the recent audits but are not listed specifically in the PW review. Further, many areas that are covered in a relatively small proportion of audits surveyed by PW attract attention in virtually every recent study. Functions in this category include selection of officers and directors, environmental requirements, fuel procurement practices, customer relations, inventory management, and construction and engineering planning and management.

TABLE B-1: SCOPE OF MANAGEMENT AUDITS--PRICE WATERHOUSE SURVEY AND ELEVEN RECENT STUDIES

Function	28 Audits in Price Waterhouse Survey		11 Recent Studies		Total of 39 Management Audits	
	Number	Percent	Number	Percent	Number	Percent
MAJOR AREAS						
Executive management	25	89.3%	10	90.9%	35	89.7%
System planning and design	24	85.7%	10	90.9%	34	87.2%
Interchange and pooling of power	22	78.6%	6	54.5%	28	71.8%
Construction	23	82.1%	11	100%	34	87.2%
Fuels management	23	82.1%	10	90.9%	33	84.6%
Power generation operations	26	92.9%	11	100%	37	94.9%
Power delivery and division operations	24	85.7%	11	100%	35	89.7%
Financial management	26	92.9%	11	100%	37	94.9%
Rate structure and research	24	85.7%	11	100%	35	89.7%
Human resource management	23	82.1%	11	100%	34	87.2%
Corporate support services	24	85.7%	11	100%	35	89.7%
Productivity practices	21	75.0%	11	100%	32	82.1%
EXECUTIVE MANAGEMENT						
Organizational structure	24	85.7%	8	72.7%	32	82.1%
Selection of officers and directors	3	10.7%	6	54.5%	9	23.1%
Long-range (strategic) planning	15	53.6%	6	54.5%	21	53.8%
Conflicts of interest	1	3.6%	0	0%	1	2.6%

TABLE B-1 (continued)

Function	28 Audits in Price Waterhouse Survey		11 Recent Studies		Total of 39 Management Audits	
	Number	Percent	Number	Percent	Number	Percent
EXECUTIVE MANAGEMENT (Continued)						
Relationships with affiliated companies	14	50.0%	4	36.4%	18	46.2%
SYSTEM PLANNING AND DESIGN						
System planning	20	71.4%	7	63.6%	27	69.2%
Load forecasting	24	85.7%	10	90.9%	34	87.2%
Generation and bulk transmission planning	15	53.6%	5	45.5%	20	51.3%
INTERCHANGE AND POOLING OF POWER						
System operation	19	67.9%	6	54.5%	25	64.1%
Energy accounting	14	50.0%	4	36.4%	18	46.2%
CONSTRUCTION						
Construction and engineering project planning and management	17	60.7%	11	100%	28	71.8%
Environmental requirements	4	14.3%	7	63.6%	11	28.2%
Power generation construction management	11	39.3%	6	54.5%	17	43.6%
Power delivery construction management (transmission and distribution)	12	42.9%	5	45.5%	17	43.6%
FUELS MANAGEMENT						
Planning	15	53.6%	8	72.7%	23	59.0%
Procurement	12	42.9%	10	90.9%	22	56.4%

TABLE B-1 (continued)

Function	28 Audits in Price Waterhouse Survey		11 Recent Studies		Total of 39 Management Audits	
	Number	Percent	Number	Percent	Number	Percent
FUELS MANAGEMENT						
Contracts administration	8	28.6%	5	45.5%	13	33.3%
Transportation	3	10.7%	4	36.4%	7	17.9%
Fuel adjustment clause	1	3.6%	0	0%	1	2.6%
Quality control	2	7.1%	6	54.5%	8	20.5%
Inventory management	6	21.4%	8	72.7%	14	35.9%
POWER GENERATION OPERATIONS						
Operations and maintenance of generation facilities	25	89.3%	8	72.7%	33	84.6%
Condition of physical facilities	3	10.7%	3	27.3%	6	15.4%
Gas (included in operations review)	8	28.6%	7	63.6%	15	38.5%
Water (included in operations review)	3	10.7%	5	45.5%	8	20.5%
POWER DELIVERY AND DIVISION OPERATIONS						
Field operations and maintenance of transmission and distribution facilities	24	85.7%	11	100%	35	89.7%
Meter installation/disconnection	3	10.7%	3	27.3%	6	15.4%
Customer relations	6	21.4%	10	90.9%	16	41.0%
FINANCIAL MANAGEMENT						
Cash management	19	67.9%	9	81.8%	28	71.8%

TABLE B-1 (continued)

Function	28 Audits in Price Waterhouse Survey		11 Recent Studies		Total of 39 Management Audits	
	Number	Percent	Number	Percent	Number	Percent
FINANCIAL MANAGEMENT (Continued)						
Accounting systems and financial reporting	9	32.1%	11	100%	20	51.3%
Customer service-billing and collection	13	46.4%	9	81.8%	22	56.4%
Budgeting	22	78.6%	9	81.8%	31	79.5%
Internal auditing	10	35.7%	11	100%	21	53.8%
Financing methods and capital structure	6	21.4%	9	81.8%	15	38.5%
RATE STRUCTURE AND RESEARCH						
Rate case management	4	14.3%	9	81.8%	13	33.3%
Load management	15	53.6%	5	45.5%	20	51.3%
Rate design	13	46.4%	7	63.6%	20	51.3%
Research and cost of service studies	11	39.3%	4	36.4%	15	38.5%
Regulatory commission relationships	9	32.1%	7	63.6%	16	41.0%
HUMAN RESOURCE MANAGEMENT						
Salary administration	21	75.0%	11	100%	32	82.1%
Benefits	13	46.4%	8	72.7%	21	53.8%
Staffing	13	46.4%	11	100%	24	61.5%
Labor relations	19	67.9%	8	72.7%	27	69.2%
Training	19	67.9%	8	72.7%	27	69.2%
Safety	18	64.3%	8	72.7%	26	66.7%
Equal employment opportunity	8	28.6%	8	72.7%	16	41.0%

TABLE B-1 (continued)

Function	28 Audits in Price Waterhouse Survey		11 Recent Studies		Total of 39 Management Audits	
	Number	Percent	Number	Percent	Number	Percent
CORPORATE SUPPORT SERVICES						
Purchasing	9	32.1%	8	72.7%	17	43.6%
Inventory management	21	75.0%	10	90.9%	31	79.5%
Land management	11	39.3%	7	63.6%	18	46.2%
Transportation management	19	67.9%	10	90.9%	29	74.4%
Facilities management	13	46.4%	6	54.5%	19	48.7%
Electronic data processing	20	71.4%	10	90.9%	30	76.9%
Insurance	8	28.6%	5	45.5%	13	33.3%
Legal	16	57.1%	11	100%	27	69.2%
Security	3	10.7%	4	36.4%	7	17.9%
Communications	4	14.3%	10	90.9%	14	35.9%
PRODUCTIVITY PRACTICES						
Productivity of capital, materials, labor	1	3.6%	5	45.5%	6	15.4%
Workforce management	15	53.6%	10	90.9%	25	64.1%
Corporate management services	5	17.9%	3	27.3%	8	20.5%

Sources: Price Waterhouse and Co., Public Utilities Group, Survey of Management Audits in the Electric Utility Industry (New York: Price Waterhouse and Co., 1979), pp. 5-7 and authors' construct.

APPENDIX C

SAMPLE REQUESTS FOR PROPOSAL FOR A MANAGEMENT AUDIT

This appendix contains examples of the information given to consulting firms that may wish to conduct a management audit. Each request for proposal (RFP) describes the nature of the audit, stipulates various requirements and conditions a commission imposes on every firm that wants to be considered for the job, and explains the consultant-selection process. Included are RFPs from Connecticut, Georgia, Michigan, New York, Ohio, and Pennsylvania.

Connecticut Division of Public Utility Control:
Request for Proposal for Management Audit of
Northeast Utilities Gas Properties

STATE OF CONNECTICUT

DEPARTMENT OF BUSINESS REGULATION

DIVISION OF PUBLIC UTILITY CONTROL

The Division of Public Utilities Control (DPUC) of the Connecticut Department of Business Regulation is seeking a management consulting firm to conduct a management audit of the management and operations of the Northeast Utilities (NU) gas properties. The gas properties consist of the gas distribution operations of the Connecticut Light and Power Company (CL&P) and the Hartford Electric Light Company (HELCO), both of which are subsidiary operating companies of NU. Pursuant to Section 16-8(b) of the Connecticut General Statutes, a management audit such as this shall be conducted every three years at the discretion of the DPUC. However, in no event shall an audit be conducted less than once every six years.

In total, the CL&P and HELCO gas operations represent the largest gas distribution business in Connecticut. The gas operations were excluded from a 1977 management audit of NU because of their pending divestiture. The agreement between NU and the Connecticut Natural Gas Corporation to sell the gas properties was terminated on October 1, 1979 and will not be extended.

All aspects of the management audit will be under the supervision of the Utilities Operations and Management Analysis Section of the DPUC. The DPUC will review and evaluate all proposals received in response to this Request for Proposal. Five consulting firms will be selected for inclusion on a list to be submitted to NU. The Company will select a consulting firm from this list to perform the audit with DPUC approval. The Company will be directed to arrange the date, time and place of interviews with the final consulting firms during the selection process so that a representative of the DPUC may be present.

You are invited to submit to the DPUC five copies of a proposal to conduct this audit by December 17, 1979. Enclosed with this Request for Proposal is an information package designed to aid you in developing a proposal. Until such time as you are selected for inclusion on a consultant list, all correspondence and other communications shall be addressed solely to the DPUC.

165 Capitol Avenue, - Hartford, Connecticut 06115

The Commissioners of the DPUC have designated Mr. Charles J. Burns, Acting Director, Utilities Operations and Management Analysis, to supervise this management audit. If you have any questions, please feel free to call him at (203) 566-7090. You are requested to please acknowledge receipt of this letter and inform the DPUC of your intentions with respect to this RFP by calling or writing Mr. Burns directly.

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 to the benefits to be gained by the Company and its ratepayers. Primary emphasis shall be directed toward:

A. identifying whether or not opportunities exist for achieving a reduction in operating expenses or for enhancing operating revenue;

B. identifying, where possible, the achievable savings associated with any recommendations;

C. identifying opportunities for desirable improvements in service.

2. Approach

The consultant shall 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, historical trends, independent standards, etc.) shall be explained.

3. Scope

The first phase of what may become a two phase audit shall consist of a broad and comprehensive analysis of the management and operations of NU's gas properties. The scope shall include each of the following functional areas:

A. Organization and Management

B. Corporate Planning

C. Engineering and Construction

D. Operations and Production

E. Fuel Management and Gas Supply

F. Gas Transmission and Distribution

G. Customer Service

H. Financial Management

I. Electronic Data Processing and Business Systems

J. Personnel and Labor Relations

K. Corporate Support Services

L. Marketing and Sales

M. Work Force Management

The consultant shall, in his proposal, identify the key aspects of each functional area.

4. Timetable

NU 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 DPUC.

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

5. Personnel Assigned

The consultant shall submit a list of all personnel who will be assigned to the management audit process including their resumes and the nature of their specific responsibilities in the conduct of the audit. During the course of the audit the DPUC must be notified in writing of any substitutions or changes in the personnel originally assigned to perform the study.

6. Equal Employment Opportunity Compliance

The consultant shall comply with all Federal, State, and municipal laws and regulations relating to discrimination against employees or applicants for employment. Section 4-114a of the General Statutes of Connecticut states in part that discrimination shall not be based on "race, color, religious creed, age, marital status, national origin, sex, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved."

7. Reporting Procedures

During the conduct of the audit, the consultant shall provide to the DPUC advance monthly notices of the planned activities for the subsequent month and a progress report detailing the audit activities completed in the prior month. The consultant shall also meet as necessary with DPUC staff 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 DPUC and to the Company. Final written reports will be considered to be public documents and as such will be available for public inspection and distribution.

8. DPUC Staff Participation

The staff of the Utilities Operations and Management Analysis Section will participate in various phases of the management audit process as a working member of the audit team. Assignments shall be mutually agreed to by the DPUC and the consultant.

9. 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 DPUC staff.

10. Final Report

The final report shall not dwell on a description of the functions which are well managed. A simple statement to the effect that a function or organizational unit is performing properly and a brief factual description of its operation is all that is required in those instances.

The final report shall contain a priority listing of recommendations and an explanation as to how these priorities were identified. In addition, the consultant shall define a program which includes a suggested timetable for the proposed implementation of the recommendations. The report shall estimate the costs and benefits of recommendations.

11. Work Papers

At the conclusion of the audit, the consultant shall make available to the DPUC 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 DPUC, and at least one day for a formal public meeting. The consultant must also make himself available for additional meetings if required.

13. Miscellaneous Provisions

A. In accordance with Section 16-8(b) of the Connecticut General Statutes, all expenses of the audit shall be borne by the Company. However, the consultant should realize that the principal client is the DPUC. The DPUC will exercise such monitoring and controls as are appropriate and necessary to achieve the desired and agreed upon product from the consultant.

B. The DPUC staff assigned to this study will audit all of the consultant's invoices. The audit will involve the verification of charges through examination of appropriate supporting documents such as time sheets, expense reports, vouchers for transportation and lodging, and invoices supporting other out-of-product expenses. The consultant's invoices will be promptly audited and the utility will then be notified of approved billings so that payment can be made.

C. To assure the independence of the consulting firm selected, the DPUC 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 five years. Any relationships, business or personal, must be identified on the affidavit. The DPUC reserves the right to determine whether any relationship has been of sufficient substance to impair the independence of the management consulting firm.

The consulting firm selected will not be permitted to perform subsequent work for NU for a period of one year following the completion of this study without the approval of the DPUC.

D. Subsequent to the submittal of the final report, the DPUC, the Company, and the consulting firm may confer regarding successive analysis directed toward specific areas warranting further study for improved efficiencies and potential cost reductions. The DPUC 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 DPUC.

E. The proposal should also contain a description of the utility management audit reports which the consultant has completed. The proposal may also include descriptions of other management audits the consultant has completed which are relevant to the objectives of the proposed audit.

F. The DPUC shall receive twenty copies of the final report.

Sincerely yours,

DIVISION OF PUBLIC UTILITIES CONTROL

Henry Mierzwa
Executive Secretary

Georgia Public Service Commission: Request for Proposal for Management Audit of Georgia Power Company

Georgia Public Service Commission
244 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

HUGH S. JORDAN, SECRETARY

September 4, 1980

TO PROSPECTIVE BIDDERS

Gentlemen:

Enclosed is a Request for Proposal issued by the Georgia Public Service Commission concerning the management audit of Georgia Power Company. In addition to the items to be provided in the RFP, the Commission voted to have each firm supply the Commission with a list of employees involved in the audit who have previously been engaged in work for Georgia Power Company or any other Southern Company affiliate either as an employee or as a consultant.

The Commission also voted unanimously to remove the ten-year limitation on bidding firms. I believe the rest of the RFP is self-explanatory.

Yours very truly,

B B Knowles

B. B. Knowles
Project Coordinator

BBK:cp
Enclosure

Introduction

The Georgia Public Service Commission (PSC), consisting of five members elected by the people, is a regulatory board of the state government created by the state Constitution and operated under state statutes. The PSC's authority is limited to the powers which the acts of the legislature have conferred upon it. The Commission, under Georgia Code §93-307, has the authority to inquire into the affairs of companies and corporations under its jurisdiction and to keep informed as to their general condition. Also, the Commission has full power and authority to examine the agents and employees of these companies in order to procure information deemed necessary to its work or deemed of value to the public.

In accordance with its authority and in an effort to better regulate the rates of the Georgia utilities, the PSC is establishing a program to study the management and operations of these utilities. This document represents a Request for Proposal (RFP) for such a management study of the Georgia Power Company.

The Georgia Power Company is a public utility engaged in the generation, transmission, distribution and sale at retail (and at wholesale) of electricity (for much of the State of Georgia) and the sale of steam heat. Electricity is also provided to Georgians in other parts of the state by Savannah Electric and Power Company (SEPCO). Georgia Power provides electric service in Atlanta and 645 other communities in Georgia, as well as rural areas, and also furnishes power at wholesale to the Municipal Electric Association of Georgia (MEAG) and the Oglethorpe Power Company (OPC). MEAG and OPC represent 50 municipalities and 39 rural cooperatives for distribution in rural areas respectively. The Company also provides steam heat in the main business district of Atlanta. This territory covers about 57,200 square miles with an estimated population of over 4,339,000. The Company also dispatches power through The Southern System, a pool of The Southern Company's operating subsidiaries to Alabama, Florida and Mississippi and to the southeastern grid.

The Company's common stock is held by The Southern Company, which is owned by about 300,000 common stockholders. Georgia Power also shares a 50 percent ownership of Southern Electric Generating Company with the Alabama Power Company. Additional historical, financial, statistical and organization data concerning Georgia Power and its corporate relationships is included in the attached information package. (Attachment 1.)*

This document is your invitation to submit a proposal for a management study of the Georgia Power Company. We look toward this management study to assess the operational efficiency of that organization and it is the opinion of this Commission that an independent evaluation of Georgia Power'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.

*This attachment has been omitted from this copy of the RFP.

Scope and Objectives

The objectives of this management study are:

1) To evaluate Georgia Power Company's management of major operation determining how efficiently Company resources are being used and if adequate and effective policies and procedures are in force and to identify those areas where the greatest opportunities exist to improve management and operational practices, specifically those areas where cost benefits could be realized;

2) To develop general and specific actions which will lead to the realization of such opportunities along with estimates of cost to implement any potential cost benefits and the associated savings;

3) To identify opportunities for desirable improvements in service;

4) To make recommendations for instituting the changes or undertaking further studies which may be necessary to achieve or identify those savings or improvements;

5) To address those particular issues within the scope of this study which will be identified by the Commission and its staff; and

6) To describe in the final written report the management and operations of the utility for the information of the Commission, its staff, and the ratepayers.

The scope of these studies does not include certain kinds of "audits" or "studies" that are frequently, periodically, or continuously performed at utility companies.

This will not be the type of examination normally performed by a public accounting firm for the purpose of rendering an opinion of the financial condition of the company.

There should not be any technical studies made to determine the validity of the results of particular analyses or computations made by company personnel. It may be desirable, however, to comment on the methodology used by the company in making various technical studies.

Unless the approach section of your proposal successfully convinces us otherwise, or unless developments during the course of the study lead you and then us to believe otherwise, there should not be any statistical analyses presented as an end-product of this study. It is neither our objective nor is it our expectation to receive from this study numerous pages of statistics, such as we now receive in various regulatory reports, or ratios of statistics to various common denominators, with or without comparisons to other utilities or industries. (You may, of course, use statistics to guide you in your work plans, your analysis, and to support your conclusions.)

The Public Service Commission anticipates that the consultant will perform a comprehensive study of the company management and operations. The report should also identify those aspects of the company's operations which are in need of improvement, if any. The consultant is expected to produce a written report as a final product of this study.

Attachment 2 is a list of functions, operations and issues which the Commission has tentatively identified for study. The consultant will include these tasks in its study along with any other tasks which, in the consultant's experience, have offered opportunities for cost savings in electric utility company operations and management.

The consultant has some flexibility in the format of report, but the report should be written at a level that assumes a fundamental understanding of common utility terminology and operations. It should address a primary audience consisting of the Commission and its staff and utility management.

The process for developing the final report should include the preparation of a written draft report which will be published according to the express agreement between the Georgia Public Service Commission and the Georgia Power Company, more fully set forth in the attached letters (attachment 7) between Robert Scherer and Robert C. Pafford. In the event anything in this RFP could be construed to conflict with the letters the letters control. It is expected that to the maximum extent possible the findings of the audit are to be discussed and resolved pursuant to the above letters during the course of the audit, but in any event, prior to the delivery of the draft of the final report so that the company can reasonably be expected to meet the time constraints contained herein.

After thirty days to read the report, the utility and the consultant will meet jointly to review its contents. The consultant will then, at his discretion, make the appropriate revisions to the draft to correct factual errors or omissions, explain any ambiguous language or technical terms, or otherwise finalize their written report. This final draft will then be made available to the utility for their review. No further changes may be made to this text. The utility will then have two weeks to insert its comments at the end of the chapters or sections of the report. The final draft plus the comments by the utility will then be collated and printed as the final product.

It will be the responsibility of the consultant to provide twenty-five (25) copies of the final report as well as camera-ready copy of the final report to the Commission. The Commission will print additional copies of the report as required.

The Consultant may be required to meet and make oral presentations to the Commission and staff.

In addition, the consultant will provide to the Commission as a separate document from the audit reports, high level playscript procedures describing the management audit process with appropriate checklists for each of the tasks included in the study. These procedures and checklists will be used by the Commission staff in future management audits. It will be the responsibility of the consultant to provide five copies of this product and one camera-ready original for the PSC to use in producing additional copies. The price for this product should be stated separately from the management audit proper.

Mr. B. B. Knowles, Director of the Utilities Financial Analysis Division, will be the PSC's Project Coordinator and will act as the PSC's primary point of contact for the consultant during the entire study. He will represent the PSC in all aspects of this project and will receive all proposals, invoices, reports and other correspondence relating to the project. His mailing address is as follows:

Mr. B. B. Knowles
Georgia Public Service Commission
244 Washington Street, S. W.
Atlanta, Georgia 30334

The following individual is designated as Georgia Power's Management Audit Coordinator:

Mr. W. L. Westbrook
Vice President-Secretary & Treasurer
Georgia Power Company

Mr. Westbrook will act as the primary point of contact and coordination with Georgia Power for the entire study once the Commission has selected the audit firm and held its preliminary meeting with the consultant. He will represent Georgia Power in all aspects of this project; coordinating interviews, field trips, data responses, review of preliminary findings and development of the Company's response for inclusion in the final report.

grid.

ASSUMPTION AND CONDITIONS

1. The State of Georgia will not be responsible for any costs incurred by any unsuccessful proposer, and will not be responsible for any costs incurred by the successful proposer before the effective date of any contract resulting from this RFP.
2. The principal client for this study is the Georgia Public Service Commission. The Commission will select the consultant and, through its Project Coordinator, exercise such monitoring and controls as described in the section "Proposed Plans, Timetables and Controls", to achieve the desired and agreed upon product from the contracting consultant.
3. The PSC reserves the right to reject any or all proposals submitted in response to this RFP.
4. The 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.
5. The PSC reserves the right to accept other than the lowest offer.
6. The PSC reserves the right to terminate this project prior to its completion upon thirty (30) days' written notice to the consultant. In the event of termination, the consultant will be paid for services rendered up to the time of termination.
7. The consultant 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 consultant should, however, specify anticipated calendar year 1981 hourly and per diem rates for such public testimony.
8. The consultant will make, at least once monthly, oral and written progress reports to the Public Service Commission's Project Coordinator. The content of these progress reports will include, as a minimum, the consultant's activities to date, and planned activities for the next month.
9. The Company will provide office space, secretarial and clerical assistance to the consultants for use during the study. The consultant will be responsible for typing its report drafts and final reports.
10. Progress payments will not be made more frequently than monthly, based upon properly documented invoices submitted by the consultant. 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.
11. Any questions relating to this RFP must be submitted in writing to the PSC's Project Coordinator. Any answers to written questions will be supplied on an equal basis to all consultants 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 consultants who have expressed a written indication of interest.
12. Progress payments and the final payment will be made in the following manner. The consultant will submit its invoices to the PSC's Project Coordinator. If the Coordinator finds the invoices to be in proper order, he will instruct, in writing, Georgia Power's Management Audit Coordinator to issue payment to the consultant. The final payment will be made in the same manner, except that the PSC itself must indicate, in writing, that all of the terms of the contract have been complied with completely.

CALENDAR OF EVENTS

1.	Issue RFP to Vendors	September 4, 1980
2.	Deadline for Vendor's Written Notice of Intent to Bid	5 P.M. - September 15, 1980
3.	Deadline for Vendor's Questions Concerning this RFP	5 P.M. - September 19, 1980
4.	Proposal Submission Deadline	5 P.M. - October 24, 1980
5.	Announcement of Selection	November 4, 1980
6.	Meeting between the PSC and the selected consultant to review direction, study areas, contract terms and conditions, operating details, etc. At this meeting, the consultant may request interviews with specific upper level officers in the Georgia Power Company so that the consultant may begin structuring detailed work programs.	November 12, 1980
7.	Begin Project	December 1, 1980
8.	Consultant's preliminary findings are reviewed and responded to by Georgia Power Management Audit Coordinator	On-Going
9.	Provide Georgia Power Company a Draft Report	March 24, 1981
10.	Consultant meets with GPC to discuss final draft	April 24, 1981
11.	Georgia Power to Respond	May 8, 1981
12.	Complete Project - Issue Final Report to Commission	May 15, 1981
13.	PSC advise Management Auditor that terms of contract have been complied with and advises GPC to release retention.	June 2, 1981

Working Papers and Materials

In order to safeguard the confidential nature of all information necessary to this study, all working papers, preliminary findings, and materials used or developed by the consultant in connection with this study shall remain confidential. These shall include, but not be limited to, completed questionnaires, survyes, 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 are 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 the PSC.

By submitting proposals in response to this RFP, each consultant agrees: (1) the PSC shall have unlimited rights and access to all such documents at the conclusion of the study, and (2) the consultant is not to assert any rights or establish any claim under existing copyright, patent or data laws as to such reports.

The consultant will retain possession of work papers, but will be required to allow access by the Commission for purposes of implementation of recommendations and as support for any recommended specific rate making adjustments. The work papers shall also be made available to other parties who have a properly executed and adjudicated discovery right in a proceeding in which their interest has been adversely affected. Nevertheless those items which were secured on a confidential basis shall remain confidential.

PROPOSAL REQUIREMENTS

The proposal will contain the following items in the order specified:

1. A brief statement of the general background and capabilities of the firm making the proposal.
2. A detailed statement of the background and experience of the proposing firm in performing management audits of electric as well as other utility firms.
3. A detailed statement of all work performed, work currently in progress or work proposed other than this project by the proposing firm and by proposed study team members for the following entities in the past ten years:
   - The Southern Company and its subsidiary firms,
   - The Georgia Power Company, and
   - The Georgia State Government.
4. The name of the individual proposed as project leader, together with a detailed resume of his experience in conducting similar studies.
5. The names and resumes of members of the firm who will participate on the study team or whose experience may be used to supplement the other members of the team during the course of the study, and the specific area of his or her responsibility on the audit.
6. An outline of the tasks to be accomplished and a schedule for this study, as it is understood by the proposing firm.
7. A brief outline of the written report which is to be the result of this study.
8. The total cost for the project, including, but separately stating, travel and living expenses and printing costs.
9. The billing rates and manpower commitment to this project for all study participants.
10. Any exceptions which the proposing firm may wish to take to the Request for Proposal.
11. Any additional information the proposing firm may wish to supply which may be of assistance in making a selection. This can include reference to, or actual copies of, other studies that have been developed by the proposing firm or which members of the proposing firm have participated in developing.

Proposed Plans, Timetables and Controls

Two levels of detailed plans, timetables and controls to be followed in the study will be required prior to the actual commencement of the audit. The successful offeror will be required to provide much more detailed plans than was provided during the auditor selection stage.

All offerors' proposals must clearly state all plans for the study and contain a preliminary description of each major function or issue which you would address during the engagement. 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 which shall detail time required for the offerors' learning period, fact-gathering, development of findings and recommendations, and report writing, and the utility's written response. Attachment 3 shows a typical schedule format which you may use, or alter, to present this information.

The offeror must discuss in some detail the controls that will be applied during the study to assure timely, professional, high-quality performance. The offeror shall furnish all other 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.

Although additional details of your engagement management and cost control techniques will be required from the successful offeror, we will look for a general description of your approach to engagement management in the proposal. In a similar manner, although the detailed work plans will not be developed until a consultant is selected and a contract agreement is achieved, your proposal should describe the process for preparing and the content of your typical work plans. (Attachment 4 is a sample of a guide used in preparation of work plans in each task area. Although this guide is only illustrative, it is an indication of the extent of planning which is expected prior to work on the individual task areas. This detail will be required by the consultant selected for the engagement.)

If your firm is selected, additional information will be requested concerning your cost estimates, your methods for managing an engagement and the type of supporting documentation (time sheets, vouchers, etc.) you plan to use in connection with requests for progress payments.

If you are the successful offeror, the method which you used to arrive at your cost estimates will have to be described. For each of the major tasks which you have defined, you should provide the number of man-days to be spent by each of your consulting staff: Attachment 5 is an acceptable format for conveying that information. An examination of Attachment 5 shows other breakdowns of man-days, for each of the task areas, into activities such as planning, interviewing, analyzing, report writing, etc. Specific forms, logs, or manuals which you use to manage your engagement should be made available to us or reviewed with us at that time. We will discuss with you specific reporting requirements at that time.

As previously indicated, if you are awarded the job, detailed work plans will have to be completed and approved by our PSC Project Coordinator before your staff begins its interviews of utility personnel. This will help us achieve an understanding of the issues and subjects which will be addressed in the study and give both of us a written document to refer to throughout the study process. To prepare these work plans, officer-level orientation-type interviews may be performed before the work plans for specific tasks are finalized. By insisting on this procedure, both you and we can be reasonably certain that the issues and subjects of importance will be properly addressed during the study. The listing and definition of issues, questions, criteria, activities, and schedule will be beneficial to the execution of the study and will also reduce the likelihood of any subsequent misunderstanding later in the study.

Our staff will review these detailed work plans directly with the individual consultant assigned to the particular task area. As the work plans are completed and reviewed, they will be approved in writing before interview work can begin in that task area. Attachment 6 shows a typical approval letter. It is important to note that the approval involves an acceptance of the scope and level of detail without addressing the prerogatives of the consultant to design the process which will be used.

Georgia Power will work with the successful offeror to develop mutually acceptable administrative procedures with regard to; scheduling interviews, coordinating and documenting data requests, reviewing preliminary findings, monitoring progress against the approved work programs, etc.

Deadline For Proposal

Fifteen (15) complete copies of the proposal must be received by the Project Coordinator no later than 5:00 P. M. Eastern Standard Time October 24, 1980. Proposals received later than October 24, 1980 will not be considered.

Offerors may be requested to make presentations concerning their proposals during the week beginning October 27, 1980.

Firm Offer

Proposals must contain a statement to the effect that the proposal is a firm offer until 5:00 P.M. Eastern Standard Time November 4, 1980

Please provide this statement in your proposal.

Factors To Be Considered In Awarding The Contract

Firm selection will reflect R. W. Scherer's April 17, 1980 memorandum to R. C. Pafford. The audit firm selected by the Commission will be acceptable to the Company provided they exhibit the following characteristics:

- A firm experienced and qualified in the management audit field
- Firms that are not known to be institutionally biased against utilities in general or Georgia Power in particular
- Firms that are not known to have a conflict of interest.

Upon review of the qualifications of assigned persons and their designated areas of responsibility, the PSC reserves the right to require the successful offeror to replace any individual who, in the opinion of the PSC or Georgia Power, does not evidence a level of expertise or experience commensurate with his or her assigned responsibilities.

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

- Demonstrated ability to understand and perform the assignment, including demonstrated knowledge and understanding of the requirements of PSC and of the relationships that exist with the utility.
- Innovative suggestions to improve the study.
- The staffing plan and the qualifications and past experience of the staff to be assigned to the study, in addition to the background and experience of the firm in conducting management studies of other utility firms and the background and experience of the individuals proposed as project leader and study team members in conducting
- Offeror's prior assignments related to this study, including responses and recommendations of references listed in the proposal.
- The quality of the proposed outline of tasks, interview techniques, questionnaires, outline of deliverables, and a description of the final product.
- The ability of the firm to complete the work within the specified time frame.
- The perceived objectivity of the firm in addressing the issues proposed for study.
- Total proposed contract price.

ORGANIZATION AND CONTROLS
* Organizational Structure
* Organizational Planning
* Management Communications and Control
* Administrative Procedures and Controls
* Internal Financial, Construction and Operational Auditing

CORPORATE AND OPERATIONS PLANNING
* Strategic Planning, Both System Reliability and Plant Mix
* Electric Load and Energy Forecasting
* Generation and Systems Planning, Including Utilization of Existing Plant
* Load Management, Conservation and Alternative Energy Supply Planning

ENGINEERING AND CONSTRUCTION
* Organization
* Contractor Selection
* Work Order Control
* Quality Assurance Program
* Major Construction Projects Management
* Major Lease and Lease/Purchase Project Management
* R & D Functions

POWER PRODUCTION
* Power Plant Operations
* Power Pooling and Energy Sale/Purchase Agreements
* System Dispatching and Control
* Fuels Acquisition and Inventory Practices

ELECTRIC TRANSMISSION AND DISTRIBUTION
* Maintenance
* Operation

CUSTOMER SERVICES
* Marketing and Customer Relations
* Credit and Collecting
* Customer Accounting
* Customer Survey Functions
* Meter Readings
* Energy Conservation Activities
* Field Office Operations

FINANCIAL SYSTEMS
* Financial Requirements Planning
* Managerial Accounting and Control
* Budget Preparation Management and Control
* Federal and State Income Tax Accounting
* Economic Analysis
* Cost Allocation Practices
* Rates

PERSONNEL AND LABOR RELATIONS
* Manpower Planning
* Wage and Salary Practices
* Employee Benefits
* Executive Compensation, Perquisites and Benefits
* Labor Relations
* Management Development and Training

EXTERNAL RELATIONS
* Public Communications
* Regulatory Relations
* Legislative
* Financial Community
* Relationships with Related Companies, (including but not limited to The Southern Company and Southern Services, Inc.), the Savannah Electric and Power Company, the Municipal Electric Association of Georgia, Oglethorpe Power Company.

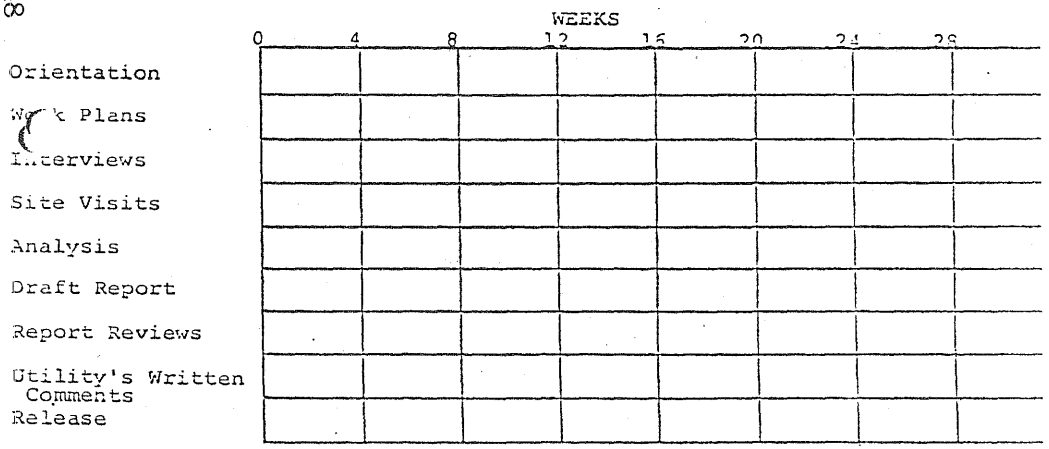
SUPPORT FUNCTIONS
* MIS and Data Processing
* Support Facilities Management and Planning
* Land Management
* Insurance Claims
* Transportation Management
* Purchasing, Materials Management and Stores
* Legal
* Records Management
* Vehicle and Equipment Acquisition, Maintenance and Management
* Security Operations

WORK FORCE MANAGEMENT
* Work Force Planning and Utilization
* Productivity Measurement

Attachment 3

GEORGIA POWER UTILITY MANAGEMENT STUDY

Preliminary Project Schedule



WORK PLAN CONTENT GUIDELINE

Preparer _____

Date Prepared _____

TASK AREA TITLE:

Issues:

(1)
(2)
(3)
.
.

Questions:

(1)
(2)
(3)
.
.

Evaluative Criteria:

(1)
(2)
(3)
.
.

Definition of what should be studied & description of how it will be analyzed:
e.g.
(1) organization
(2) functional responsibilities
(3) goals and objectives
(4) policies and procedures
(5) programs
(6) interdepartmental interfacing
(7) staffing
(8) work performance
(9) management information systems
(10) reporting and control systems

Details of Study Activities:
(1) initial data/document requests
- . organizational charts
- . descriptions of functional responsibilities
- . descriptions of goals and objectives
- . policy and procedures manuals
- . descriptions of programs
- . staffing
- . work flow charts for key activities

initial interviews
- . interviewee and title
- . interviewer
- . date
- . topics to be discussed
- . interview guides (detailed questions derived from the "issues," "questions," and "evaluative criteria."

(3) initial site visits
- . location
- . date
- . purpose of visit
- . attendees

(4) analyses to be performed
- . work measurement/field observations
- . statistical review
- . comparisons with other utilities
- . comparisons with performance standards (evaluative criteria)

Schedule:
(1) dates for each study activity, as follows:
- . first - initial interviews and data requests
- . second- initial site visits/field observations
- . third - analyses
- . fourth- follow-up interviews, data requests, field work and analyses
- . fifth - report

(2) man-day estimates for each study activity

Attachment 5

[illegible] ________

[illegible]JECT ________

DATE ________
REV. ________
PREP. BY ________
REV. BY ________ (PM)
AUDI. BY ________ (GM)

MAN DAY/FEE ESTIMATE

[illegible]S/TASK	STAFF *	*	*	*	*	*	*	*	*	*	*	*									[illegible]	[illegible]	Anal	[illegible]	TOTAL
Administration	3	10																			2	6	2	3	13
Technical Review																									
Organization		10																			1	2	5	2	10
Corp. Planning								5	20												2	7	10	6	25
Oper. Planning										15	15										4	6	14	6	30
Engineering & Constr.								5	20												2	10	8	5	25
Fuels Mgt & Gas Supply								5	35												3	10	19	9	40
Power Production										20	20										3	15	17	5	40
R&D				5	30																3	12	15	5	35
Customer Services				25	15																3	18	14	5	40
Financial Systems						5	25														3	14	13	5	30
Personnel & Labor Rel.												15									1	8	3	3	15
External Relations		5																				3	1	1	5
Support Functions						10	50														4	24	22	10	60
Work Force Mgt.			5	5	30																4	26	5	5	40
Subtotal T&F		15	5	35	75	15	75	15	75	35	35	15									35	161	143	59	375
Report Preparation	3	15																							18
Project Mgt.	4	35																							39
[illegible] DAYS	10	75	5	35	75	15	75	15	75	35	35	15													465
[illegible]ST RATE $/DAY	*	*	*	*	*	*	*	*	*	*	*	*													
[illegible] FEES	*	*	*	*	*	*	*	*	*	*	*	*													* *

* TO BE FILLED IN

NOTE: These numbers are for illustrative purposes only and bear no relation to the actual time requirements which you will estimate.

Attachment 6

COMMISSIONERS:
FORD B. SPINKS, CHAIRMAN
MAC BARBER, VICE CHAIRMAN
JIM HAMMOCK
BILLY LOVETT
ROBERT C (BOBBY) PAFFORD

HUGH S. JORDAN, SECRETARY

STATE OF GEORGIA 1776

Georgia Public Service Commission

244 WASHINGTON STREET, S. W.
ATLANTA, GEORGIA 30334

September 4, 1980

Successful Bidder
Vice President
Successful Bidder's Firm
Anywhere, U.S.A.

Dear Successful Bidder:

In accordance with the "Agreement Between Georgia Power Company and Successful Bidder's Firm" this letter conveys approval for the performance of work by Successful Bidder in selected task areas relating to the study of Georgia Power Company's management and operations.

Based on our review of your work plans and related material, and our interviews with your consultants, we approve of your work plans for the study of the following task areas:

1) Purchasing

2) Other Support

All of the task area work plans for the Georgia Power Company study have now been approved.

It is important to note that our approval does not address the specific details of the work plans, but rather it indicates our acceptance of the level of detail in those work plans which define scope and related man-days of effort for each of the task areas involved.

Yours very truly,

B. B. Knowles
Project Coordinator

BBK:cp
CC: Mr. W. L. Westbrook

HUGH S. JORDAN, SECRETARY

Georgia Public Service Commission
244 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

April 14, 1980

Mr. Robert W. Scherer
President, Georgia Power Company
Post Office Box 4545
Atlanta, Georgia 30302

Dear Mr. Scherer:

On April 1, 1980, this Commission unanimously adopted a resolution proposed by Commissioner Jim Hammock, which directed the Georgia Power Company to cooperate in a complete management audit of the Company, appointed a committee to update management audit proposals currently filed with the Commission and invited the Company to share equally the financial responsibilities of the audit with the rate payers. A copy of the resolution is enclosed.

The purpose of this letter is to clarify various aspects of the audit, including its scope and procedure, which are not set forth in the resolution.

As to the scope, the management audit will be an in-depth, comprehensive study of all functional areas of the Company. Without limiting the generality of the final audit plan, and with the understanding that other subjects may be included later, the following specific subject matters will be scrutinized:

1. Corporate planning - System reliability - Adequacy or surplus of reserve generating capacity and plant mix.

2. Engineering and construction.

3. Power supply, transmission and distribution (heat rate data and comparisons should be included in data analyzed).

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 (this should include a determination of the adequacy of back-up and safety measures designed to avoid major damage and success or failure of same in operation).

7. Personnel - Policies and Administration.

8. Customer relations.

9. Relations with OPC, MEAG, SEPCO and the Southern Company.

10. Purchasing and material management.

Procedure for the audit will be governed by standard audit practices, including full cooperation by all Company personnel and complete access to Company records and reports. The Company will have the opportunity to respond to initial audit findings before they become final and to include in the final report, prior to its publication, the Company position as to each final audit finding. The consulting firm will provide the Commission with initial audit findings at the same time said initial audit findings are provided to the Company.

In order that the Commission may select an independent consultant firm to perform the audit, you are hereby requested to submit names of consulting firms who have performed work for the Company in the last ten years. As soon as a tentative selection of the consulting firm is made by the Commission, we will be requesting a statement from you regarding any connections which that firm has had with the Company at any time during the past.

Mr. Robert W. Scherer
April 14, 1980
Page Three

In view of our strong interest in the timely initiation of this audit, your response to our resolution is requested as soon as possible.

Sincerely,

Robert C. Pafford

ROBERT C. PAFFORD
Chairman

RCP:jc

Enclosure

Post Office Box 4545
Atlanta, Georgia 30302
Telephone 404 522-6060

R. W. Scherer
President

the Southern Electric System

April 17, 1980

Honorable Robert C. Pafford
Chairman
Georgia Public Service Commission
244 Washington Street, S.W.
Atlanta, GA 30334

Dear Chairman Pafford:

Thank you for your letter of April 14, 1980 providing additional information about the scope and structure of the proposed management audit of Georgia Power Company.

We fully share the Commission's wish that the audit provide an accurate, in-depth and unbiased assessment of the Company's management and operations. An important determinant of whether the audit achieves this objective is the choice of the firm which conducts the audit. We understand that the Commission does not want the Company to participate in the selection of the audit firm so that there can be no claim that the Company dictated the selection of the firm. This procedure is acceptable to us, provided the firm selected by the ad hoc committee is experienced and qualified, and is not known by us to be institutionally biased against utilities in general or Georgia Power Company in particular.

One aspect of the structure and procedure of the audit itself is of potential concern. We believe the audit firm should not discuss its preliminary findings with anyone other than the Company, and then only for the purpose of assisting the firm in correcting material misstatements of fact or the omission of material facts.

As you know, an auditor's preliminary findings are precisely what the name implies: they are tentative and subject to correction. Neither the Commission nor the public would be benefited by the release of erroneous preliminary findings and the prejudicial impact on the Company of an erroneous finding or conclusion would not be remedied by a subsequent correction coming days or even weeks later. It is for precisely this reason that reputable management auditors always review their preliminary findings with the utility's management prior to public release. The Company will not participate in any

Georgia Power

Honorable Robert C. Pafford
Page Two
April 17, 1980

management audit in which the principle of the confidentiality of work-in-progress is not maintained and enforced.

Subject to the selection of a competent and unbiased audit firm and the establishment of a satisfactory mechanism to assure the confidentiality of work-in-progress, the Company will cooperate fully in the management audit outlined in your letter of April 14, 1980.

The Company would also be willing to fund the audit in the manner suggested by the Commission. Accordingly, and subject to the two conditions I have described, the Company will make available to the Commission an amount, not to exceed a total of $600,000, sufficient to defray the costs of the audit, of which one half will be charged "below-the-line" to the stockholder. I wish to emphasize, however, that this treatment of the costs associated with the management audit should not be construed as a precedent for future treatment of necessary and proper operating expenses.

As requested by your letter, enclosed please find a list of all consulting firms retained by Georgia Power Company during the last ten years.

Sincerely,

R. W. Scherer

RWS/mm

Enclosure

Georgia Power Company

Consultants 1970 - 1980

Arthur Andersen	1970-1980		
Booz-Allen Hamilton	1979		
Commonwealth Association	1976		
Commonwealth Services	1974		
Cresap, McCormick and Paget Inc.	1979		
Ebasco	1979	1970-1975	
Gilbert and Associates	1979	1975-1977	1971
Charles T. Main	1975	1972	
McKinsey and Company	1979		
Naus and Newlyn	1975		
Southern Engineering	1979	1977	1976
Stone and Webster	1972	1979	
Touche Ross and Company	1979		
Theodore Barry & Associates	1980		

Georgia Public Service Commission

244 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

April 21, 1980

Mr. R. W. Scherer
President
Georgia Power Company
270 Peachtree Street
Atlanta, Georgia 30302

Dear Mr. Scherer:

From your letter of April 17, it appears that the Company and the Commission are in agreement on the various aspects of the proposed management audit. The Commission commends the Company on agreeing for its stockholders to bear one-half of the cost of the audit, not to exceed $300,000.00.

I would like to clarify the Commission's position with respect to the preliminary audit findings. We believe that the preliminary findings should be released to the Company and the Commission prior to the release of the final report only on the following conditions:

1. To the Company, for the purpose of assisting the audit firm in correcting material misstatements of fact or the omission of material facts; and

2. To the Commission, where the audit firm finds matters which involve potential criminal activity or matters which require immediate action by the Commission or other public agencies to protect the public health and safety.

The Commission will also want the preliminary findings of the audit firm and the Company's responses thereto to be delivered to the Commission along with the final audit report. This will permit the Commission to evaluate the objectivity and thoroughness of the audit.

If the foregoing is acceptable, upon your so notifying me, we can begin with the selection of the audit firm. We thank you for your cooperation.

Sincerely yours,

Robert C. Pafford

Michigan Public Service Commission: Request for Proposal for Management Efficiency Review of the Detroit Edison Company

MICHIGAN PUBLIC SERVICE COMMISSION
List of Potential Bidders
For a Management Efficiency Review

Cresap, McCormick & Paget, Inc.
100 W. Monroe Street
Chicago, Illinois 60603

Altschuler, Melvoin & Glasser
69 W. Washington Street
Chicago, Illinois 60602

Touche Ross & Co.
111 E. Wacker Drive
Chicago, Illinois 60601

Peat, Marwick, Mitchell & Co.
222 S. Riverside Plaza
Chicago, Illinois 60606

Lester B. Knight & Associates, Inc.
549 W. Randolph Street
Chicago, Illinois 60606

Arthur Young & Company
515 Olive Street
St. Louis, Missouri 63101

A. T. Kearney, Inc.
100 S. Wacker
Chicago, Illinois 60606

Sargent & Lundy
55 E. Monroe Street
Chicago, Illinois 60603

Arthur D. Little, Inc.
10 S. Riverside Plaza
Chicago, Illinois 60606

George S. May & Co.
520 5th Avenue
New York, New York

Mr. Thomas B. Foster
Vice President
Emerson Consultants
30 Rockefeller Plaza
New York, New York 10020

Coopers & Lybrand
222 S. Riverside Plaza
Chicago, Illinois 60606

Arthur Andersen & Co.
69 W. Washington
Chicago, Illinois 60602

Alexander Grant & Co.
One First National Plaza
Chicago, Illinois 60670

Haskins & Sells
141 W. Jackson Blvd.
Chicago, Illinois 60604

Middle West Service Co.
55 E. Monroe Street
Chicago, Illinois 60603

Case & Company
35 E. Wacker Drive
Chicago, Illinois 60601

McKinsey & Company, Inc.
2 First National Plaza
Chicago, Illinois 60670

Foster Associates, Inc.
132 S. Water Street
Decatur, Illinois 62523

Mr. Elmer Cornell
Vice President
WOFACS, Division of Science Management
67 Franklin Avenue
Misquamicut, Rhode Island 02891

Mr. Peter J. Hamill
Vice President
Stone & Webster
90 Broad Street
New York, New York 10004

Mr. W. W. Carpenter
Vice President-Consulting Services
Ebasco Services Incorporated
100 Church Street
New York, New York 10007

Mr. James Gibbons
Price Waterhouse & Co.
60 Broad Street
New York, New York 10004

Mr. John Schnapp
Harbridge House, Inc.
11 Arlington Street
Boston, Massachusetts 02166

Mr. Theodore Barry
Theodore Barry & Associates
1151 W. Sixth Street
Los Angeles, California 90017

Mr. P. J. La Freniere
Ernst & Ernst
First National Bank Bldg.
Springfield, Illinois 62701

Mr. John C. Goodman
American Appraisal Co.
525 W. Michigan Street
Box 664
Milwaukee, Wisconsin 53201

Mr. Edward L. Dobson
President
American Institute of Management
125 E. 38th Street
New York, New York 10015

Mr. John T. Shutack
Vice President
Booz, Allen & Hamilton, Inc.
135 S. LaSalle Street
Chicago, Illinois 60603

Mr. Robert M. Keith, Jr.
Gilbert Management Consultants
Box 1498
Reading, Pennsylvania 19603

Hay Associates
(Hq) 1845 Walnut Street
Philadelphia, Pennsylvania 19103

Mr. Royce A. Hoyle, Jr.
Vice President
Duff & Phelps, Inc.
55 E. Monroe Street
Chicago, Illinois 60603

PART I

GENERAL INFORMATION FOR THE CONTRACTOR

I-1. PURPOSE

This RFP provides prospective contractors with information to enable them to prepare and submit proposals for the consideration to the State of Michigan in providing assistance in performing a management efficiency review of the Detroit Edison Company which will identify areas of company planning, management and operations in which economies might be accomplished without detrimental effects to good utility service.

I-2. ISSUING OFFICE

This RFP is issued by the State by the Michigan Public Service Commission, Department of Commerce. The Issuing Office is the sole point of contact in the State for this RFP.

I-3. STATEMENT OF PROBLEM

In an era of rapidly increasing costs, it is essential that the ratepayer be assured that everything reasonable is being done to minimize public utility expenses while insuring the financial viability of the public utility.

> "The system of utility regulation in the State of Michigan is one of continuous surveillance and includes a pervasive responsibility to initiate those steps necessary to provide the ratepayer with every assurance that the rates authorized for utility service are as low as possible consistent with the economic realities of the times."

The Michigan Public Service Commission has been concerned to note that continuous applications for additional rate awards, combined with substantial rate increases over the last several years, have not resulted in restoration of Detroit Edison's financial well-being. The Commission recognizes that these rate increases were awarded to enable Detroit Edison the opportunity to improve its earnings, sell securities at reasonable cost in the marketplace, resume its construction program, and be in a sound position to provide reliable electric service to its customers in Southeastern Michigan. The Commission also recognizes that inflationary factors, coupled with recessionary effects and after-effects of the 1973 oil embargo, have had a severe impact upon the present and future ability of Detroit Edison to provide adequate service at reasonable prices. The performance of utility management is most appropriately

scrutinized in these times of economic uncertainties, and the presence or absence of management flexibility, innovation and pragmatic decision-making is made clear.

In light of these circumstances, the Commission has ordered in Case No. U-4807 that an in-depth review of the management efficiency of the Detroit Edison Company is necessary and in the public interest.

I-4. TYPE OF CONTRACT

It is proposed that if a contract is entered into as a result of this RFP, it will be a time-and-materials contract not to exceed a limit of $500,000. Negotiations may be undertaken with those contractors whose proposals as to price and other factors, as determined by the Issuing Office, show them to be qualified, responsible, and capable of performing the work. The contract that may be entered into will be that most advantageous to the State, price and other factors considered. The State reserves the right to consider proposals or modifications thereof received at any time before award is made, if such action be in the interest of the State. The State reserves the right to renegotiate the work statement and funds required to complete Part II.

I-5. REJECTION OF PROPOSAL

The State reserves the right to reject any and all proposals received as a result of this RFP, or to negotiate separately with any source whatsoever in any manner necessary to serve the best interests of the State. This RFP is made for information or planning purposes only. The State does not intend to award a contract solely on the basis of any response made to this request or otherwise pay for the information solicited or obtained.

I-6. INCURRING COSTS

The State of Michigan is not liable for any cost incurred by contractors. Contract liability is described in Section I-15.

I-7. PRE-PROPOSAL CONFERENCE

If considered necessary, a formal pre-proposal conference will be held on the date and at the place specified in the cover letter. The purpose of this conference is to discuss with prospective contractors the work to be performed and to allow them to ask questions arising from their review of this RFP. In view of the limited facilities available for the conference, it is requested that representation be limited to two persons per contractor. The pre-proposal conference is for information only. Answers furnished will not be official until verified in writing by the Issuing Office. Answers that change or substantially clarify the RFP will be affirmed in writing; copies will be provided all attendees. Proposals from contractors who fail to send representatives to the pre-proposal conference will receive no consideration.

I-8. INQUIRIES

Questions that arise subsequent to the pre-proposal conference must be submitted in writing to the Issuing Office. Questions and answers thereto will be provided all contractors who send representatives to the conference. All questions must be submitted on or before the date specified in the cover letter.

I-9. ADDENDA TO THE RFP

In the event it becomes necessary to revise any part of this RFP, addenda will be provided to all contractors who received the basic RFP if the addenda are issued before the pre-proposal conference, or to all contractors who sent representatives to the pre-proposal conference if the addenda are issued after the conference.

I-10. RESPONSE DATE

To be considered, proposals must arrive at the Issuing Office on or before the date specified in the cover letter. Contractors mailing proposals should allow normal mail delivery time to ensure timely receipt of their proposals.

I-11. PROPOSALS

To be considered, contractors must submit a complete response to this RFP, using the format provided in Part II. Each proposal must be submitted in twelve (12) copies to the Issuing Office. No other distribution of proposals will be made by the contractor. Proposals must be signed by an official authorized to bind the contractor to its provisions. Proposals must include a statement as to the period during which the proposal remains valid. For this RFP, this period must be at least ninety (90) days.

I-12. ACCEPTANCE OF PROPOSAL CONTENT

The contents of the proposal of the successful bidder may become contractual obligations, if a contract ensues. Failure of the successful bidder to accept these obligations may result in cancellation of the award.

I-13. ECONOMY OF PREPARATION

Proposals should be prepared simply and economically, providing a straightforward, concise description of the contractor's ability to meet the requirements of the RFP. Fancy bindings, colored displays, promotional material, etc., are not desired. Emphasis should be on completeness and clarity of content.

I-14. ORAL PRESENTATION

Contractors who submit a proposal may be required to make an oral presentation of their proposal to the State. These presentations provide an opportunity for contractor to clarify this proposal to insure thorough mutual understanding. The Issuing Office will schedule these presentations.

I-15. PRIME CONTRACTOR RESPONSIBILITIES

The contractors shall submit a detailed proposal which outlines their recommended approach based on the objectives outlined in Section IV-3 of this RFP. Recommended approaches should be based upon the consultants' prior experience and knowledge of areas concerned with management review and analysis. This approach

will provide the Commission with the broadest range of options available in order to select the best contractual assistance and produce the most tangible and effective use of ratepayer funds.

The contractor selected to perform the services outlined in this RFP is required to contract directly with the Detroit Edison Company. The contractor is responsible only to the Commission staff and will have unfettered access to the document records and personnel of the Company.

The selected contractor will be required to assume responsibility for all service offered in this proposal whether or not he produces them. Further, the State will consider the selected contractor to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract.

I-16. CONTRACT PAYMENT SCHEDULE

Payment for any contract entered into as a result of this RFP will be made monthly upon receipt of contractor's billing statement. Monthly billing will be in equal increments of the contract amount. Monthly payment shall be 80% of the billing with the remaining 20% to be paid when the final report is accepted by the Issuing Office. While payment shall be by the Company, approval for any payment shall be by the Commission or its authorized agents.

I-17. NEWS RELEASES

News releases pertaining to this RFP or the services, study, or project to which it relates will not be made without prior state approval, and then only in coordination with the Issuing Office.

I-18. DISCLOSURE OF PROPOSAL CONTENTS

Cost and price information provided in the proposal will be held in confidence and will not be revealed or discussed with competitors. If a proposal contains any information that the contractor does not want disclosed to the public or used by the Government for any purpose other than evaluation of his offer, each sheet of such information must be marked with the following legend:

"This information shall not be disclosed outside the State or be duplicated, used, or disclosed in whole or in part for any purpose other than to evaluate the proposal; provided that, if a contract is awarded to this offeror, or as a result of, or in connection with the submission of such information, the State shall have the right to duplicate, use, or disclose this information to the extent provided in the contract. This restriction does not limit the State's right to use information contained herein if obtained from another source."

I-19. INDEPENDENT PRICE DETERMINATION

a. By submission of a proposal, the offeror certifies, and in the case of a joint proposal, each party thereto certifies as to its own organization, that in connection with this proposal:

(1) The prices in the proposal have been arrived at independently, without consultation, communication, or agreement for the purpose of restricting competition, as to any matter relating to such prices with any other offeror or with any competitor; and

(2) Unless otherwise required by law, the prices which have been quoted in the proposal have not been knowingly disclosed by the offeror and will not knowingly be disclosed by the offeror prior to award directly or indirectly to any other offeror or to any competitor; and

(3) No attempt has been made or will be made by the offeror to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition.

b. Each person signing the proposal certifies that:

(1) He is the person in the offeror's organization responsible within that organization for the decision as to the prices being offered in the proposal and that he has not participated, and will not participate, in any action contrary to a.(1), (2), and (3) above; or

(2) He is not the person in the offeror's organization responsible within that organization for the decision as to the prices being offered in the proposal but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to a.(1), (2), and (3) above, and as their agent does hereby so certify; and that he has not participated, and will not participate, in any action contrary to a.(1), (2) and (3) above.

c. A proposal will not be considered for award if the sense of the statement required in the Cost and Price Analysis portion of the proposal has been altered so as to delete or modify a.(1), a.(3), or b. above. If a.(2) has been modified or deleted, the proposal will not be considered for award unless the offeror furnishes with the proposal a signed statement which sets forth in detail the circumstances of the disclosure and the Issuing Office determines that such disclosure was not made for the purpose of restricting competition.

PART II

INFORMATION REQUIRED FROM CONTRACTORS

Contractor proposals must be submitted in the format outline below:

II-1. BUSINESS ORGANIZATION

State the full name and address of your organization and, if applicable, the branch office or other subordinate element that will perform or assist in performing the work hereunder. Indicate whether you operate as an individual, partnership, or corporation; if as a corporation, include the state in which you are incorporated. If appropriate, state whether you are licensed to operate in the State of Michigan.

II-2. STATEMENT OF PROBLEM

State in succinct terms your understanding of the problem presented by this RFP.

II-3. MANAGEMENT SUMMARY

Include a narrative description of the proposed effort and of the product that will be delivered. In addition, a proposed outline of the final report, as discussed in Part V, paragraph V-2, is required.

II-4. WORK STATEMENT

Describe in narrative form your plan for accomplishing the work. Indicate the number of man-hours you have allocated to each task. Include a PERT type display which is time-related showing each event, task and decision point in your work plan. If you propose to subcontract any portion of the work to be performed, this should be noted and the subcontractor identified.

II-5. PRIOR EXPERIENCE

Prior past experience in the area of management review and analysis should be included and individualized. Proposals should include: description of qualifying experience to include project descriptions, cost and starting and completion dates of projects successfully completed; also, the name, address and phone number of the responsible official of the client organization who may be contacted. In addition, any work previously completed or currently in progress for a utility should be included. Information provided with respect to previous or current engagements for a utility shall include the name of the utility, nature of the engagement and when performed. Information should be categorized according to engagements for Detroit Edison Company, other Michigan utilities, and other utilities. Failure to provide any information with respect to this part may result in disqualification of the contractor from consideration.

II-6. MANPOWER

It is desirable that the consulting firm be able to staff a proper team which is experienced in the area of management review and analysis. The contractor must be able to provide qualified and experienced personnel. Identify in this section key individuals of the project staff by name and title. Resumes of qualifications are required for all proposed project personnel. Include an assessment of required participation by Departmental and Commission personnel.

II-7. AUTHORIZED NEGOTIATORS

Include the names and phone numbers of personnel of your organization authorized to negotiate the proposed contract with the State.

II-8. COST AND PRICE ANALYSIS

The information requested in this section is required to support the reasonableness of your quotation and will not be revealed to or discussed with competitors. Your established method of costing may be used but should be described. This portion of the proposal must be bound and sealed separately from the remainder of the proposal. Use the format below:

a. Manpower Costs. Itemize to show the following information for each category of personnel having a different rate per hour:

   1. Category; e.g., project manager, senior consultant, etc.

   2. Estimated hours

   3. Rate per hour

   4. Total cost for each category and for all manpower needs.

b. Out-of-Pocket Expenses Including Travel and Lodging.

c. Costs of Supplies and Materials. Itemize.

d. Other Direct Costs. Itemize.

e. General Administrative Burden or Overhead. Indicate percentage and total.

f. Total Bid Price.

g. Independent Price Determination. Include a statement substantially as follows: "This cost and price analysis is submitted in full compliance with the provisions of the paragraph titled 'Independent Price Determination' in Part I of the RFP to which this proposal is a response."

II-9. TIMETABLE FOR PROJECT

Include in your proposal a timetable for completion of the project. The completion date should be planned for no more than six months after the date of authorization of start of work.

II-10. PROJECT PARTICIPATION

This management efficiency review shall be conducted under the auspices and control of the Michigan Public Service Commission. The Issuing Office will assign a project coordinator to assist the contractor in the conduct of this management efficiency review.

II-11. ADDITIONAL INFORMATION AND COMMENTS

Include any other information that is believed to be pertinent but not specifically asked for elsewhere.

PART III

CRITERIA FOR SELECTION

All quotations received shall be subject to an evaluation by the Issuing Office as deemed appropriate for the purpose of selecting the contractor with whom a contract will be signed. The following are the major factors which will be considered in making the selection:

a. Price. 10 percent.

b. Capability and Qualification. 45 percent. This criterion includes the ability of the contractor to meet the terms of the RFP, especially the time constraints, and the quality, relevancy, and recency of similar projects completed by the contractor. Emphasis will also be placed on the soundness of the contractor's approach to the problem, work scope techniques, sequence and relationship of major steps, and methods for managing the study.

c. Professional Personnel. 45 percent. This refers to the competence of professional personnel who would be assigned to the job by the contractor. Qualifications of professional personnel will be measured by education and experience, with particular reference to experience on projects similar to that described in this RFP. Emphasis will be placed upon the qualifications of the project manager. Particular emphasis will be placed upon the qualifications and experiences of professional personnel actually committed to the project by the contractor.

PART IV

WORK STATEMENT

IV-1. OBJECTIVE

The primary objective of this management efficiency review is to identify problem areas in operations and management to propose solutions to those problem areas and to establish a vehicle for the continuous measurement of performance. The Commission fully expects this study to produce benefits to both Detroit Edison and its customers since the goals of maximizing a firm's operating results and protecting customers' interests are reached through the same avenue, improving management's efficiency and effectiveness.

IV-2. SPECIAL REQUIREMENTS

In order to provide meaningful public participation, a Public Advisory Committee has been established which represents individuals, organizations and intervenors interested in this Commission review. The Committee will review consultant proposals and make recommendations regarding contractor selection to the Selection Committee. The contractor will be required to meet with the Advisory Committee to investigate the views, attitudes and concerns of Advisory Committee members relative to the management efficiency of the Company. The Advisory Committee will also review recommendations made by the contractor in the first phase, as well as the final report. The above-described participation shall be equally applicable to the Detroit Edison Company.

IV-3. WORK STATEMENT

The study will be conducted in two separate phases. In the first phase the contractor will review the Company's overall operations and organizations for the purpose of determining possible areas of opportunity for improvement, consistent with the contractor's proposal. The contractor's attention should be focused on identifying operating areas in which major economies might be attained without detrimental effects to adequate utility service and on determining where points of control responsibility exist with regard to the operating, construction and policy decision-making process by top management.

Upon completion of the first phase, the contractor will issue a written report to the Commission which lists possible avenues of pursuit for the second phase, states the contractor's recommendations on areas he believes merit in-depth investigation and gives the rationale behind his suggestions.

The contractor will be given a maximum of two months to review the Company's overall operations and organization in order to determine possible areas to be investigated (Phase I). Upon determination of the areas to be investigated in Phase II, and when authorization is given by the Commission, the contractor will be given a maximum of four months to complete Phase II.

The Commission, based upon the recommendations of the contractor, staff, the Company and the Advisory Committee, will select the specific areas to be examined in detail during the second phase. If any of the areas selected for investigation are beyond the scope of the selected consultant's expertise, he will be allowed to sub-contract specialized assignments. However, both the specific areas sub-contracted and the consultants selected to perform these reviews must receive prior approval from the Commission. Any costs encountered for sub-contracted assignments will be assumed exclusively by the prime contractor within the total costs assigned for this engagement. Upon completion of the second phase, the contractor will submit a comprehensive written report to the Commission which should include the following items:

1. A summary of findings, including the development of information leading to the findings.

2. Recommendations of cost-effective actions that Detroit Edison could pursue to correct any deficiencies which may exist.

3. The development of standards for the continuous review of performance.

4. A description of specific areas evaluated and the methodology used in reviewing those areas.

5. The assumptions made by the contractor in performing the study.

6. The amount of time spent in each area.

The contractor is further expected to assist the Company and the Commission staff in the implementation of those recommendations accepted by the Commission and be available in the future to provide expert testimony on the findings of this study if so requested.

The following non-exhaustive list of illustrations represents examples of the types of functions the contractor will be expected to perform:

1. Evaluate the operating and construction decision-making process by top management.

2. Evaluate the management of major operations and determine how efficiently Company resources are being utilized.

3. Determine how Company policies and procedures are established and by whom.

4. Determine if appropriate and effective policies and procedures are established and being consistently followed.

5. Examine management controls and organizational structures to determine if steps are necessary for improvement.

6. Review and evaluate the functional responsibilities and authorities for operations to be performed.

7. Review and evaluate the planning and forecasting methods of the Company.

8. Determine whether there are agreed upon standards of performance and associated measurement and reporting systems in effect.

PART V

PROJECT CONTROL AND REPORTS

V-1. PROJECT CONTROL

a. A Management Efficiency Review Committee will be established to meet regularly with consultant(s) to monitor the review, assess periodic progress and assure expeditious management of the project.

b. Although there will be continuous liaison with the contractor team, the contract officer, or his project director, will meet weekly, as a minimum, with the contractor's manager for the purpose of reviewing progress and providing necessary guidance to the contractor in solving problems which arise.

c. The contractor will submit weekly oral reports as well as brief written bi-weekly summaries of progress which will outline the work accomplished during the subsequent reporting period, problems, real or anticipated, which should be brought to the attention of the contract officer, and notification of any significant deviation from previously agreed upon work plans.

d. Within five working days of the award of the contract, the contractor will submit to the contract officer, for his approval, a work plan which will include the following:

   1. The contractor's project organizational structure.

   2. Contractor's manning table with names and titles of personnel assigned to the project. (A significant change in project personnel from that originally proposed by the contractor, particularly key personnel, will require approval by the contract officer.)

   3. The project work breakdown showing sub-projects, activities and tasks, and resources required and allocated to each workload.

   4. A time-phased plan for completing the project.

V-2. REPORT

A final written report (12 copies) and supporting materials, charts and systems documentations are to be submitted to the Issuing Office at the end of the project. A preliminary version will be submitted for comment and recommendations 30 days before issuance of the final version. A final oral report to the Issuing Office will also be required.

New York Public Service Commisson: Request for Proposal for Management and Operations Study of the Rochester Gas and Electric Corporation

STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA ALBANY 12223

May 14, 1980

The Public Service Commission of the State of New York is seeking a management consultant to perform a study of the management and operations of the Rochester Gas & Electric Corporation, a utility providing electric, gas and steam service in western New York State. This study is mandated by a provision of the Public Service Law which requires intensive audits of the management and operations of the major gas and major electric companies. This law also gives the Commission authority to seek outside consultants.

The attached Guide for Management Consultants has been developed to clarify the management study process and make available to prospective consultants the ground rules under which the contract will be awarded and under which this study will be conducted.

The study should be performed in two distinct phases. The first phase will consist of a broad and comprehensive overview of the management and operations of the company. We expect Phase I to begin by November 1, 1980, and to be completed within six months. At the conclusion of Phase I, your report must identify those functions which are operating effectively and identify those areas requiring improvement.

It is our expectation that most of the recommendations made in your written report will be accompanied by a quantification of a range of dollar costs and dollar savings achievable by implementation of those recommendations. Even in those instances where it is not possible to quantify the net achievable savings, a clear measurement of the benefits and costs associated with adopting that recommendation should be provided.

The report must also present to the Commission recommendations for any necessary Phase II efforts, including a cost/benefit justification for any such Phase II project which is proposed. The second phase will consist of in-depth analysis and/or the development of programs or systems authorized by the Commission. This authorization will follow the Commission's consideration of the findings and recommendations in the Phase I report and the cost/benefit analysis for the proposed programs. You will not be expected to estimate the extent or cost of Phase II studies at this time, but you will be required to agree that any of those individuals involved in the Phase I analysis will be available for any Phase II efforts authorized by the Commission. Your billing rates for those individuals during Phase II will be the same as for Phase I.

You are invited to submit ten copies of a proposal for this study by July 11, 1980. Your proposal should set forth your intended approach to this study and cover those specific areas or issues outlined in the attached Guide, plus your approach to any other areas of the proposed study which you feel warrant description in your proposal. Any proposal submitted by a consortium or combination of consulting organizations must indicate the lead firm and describe the procedures to be used to insure coordination between the firms during the study.

You must acknowledge in your proposal that neither your firm nor any of its affiliated companies have any existing contracts or agreements with Rochester Gas & Electric Corporation and that neither your firm nor any of its affiliated companies have performed any work for Rochester Gas & Electric Corporation within the past year. You should also describe any other assignments that could pose any conflicts of interest, or the appearance of such conflicts, including, but not limited to, any work performed for Rochester Gas & Electric Corporation during the past five years. The consulting firm selected must agree not to perform any subsequent work for Rochester Gas & Electric Corporation for a period of one year following the completion of this study without the prior written approval of the Commission.

We have scheduled a meeting at the Commission's offices, The Governor Nelson A. Rockefeller Empire State Plaza, Albany, New York at 11 a.m. on June 26, 1980, among our management audit staff, senior company officials and all parties who have expressed an interest in undertaking this project. The purpose of this session will be to provide additional information about Rochester Gas & Electric Corporation and the Commission's management audit program and to answer any questions you may have about the management and operations of Rochester Gas & Electric Corporation, the role of the Commission staff, or any other matter related to this project.

The Commission has designated Mr. Howard A. Tarler, Chief Utility Management Analyst, as liaison for this project. If you have any questions, please feel free to call him at 518-474-4368. We ask that you please acknowledge receipt of this letter and inform us of your intentions with respect to this request for proposal by calling or writing to him directly.

By Direction of the Commission,

SAMUEL R. MADISON
Secretary

Enclosure

New York State Department of Public Service: A Guide for Management Consultants Performing Management Studies of New York State Utilities at the Request of the New York Public Service Commission

INTRODUCTION

Section 66, Subdivision 19, of the Public Service Law grants specific authority to the Public Service Commission to provide for intensive studies of the management, operations, and construction program for gas and electric companies. The law further declares that the Commission has the authority to select independent consultants and, further, that the Commission shall have specific authority to order gas and electric utilities to implement recommendations resulting from these studies.

This manual has been prepared by the Utility Management Audit Section of the New York State Department of Public Service as a guide to management consultants responding to a request for proposal (RFP) to perform management studies of certain New York State utilities. The manual is to be used as an integral part of the RFP. By making available to prospective consultants that portion of the ground rules under which the contract will be awarded, we expect to standardize the management study process and clarify our needs. The studies of New York State utilities should be conducted in accordance with this manual, unless modified by the cover letter from the Commission which formally requests proposals.

It has been the Commission's practice to send the RFP to any firm requesting a copy as well as to those firms with which the Commission is familiar. Although we allow any interested consultant to submit a proposal, it is incumbent upon those submitting a proposal to demonstrate to our satisfaction that they are indeed qualified to undertake the assignment.

In these times of increasing costs and strong upward pressures on utility rates, we look toward these utility management studies to disclose opportunities to reduce operating costs at the utilities through better management and more efficient operations. It is expected that these studies will culminate in a report that not only quantifies in the written report the potential savings to be achieved but also makes recommendations for improvements. These savings can then be passed along to the consumer by ratemaking adjustments which can offset some of the rate increases being sought by the utilities.

We hope that you will take the time to read this manual carefully before preparing your proposal.

Section 2

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PROPOSAL DESIGN AND CONTENT

The proposal submitted to us for our staff review will be the primary document upon which the firm will be judged for the selection as the contractor for the particular engagement. It is suggested that your proposal design and content be as similar as possible to the desired format.

The proposal should contain:

- Introduction
  a short section describing the purpose of the proposal and the consultant's perception of the Commission's goals. General information about the utility, the utility industry, the regulatory climate, or the upward trends of energy costs need not be included.

- Scope and Objectives
  as discussed in Section 3 of this guide.

- Approach
  your proposed approach to this engagement as outlined in Section 4 of this guide.

- Task Definition & Consulting Staff Organization
  as described in Section 5 of this guide.

- Work Plans, Schedules, Budgets and Controls
  as described in Section 6 of this guide.

- Qualifications
  the firm's qualifications, preferably edited to contain only that information pertinent to the proposal.

- Exhibits
  showing or explaining: 1) consulting team organization, 2) task assignments, 3) preliminary schedule. These exhibits can be located either in the appropriate section of your proposal or as an appendix.

- The proposal should contain a description of the utility management audit reports which you have completed and a listing of those which are in the public domain. A single copy of one or more of your most recent reports should be sent with the proposal. Generally, we have been permitted to examine copies of proprietary reports on the consultant's premises. Please state whether or not this would be permitted in the event that you are

Section 3

***

SCOPE AND OBJECTIVES

The scope and objectives of the management study contemplated by the Commission is addressed in both the RFP and this manual. The scope and objectives of each study may vary. The purpose of this section in your proposal will be to confirm your understanding of the scope and objectives.

Generally, studies conducted by consultants for the Commission are in two parts. The first part is called Phase I. It is a comprehensive examination of the company management and operations to identify those aspects of the company's operations which are in need of improvement. In some instances, these savings and improvements can be achieved by immediate action at the company. In other instances, further studies will have to be made to determine if, and how, those improvements could be achieved. In the latter instances, that will be the purpose of the second part of the study, Phase II.

The scope of these studies does not include certain kinds of "audits" or "studies" that are frequently, periodically, or continuously performed at utility companies:

- This will not be the type of examination normally performed by a public accounting firm for the purpose of rendering an opinion on the financial condition of the company.
- There should not be any technical studies made to determine the validity of results of particular analyses or computations made by company personnel. It may be desirable, however, to comment on the methodology used by the company in making various technical studies.
- Unless the approach section of your proposal successfully convinces us otherwise, or unless developments during the course of the study lead you and then us to believe otherwise, there should not be any statistical analyses presented as an end-product of this study. It is neither our objective nor is it our expectation to receive from this study numerous pages of statistics, such as we now receive in various regulatory reports, or ratios of statistics to various common denominators, with or without comparisons to other utilities or industries. (You may, of course, use statistics to guide you in your work plans, your analysis, and to support your conclusions.)

The objectives of these management studies are:

1) to identify whether or not opportunities exist for achieving a reduction in operating expenses (now and in the future) or for enhancing operating revenue,
2) to quantify the achievable savings associated with reduced operating expenses or enhanced revenues, and inform us of associated adverse consequences, if any,
3) to identify opportunities for desirable improvements in service,
4) to make recommendations for instituting the changes or undertaking the studies necessary to achieve those savings or improvements,
5) to address those particular issues within the scope of this study which will be identified by the Commission and its staff, and
6) to describe in the final written report the management and operations of the utility for the information of the Commission, its staff, and the ratepayers.

Section 4

***

APPROACH

The proposal should clearly describe the bidder's intended methodology and procedures planned for the conduct of the study.

In the course of the study, it is anticipated that several generic steps will be undertaken:

- an orientation
- a series of interviews
- data collection
- field visits
- analysis
- a report

Our examination of your proposal will include an evaluation of the sequence and substance of these steps. An explanation of how they are planned, implemented, supervised and controlled by your staff, as well as your philosophy and approach to these steps, should be included in your description of a proposed study approach.

The extent to which your approach is documented in a manual for use by your staff should be stated. The availability of that manual for review by our staff should be addressed in the proposal. The use of any standard forms in the study process should be described in your proposal either under the topic of "approach" or as part of your described project management and controls (as discussed in Section 6 of this guide).

Section 5

***

TASK DEFINITION & CONSULTING STAFF ORGANIZATION

Each management study proposal should include a description of the manner in which you will group together, for study purposes, the various functions and issues which you would address during the engagement. The purpose of this listing and description is not so much to determine whether the proposal writer is knowledgeable about each of these areas as it is to understand how your consulting staff would be assigned during the engagement. The table of organization and other documents presented to you at the informational meeting will aid you in these task definitions. Attachment 5-1 lists many of the functions, operations, and issues which may be separately identified as being part of various task areas or as a task area itself. (We expect that your task listing will be different than the example in Attachment 5-1.)

Those task areas which in your opinion embody the major areas of importance to a management study should be described in a more technical manner. That is, those tasks within the scope of this study which may offer the greatest opportunities for identifying cost savings or remedying operating problems should be the subject of a display of conceptual understanding by the consultant within the proposal. The description should not be an excerpt from a textbook-like source that teaches how that function operates, but rather an explanation of characteristic problems or opportunities and your approach to them.

Each of the consulting staff who will be assigned to the various identified task areas should be designated in the proposal. A resume for each proposed consultant must be a part of the proposal. Descriptions of an individual's experience should include his/her responsibility in previous assignments and whether or not that engagement occurred during the period of employment with the proposing consulting firm. To the extent that the team concept is used (whether each team is assigned several tasks or each task is assigned to a team) the organizational structure for those teams should be explained. Attachment 5-2 shows a typical team organization chart. Whatever organization you propose should be shown on a chart in your proposal. Attachment 5-3 shows

a staff assignment matrix which you may also want to use as the format for later submissions of man-day estimates (if you are selected as a finalist) as described in Section 6.

ORGANIZATION
* Organizational Structure
* Organizational Planning
* Management Communications and Control
* Administrative Procedures and Controls

CORPORATE AND OPERATIONS PLANNING
* Strategic Planning
* Electric Load and Energy Forecasting
* Generation and Systems Planning
* Load Management Planning
* Gas Load and Requirements Forecasting

ENGINEERING AND CONSTRUCTION
* Organization
* Contractor Selection
* Work Order Control
* Quality Assurance Programs
* Major Projects Management
* R & D Functions

FUELS MANAGEMENT AND GAS SUPPLY
* Fuels Management
* Gas Supply

POWER PRODUCTION
* Power Plant Operations
* Power Pooling and Purchase Agreements
* System Dispatching and Control

ELECTRIC AND GAS TRANSMISSION AND DISTRIBUTION
* Maintenance
* Operation

CUSTOMER SERVICES
* Marketing and Customer Relations
* Credit and Collection
* Customer Accounting
* Meter Reading
* Energy Conservation Activities

FINANCIAL SYSTEMS
* Financial Requirements Planning
* Managerial Accounting and Control
* Budget Management and Control
* Economic Analysis
* Internal Auditing
* Cost Allocation Practices
* Rates

PERSONNEL AND LABOR RELATIONS
* Manpower Planning
* Wage and Salary Practices
* Executive Compensation
* Employee Benefits
* Labor Relations

Attachment 5-1
(Continued)

EXTERNAL RELATIONS

* Public Communications
* Regulatory Relations
* Legislative
* Financial Community

SUPPORT FUNCTIONS

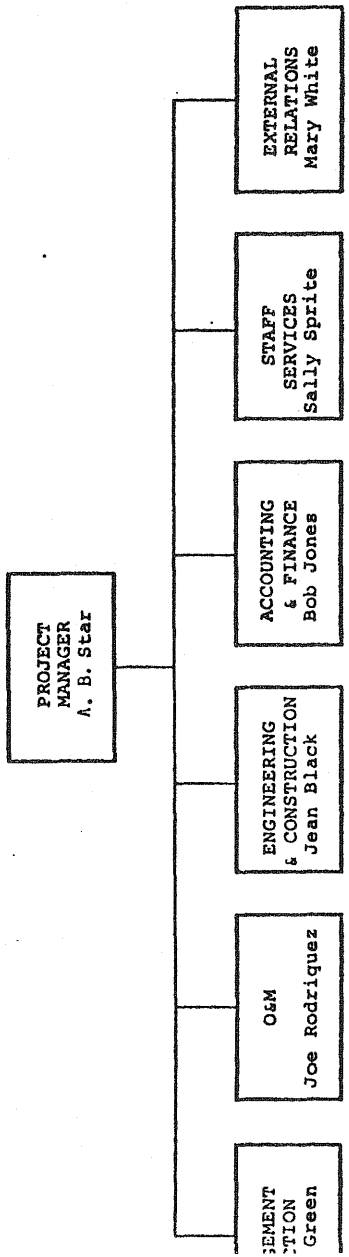
* MIS and Data Processing
* Support Facilities Management and Planning
* Land Management
* Insurance/Claims
* Transportation Management
* Purchasing, Materials Management and Stores
* Legal
* Records Management

WORK FORCE MANAGEMENT

* Work Force Planning and Utilization
* Productivity Measurement

ENVIRONMENTAL MANAGEMENT

Attachment 5-2



Attachment 5-3

STAFF	TASKS
	A. B. Star
	John Green
	Joe Rodriquez
	Jean Black
	Bob Jones
	Sally Sprite
	Mary White
	Dave Smith
	Ann Peters

Section 6

***

WORK PLANS, SCHEDULES, BUDGETS, AND CONTROLS

This information, as described below, is presented in three steps. The first level of detail will be in the written proposal. The second level of detail will be required at the meetings between utility management audit staff and the staff of those consulting firms selected as finalists. The third level of detail will be required between the time that the consultant is chosen by the Commission and (before) the interviews are performed by the individual consulting staff members at the utility being studied. The following paragraphs describe these levels of detail.

The proposal should contain a schedule showing the duration of each of the steps you propose during the course of the study. Each of these steps should coincide with, and be described in, the portion of your proposal dealing with "approach." Attachment 6-1 shows a typical schedule format which you may use, or alter, to present this information.

A cost ceiling for the proposed work must be included in the proposal. The costs for professional services and out-of-pocket expenses should be separately identified. You should define those categories of expenses which will be billed as out-of-pocket expense to avoid any later confusion about the propriety of invoiced expenses.

The cost of printing the final report in an economical manner should be estimated separately based on an assumed (and stated) report size. The cost of fifty copies and the next two-hundred copies should be estimated. The cost of printing refers to the cost of going from a single camera ready original to the final report volumes. As further described in Section 9 of this guide, the actual contractor for report production and the cost of those volumes will be determined at a later date. The cost for any draft reports, as discussed in Section 9, should not be considered as part of the final printing cost but, rather, as part of your overall out-of-pocket expense which will be included in the contract cost ceilings.

If your firm adds a surcharge to out-of-pocket expense billings, your proposal should so state. Additional information on the basis for your estimate may be included in your proposal. More specific details will be required from finalists as detailed later in this section.

Although the details of your engagement management and cost control techniques will be required from finalists, we will look for a general description of your approach to engagement management in the proposal. In a similar manner, although the detailed work plans will not be developed until a consultant is selected and a contract agreement is achieved, your proposal should describe the process for preparing and the content of your typical work plans. (Attachment 6-2 shows a guide which our Utility Management Audit Section uses in preparation of work plans in each task area. Although this guide is only illustrative, it is an indication of the extent of planning which is expected prior to work on the individual task areas. This detail will be required by the consultant selected for the engagement.)

If your firm is selected to be a "finalist," as described in Section 8 of this guide, additional information will be requested concerning your cost estimates and your methods for managing an engagement.

If you become a "finalist"

The method which you used to arrive at your cost estimates will have to be described. For each of the major tasks which you have defined, you should provide the number of man-days to be spent by each of your consulting staff: Attachment 6-3 is an acceptable format for conveying that information. An examination of Attachment 6-3 shows other breakdowns of man-days, for each of the task areas, into activities such as planning, interviewing, analyzing, report writing, etc. This information has been provided in the past and proved to be useful to us and, we expect, to you as well. You will be called upon, as finalists, to disclose to us the daily billing rates for the consulting staff members you propose to utilize. Specific forms, logs, or manuals which you use to manage your engagement should be made available to us or reviewed with us at that time. We will discuss with you specific reporting requirements at that time (and at subsequent meetings if you are selected to perform the study). Further details on reporting requirements are in Section 7 of this guide.

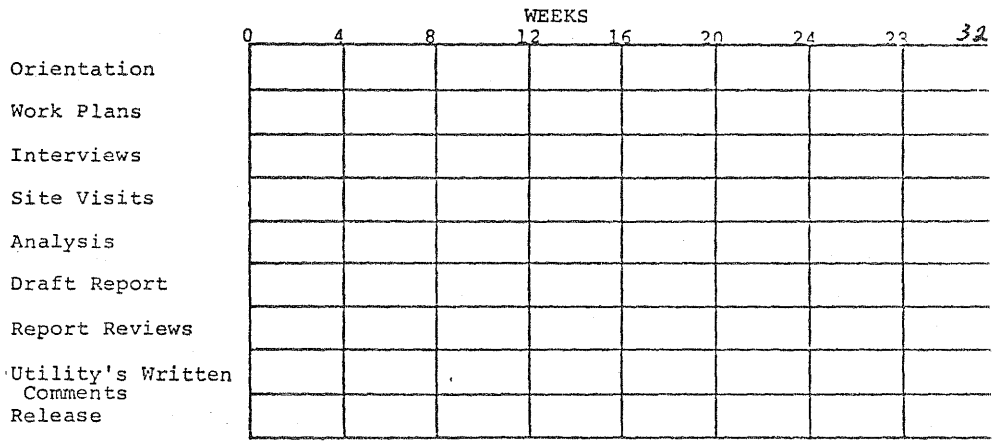
As previously indicated, if you are awarded the job, detailed work plans will have to be completed and approved by our Utility Management Audit Section before your staff begins its interviews of utility personnel. This will help us achieve an understanding of the issues and subjects which will be addressed in the study and give both of us a written document to refer to throughout the study process. To prepare these work plans, officer-level orientation-type interviews may be performed before the work plans for specific tasks are finalized. By insisting on this procedure, both you and we can be reasonably certain that the issues and subjects of importance will be properly addressed during the study. The listing and definition of issues, questions, criteria, activities, and schedule will be beneficial to the execution of the study and will also reduce the likelihood of any subsequent misunderstandings later in the study.

Our staff will review these detailed work plans directly with the individual consultant assigned to the particular task area. As the work plans are completed and reviewed, they will be approved in writing before interview work can begin in that task area. Attachment 6-4 shows a typical approval letter. It is important to note that the approval involves an acceptance of the scope and level of detail without addressing the prerogatives of the consultant to design the process which will be used.

Interim reporting to the staff will be required during the study. Section 7, which explains the PSC staff role, addresses the frequency and content of interim reporting.

XYZ UTILITY MANAGEMENT STUDY

Preliminary Project Schedule



WORK PLAN CONTENT GUIDELINE

Preparer _____

Date Prepared _____

TASK AREA TITLE:

Issues:

(1)
(2)
(3)
.
.

Questions:

(1)
(2)
(3)
.
.

Evaluative Criteria:

(1)
(2)
(3)
.
.

Definition of what should be studied & description of how it will be analyzed:
e.g.
(1) organization
(2) functional responsibilities
(3) goals and objectives
(4) policies and procedures
(5) programs
(6) interdepartmental interfacing
(7) staffing
(8) work performance
(9) management information systems
(10) reporting and control systems

Details of Study Activities:
(1) initial data/document requests
- . organizational charts
- . descriptions of functional responsibilities
- . descriptions of goals and objectives
- . policy and procedures manuals
- . descriptions of programs
- . staffing
- . work flow charts for key activities

(2) initial interviews
- . interviewee and title
- . interviewer
- . date
- . topics to be discussed
- . interview guides (detailed questions derived from the "issues," "questions," and "evaluative criteria."

(3) initial site visits
- . location
- . date
- . purpose of visit
- . attendees

(4) analyses to be performed
- . work measurement/field observations
- . statistical review
- . comparisons with other utilities
- . comparisons with performance standards (evaluative criteria)

Schedule:
(1) dates for each study activity, as follows:
- . first - initial interviews and data requests
- . second- initial site visits/field observations
- . third - analyses
- . fourth- follow-up interviews, data requests, field work and analyses
- . fifth - report

(2) man-day estimates for each study activity

Attachment 6-3

MAN DAY/FEE ESTIMATE

CLIENT ______
PROJECT ______

DATE ______
REV. # ______
PREP. BY ______ (PM)
REV. BY ______ (EM)
AUTH. BY ______

STEPS/TASK	*	*	*	*	*	*	*	*	*	*	*	*	[illegible]	[illegible]	Audit	[illegible]	TOTAL
Orientation	3	10											2	6	2	3	13
Technical Review																	
A. Organization		10											1	2	5	2	10
B. Corp Planning								5	20				2	7	10	6	25
Oper. Planning										15	15		4	6	14	6	30
C. Engineering & Constr.								5	20				1	10	9	5	25
D. Fuels Mkt & Gas Supply								5	35				3	10	19	8	40
E. Power Production										20	20		3	15	17	5	40
F. T&D				5	30								3	12	15	5	35
G. Customer Services				25	15								3	18	14	5	40
H. Financial Systems						5	25						3	14	18	5	30
I. Personnel & Labor Rel												15	1	8	3	3	15
J. External Relations		5												3	1	1	5
K. Support Functions						10	50						4	24	22	10	60
L. Work Force Mgt.			5	5	30								4	26	5	5	40
Subtotal A-L		15	5	35	75	15	75	15	75	35	35	15	35	161	143	69	375
M. Report Preparation	3	15															18
N. Project Mgt.	4	35															39
TOTAL DAYS	10	75	5	35	75	15	75	15	75	35	35	15					465
BILLING RATE $/DAY	*	*	*	*	*	*	*	*	*	*	*	*					
TOTAL FEES	*	*	*	*	*	*	*	*	*	*	*	*					**

* TO BE FILLED IN

NOTE: These numbers are for illustrative purposes only and bear no relation to the actual time requirements which you will estimate.

Attachment 6-4

STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

EMPIRE STATE PLAZA, ALBANY 12223

January 19, 1979

Mr. Philip A. Doherty
Vice President
THEODORE BARRY & ASSOCIATES
245 Park Avenue
New York, New York 10017

Dear Mr. Doherty:

In accordance with Article III(C) of the "Agreement Between New York State Electric & Gas Corporation and Theodore Barry & Associates," this letter conveys approval for the performance of work by TB&A in selected task areas relating to the study of NYSE&G's management and operations.

Based on our review of your work plans and related material, and our interviews with your consultants, we approve of your work plans for the study of the following task areas:

1.) Purchasing

2.) Other Support

All of the eighteen task area work plans for the NYSE&G study have now been approved.

It is important to note that our approval does not address the specific details of the work plans, but rather it indicates our acceptance of the level of detail in those work plans which define scope and related man-days of effort for each of the task areas involved.

Very truly yours,

Howard A. Tarler
Chief, Utility Management
Audit Section

cc: Mr. E. Eugene Forrest,
New York State Electric & Gas Corporation

Section 7

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PSC Staff Role

The Utility Management Audit Section has been established to carry out the mandate of PSC Law requiring the performance of certain management and operational audits of New York State utilities. Their responsibilities encompass virtually all aspects of the engagement of independent management consultants for the performance of these studies including:

1.) preparation of the RFP, bidder's manual or guide, and mailing list for proposal requests (all subject to approval by the Public Service Commission),

2.) receiving and responding to inquiries from consultants regarding the RFP, "The Guide for Management Consultants," and other questions relating to the management studies,

3.) coordinating all aspects of the management study with the subject utility and with the management consultants,

4.) receiving and evaluating all proposals,

5.) recommending to the Commission which consultant should be awarded the contract and the reasons therefore,

6.) shepherding the drafting of a contract between the consultant and the utility and signing that agreement as the designated representative of the Commission staff,

7.) the review and approval of detailed work plans prepared by the consultant,

8.) the continuous monitoring of progress and results of management studies through direct contacts between staff members as well as monthly progress meetings with the consultant and review of various interim reports (as explained later in this section),

9.) the participation in the management study process in the supplementary and/or observer capacity (as explained later in this section),

10.) reviewing draft reports (simultaneously with the subject utility) and making comments directly to the consultant with respect to those reports,

11.) auditing all invoices submitted by the consultant and approving them for payment by the utility,

12.) preparing a summary and critique of the final report for the Commission, and

13.) performing similar tasks to those above in connection with possible second phase studies at the utility as described elsewhere.

In proposing to perform a management study of the subject utility, the consultant should realize that the principal client is the Commission. The Commission will select the consultant and, through its utility management audit staff, exercise such monitoring and controls which are appropriate and necessary to achieve the desired and agreed upon product from the contracting consultant. Monitoring of the study will include adherence to scope, to the contractual agreement, to defined procedures, to work plans, to schedules, and to budgets.

Because the Commission will be the client, although the subject of the study and the party responsible for payment will be the utility, it will be the responsibility of the Utility Management Audit staff to audit the consultant's invoices. The audit will involve the verification of charges through examination of appropriate supporting documents such as time sheets, expense reports, vouchers for transportation and lodging, and invoices supporting other out-of-pocket expenses. Our staff auditor will promptly audit the consultant's invoice. The utility will then be notified of approved billings so that payment can be made.

The Commission will rely upon the Utility Management Audit staff to answer various questions from time to time about the report and about the management and operations of the subject utility. It will be necessary, therefore, that the staff be closely involved in the work of the management consultants. In some instances, it will be possible for the consultant to bring a staff member with him/her on certain interviews and site visits. In some task areas, it will be possible and desirable for staff to conduct its own parallel interviews and site visits when de-centralization at the utility offers an opportunity for a firsthand examination of a region that won't be visited by the consultant. In any event, it is expected that the individual consultant assigned to each task area will frequently discuss his/her progress informally and directly with the utility management analyst assigned to that same task.

Your willingness to work with our staff in the described manner should be stated in the proposal (with any reservations or conditions you may feel are necessary).

In addition to the frequent informal contact between consulting staff and PSC Utility Management Audit staff, certain written reports or documentation will be necessary.

1.) A report of interviews and site visits which will take place the following week: a sample form is shown as Attachment 7-1. This report is in addition to the frequent informal communications, which especially in the case of site visits should be planned at least two weeks in advance, that will continue directly between consulting and regulatory staff members.

2.) A report of interviews which took place the preceding week: a sample form is shown as Attachment 7-2.

3.) A report of actual man-days expended, by activity, for each of the task areas: a sample form is shown as Attachment 7-3.

Attachment 7-1

CLIENT _____

PROJECT Management & Operations Audit

Ref. No. _____

Period: From _____

To _____

SITE VISIT-INTERVIEW SCHEDULE

INTERVIEWER		TIME	INTERVIEWEES/SITES MON.	TUES.	WED.	THURS.	FRI.
Campbell	(T&D)	a.m.	Turner				
Campbell	(T&D)	a.m.	Walters				
Campbell	(T&D)	p.m.	Warner				
Campbell	(Purchasing)	a.m.		Zimmer			
Campbell	(Purchasing)	p.m.		Davis			
Campbell	(Transportation)	a.m.				Donohue	
Hall	(Organization)	a.m.	Knowles				
Hall	(Organization)	a.m.		Orsini			
Hall	(Organization)	a.m.		Weber			
Marcello	(Engineering & Construction)	a.m.	Atkin				
Marcello	(")	a.m.			Dillon		
Marcello	(")	p.m.			Ferris		
Marcello	(")	p.m.			Baker		
Marcello	(Power Production)	a.m.				Gray	
Marcello	(Power Production)	p.m.				Johnson	
Pierce	(Data Processing)	a.m.	Kross				
Pierce	(Data Processing)	p.m.	Pryor				
Pierce	(Data Processing)	p.m.		Desmond			
Pierce	(Financial Systems)	a.m.			Jeffers		
Pierce	(Financial Systems)	a.m.			Eller		
Pierce	(Financial Systems)	a.m.					Greene
Pierce	(Financial Systems)	p.m.					Grisch
Marcello	(Power Production)	all day		Milton Station (site visit)			

Attachment 7-2

Client_____

Project/Task_____

INTERVIEW NOTES

Date_____

Interviewee_____ Interviewer(s)_____

Title_____

Organizational Unit_____

Duration_____

Purpose of Interview_____

_____

Documents Requested/ Received ( )

_____

_____

_____

Attachment 7-3

CLIENT _____

PROJECT_____

REF. NO._____

PAGE____OF____

PREP. BY_____

APVD. BY_____

PERIOD FROM_____

TO_____

PROGRESS REPORTS

ACTIVITIES SCHEDULED	ORIG. MD EST	TIME SPENT PERIOD	TIME SPENT TO DATE	EST. TO COMPL.	PERCENT COMPL.
1. Orientation	3	0	3	0	100%
2. Interviews/Site Visits	14	1.5	14	0	100%
3. Analysis	8	7	7	1	88%
4. Report Preparation	5	0	0	5	0%
	30	8.5	24	6	80%

Explain variances, cite problems on reverse

Section 8

***

EVALUATION OF PROPOSALS

The proposals will be reviewed and evaluated by the Utility Management Audit Section. Those proposals which are in substantial conformance to the RFP and this "Guide" will then be evaluated with respect to the content. No point system or other completely objective criteria for ranking the proposals exists, and no such system is expected in the future. Some of the more important considerations, however, are discussed below.

The experience and ability of the consultant staff is of substantial importance, possibly more important than the experience of the consulting firm as a whole in the area of utility management studies. The experience, ability, attitude, and availability of the project manager will be especially important and will also be carefully considered at the finalist interviews. The resumes provided in the proposal will be carefully examined for these evaluations.

The ability of the consulting firm to prepare a proposal that is easy to read, concise yet complete, and well organized will be judged to be a strong indication of its ability to produce final reports of similar quality. Proposals which are difficult to understand, poorly organized or indexed, ambiguous, or verbose will be viewed as a portent of an inferior final report. Reports produced by your firm for previous clients will be examined if you submit them or if we have them in our library.

We expect to find in the proposal an understanding of the utility functions which require intensive examination versus those that probably will need to be only routinely addressed. Your suggestions of those functions at the subject utility which may be more likely to reduce costs or enhance service will be considered.

Each of the task area descriptions will be technically evaluated to assess your understanding and familiarity with that function. Technical evaluations for each of the various task areas will be done by a single member of our staff for all proposals received. The overall technical content of your proposal will then be evaluated.

If you are selected as a finalist on the basis of your written proposal, our Utility Management Audit staff will notify you and request that an interview date be established. These interviews are normally the better part of a full business day lasting anywhere from five to eight hours. They are usually at the consultant's office and ideally all of your proposed staff would be made available for at least part of that day.

No presentation will be required, nor is any desired. The standard agenda would include about two or more hours discussion of scope, approach, project management, policies, procedures, methods, etc. Usually, the consultant will have about two or three persons in attendance such as the proposed project manager and engagement officer, at this session.

After all the more general items are discussed, our staff will want to interview each of the proposed professional staff to discuss his/her area of expertise as described in the proposal. These interviews will be performed individually except in those instances where there is good reason to have a second member of the consulting staff sit in.

After the completion of the finalist interviews, a recommendation will be made by the Utility Management Audit Section to the full Commission regarding the selection of a consultant to perform the study. If your proposal is not selected, you will, upon request, receive a confidential assessment from the staff discussing their evaluation of your proposal and the reasons for their recommendation with respect to your proposal.

Section 9

***

FINAL REPORT BY THE CONSULTANT

The final report by the consultant will normally be the culmination of that particular phase of the engagement. An oral presentation to the Commission may be requested by the Commission after it has read the final report but more often than not such a presentation will not be requested, and no allowance for such a presentation should be made in your budget estimates. Compensation will be approved if a presentation is requested by the Commission.

The final report will be made a public document and distributed to the public by our librarian at the printing cost. The total number of copies needed to accommodate public distribution will usually be between 150 and 250 copies. It will be the responsibility of the consultant to complete a camera ready copy of the final report in an economical manner. Our staff will decide whether to use your printer or take delivery of camera ready copy and arrange printing either in-house or at an outside print shop.

The report itself should be written at a level that assumes a fundamental understanding of common utility terminology and operations. It should address a primary audience consisting of the Commissioners and staff, and utility management. Highly technical terms should be either avoided or explained. Basic terms or abbreviations such as "megawatt," "kilovolt," "BTU," etc. need not be defined or explained. As previously noted in Section 3, the final report should not dwell on a description of the functions which are well managed. A simple statement to the effect that a function or organizational unit is performing properly and a brief factual description of its operation is all that is required in those instances. The process for developing the final report should include the preparation of a written draft report which will be simultaneously provided to the utility and the Commission's Utility Management Audit staff. After two weeks to read the report, the three parties will meet jointly to review its contents. The consultant will then, at his discretion, make the appropriate revisions to the draft to correct factual errors or omissions, explain any ambiguous language or technical terms, or otherwise finalize their written report. This final draft will then be made available to the staff and the utility for their review. No further changes may be made to this text. The utility will have an opportunity to insert its comments at the end of each of the chapters or sections of the report. The final draft plus the comments by the utility will then be collated and printed as the final product.

Section 10

***

Testimony in Rate Cases

It is expected that many of the recommendations arising from each management study will be justified in terms of likely net savings which will be quantified by the consultant. Some of those savings may be achievable during the first year in which new rates established by the Commission will take effect. It would be likely, in that event, that the consultant would be asked to testify in a proceeding before the Commission as to the achievement of those savings.

You should state in your proposal your willingness to provide such testimony after the completion of your report. The fees for testifying, although they will be described in the contract with respect to the manner of billing, should not be included in your proposal estimate. Your proposal should indicate your willingness to testify at the normal consulting billing rate.

Ohio Public Utility Commission: Request for Proposal
for Management and Operational Audit
of the Ohio Edison Company

PUCO REQUEST FOR PROPOSAL NO. U81

I. Introduction

The Public Utilities Commission of Ohio (PUCO) has ordered, in Case No. 81-1083-EL-UNC, a managment audit be performed on the Ohio Edison Company.

This Commission mandated investigation is now envisioned as two separate and distinct stages:

- Stage I will be a comprehensive audit of the entire management and operational structure of the Ohio Edison Company. The results of this stage will be addressed in a Contractor prepared final report that will identify those managerial and operational problems for which immediate remedies can be identified and implemented, and those that require further in-depth analysis.

- Stage II will thoroughly examine those managerial and operating problems identified in Stage I. Specific cost/benefit analyses and implementation plans will be developed in those areas where company/consumer savings have been identified.

This Request for Proposal No. U81 addresses Stage I only. Specifics concerning this stage are contained in the Scope of Work section. Details of the prospective Stage II study will be determined at a future date.

II. Background

The Ohio Edison Company is an investor-owned public utility with headquarters in Akron, Ohio. The company provides electric service, in central and northeastern Ohio, to about 834,000 customers covering an area of approximately 7,500 square miles.

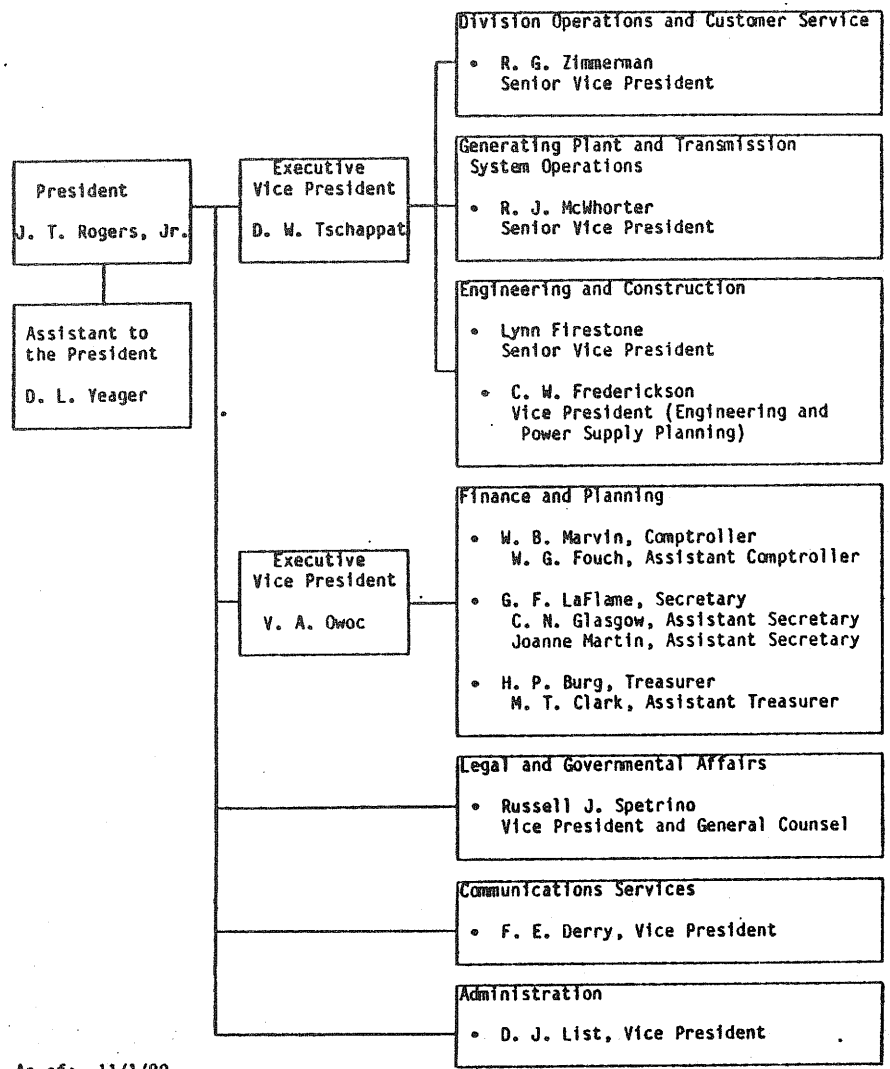
Ohio Edison Company's wholly-owned subsidiary, Pennsylvania Power Company, headquartered in New Castle, Pennsylvania, provides electric service in western Pennsylvania to about 123,000 customers in a 1,500 square mile area.

Ohio Edison and its subsidiary have consolidated electric operating revenues of approximately $1.1 billion with 1980 sales of approximately 22,394 gigawatt-hours (GWH). Consolidated generating capability on December 31, 1980 was 5.7 GW with a peak load requirement of 4.2 GW. Total consolidated assets and capitalization at year end were approximately $4 billion and $3.1 billion, respectively. The company employs about 7,500.

Ohio Edison's senior management is charted on the following page.

OHIO EDISON COMPANY

SENIOR MANAGEMENT CHART



As of: 11/1/80

III. Purpose

The overall purpose of this Stage I study is to:

- Assess the organizational ability of Ohio Edison to provide Ohio customers with reliable electric service at lowest possible cost.
- Identify those areas in which management and operational practices can be immediately strengthened and implemented, and will result in significant cost savings and/or improvements in customer service.
- Identify those management and operational problem areas which will require further in-depth analysis.

IV. Scope of Work

Stage I will be a comprehensive investigation of Ohio Edison's management, management policies, practices and organization that will include, but not necessarily be limited to, an analysis of the functional areas listed below.

a. OVERVIEW AND OPERATING ENVIRONMENT OF THE COMPANY

- Basic Characteristics
- Current Organization
- Service Area
- Profile of Customers
- Sales Growth Patterns
- Cost of Service
- Company Resources
- Operating Environment
- Regulatory Environment
- Assessment of Company by Major Bond Rating Agencies
- Intercompany Comparisons

b. ORGANIZATION AND MANAGEMENT

- Organization Structure
- Selection Process for Officers and Directors
- Executive Compensation and Benefits

- Administrative Procedures and Control - Records Management, Documentation, etc.
- Executive Direction and Practices
- Decision-Making Process
- Management Communication and Control
- Degree of Management Integration
- Performance Objectives and Evaluation
- Accountability
- Duplication of Functions

c. PLANNING

- Growth Forecasting
- Load Forecasting
- Load Management Planning - Including Rate Design
- System Planning
- Economic Analysis
- Financial Planning

d. FINANCE AND ACCOUNTING

- Financing Methods and Capital Structure
- Relationship with Financial Community
- Cash Management
- Budget Development and Control
- Managerial Accounting and Control
- Accounting System - Reliability, Efficiency and Control
- Cost Allocation Practices
- Cost Controls
- CPR and Depreciation Practices
- Inventory Management
- Effects of Nonelectric Operations
- Internal Auditing

e. ENGINEERING AND CONSTRUCTION MANAGEMENT

- Functional Organization
- Generation Projects Management
- Transmission Projects Management
- Distribution Projects Management
- Research and Development
- Environmental Requirements
- Construction Budget Coordination and Control
- Management of Large Capital Projects
- Relationship with Affiliate or Subsidiary Companies
- Relationship with Other Utilities
- CAPCO Involvement
- Relationship with Governmental Agencies

f. ELECTRIC UTILITY OPERATIONS

- Departmental and Divisional Operations
- Power Scheduling and Dispatching
- Power Pooling and Interchange
- CAPCO Involvement
- Powerplant Productivity Practices
- Powerplant Operations and Maintenance
- Transmission and Distribution Maintenance

g. ELECTRIC UTILITY SUPPORT FUNCTIONS

- Data Processing
- Legal Services
- Material Management and Control

- Support Facilities Management
- Transportation Operations
- Land Management
- Customer Service
- Insurance and Claims
- Work Force Management

h. COMMUNICATIONS AND EXTERNAL RELATIONS

- Internal and External Communications, Policies and Methods
- Customer Relations
- Public Relations
- Investment Community Relations

i. PERSONNEL AND EMPLOYEE RELATIONS

- Organization and Staffing
- Policies, Procedures and Practices
- Personnel Compensation and Benefits

The Company's fuel procurement activities are subjected to continuous regulatory review, which includes annual audits of fuel purchasing practices and procedures. The Contractor will not be expected to review fuel procurement except to the extent necessary to meet audit objectives.

V. Minimum Contents of Proposal:

Each proposal shall contain at a minimum:

a) Name, mailing address and telephone number of individual to contact if further information is desired.

b) Contractor's description of their overall approach to the study, specific techniques intended to be used, and specific administrative and operational management expertise which would be employed. This will include a work plan containing a discussion of data sources, analytical methodology to be used in conducting the contract, expected deliverable products, milestones and task timing. In addition, the Contractor's proposal shall describe any proposed working relationships anticipated with the Ohio Edison Company to carry out this work. Costs should be related to elements in a manner that will facilitate PUCO verification of invoices and allow evaluation of changes in content as progress might dictate.

c) Identification, by name, of the lead personnel to be employed and the extent of their involvement in the project. Contract terms will not permit substitution of lead personnel without prior written approval of the Commission.

d) Description of the qualifications of all professional personnel to be employed with a summary of similar work or studies performed.

e) If any subcontractors are to be used, each shall be identified in the proposal. The work to be performed shall be described as well as the dollar value shared thereof or monetary percentage of said work compared to the entire price. All such subcontracts indicated in the proposal will be deemed consented to by the PUCO upon acceptance of the proposal. Any additional or substituted subcontractors will require the PUCO's prior consent.

f) In accordance with House Bill 584 enacted on November 25, 1980, the Commission is required to set-aside fifteen percent (15%) of its contracts for exclusive award to minority business enterprises. It is the intent of the PUCO to award such a contract, in conjunction with, but separate from, any award pursuant to this RFP.

The successful bidder (Contractor) will be required to:

1) Participate with the Staff in developing an appropriate minority contract.

2) Select a minority owned business from the list of minority firms accepted by the Office of State EEO Coordinator. The list is contained below.

3) Supervise overall work of minority firm.

4) Integrate work of minority firm into reports of Contractor.

The Contractor will have final product responsibility. The provisions of the minority business contract will endow the Contractor with the authority necessary to meet that obligation.

The role of the Staff in the relationship between the Contractor and minority business firm will not be that of an intermediary. Day to day administration, coordination and technical direction will be the responsibility of the Contractor.

The proposal need not specify the portion of the total audit that will be performed by the minority business. However, prior to any contract award, the successful bidder will be required to specify,

in writing, all details of the work to be contracted (by the PUCO) to the minority business, in sufficient detail in order to facilitate contract development.

The charges for supervising and developing the minority business contract must be included in the Contractor's proposed price and are not separately billable.

If a proposer under this RFP is a minority business enterprise, approved by the State EEO coordinator, the above provisions are not waived.

The Commission is obligated to set-aside funds for exclusive award to minority firms. This condition would not be met by a contract awarded pursuant to this RFP.

Minority Businesses Accepted by Office of State EEO Coordinator

	BUSINESS	CONTACT
1)	Foxx and Company The Executive Building 35 East Seventh Avenue Suite 407 Cincinnati, OH 45202	Ms. Patricia A. Foxx 513/241-1616
2)	RMS Corporation 2136 Noble Road Cleveland, OH 44112	Ms. Joanne McCully 216/283-4120
3)	T. Reywin Company 41 South Fifth Street Newark, OH 43055	Mr. Thomas E. Winston 614/349-7319
4)	Cherl and Associates 40 South James Road Columbus, OH 43213	Ms. Betty B. Willis 614/235-2237
5)	ALB and Associates 1423 East Main Street Columbus, OH 43205	Mr. Arthur L. Broadway 614/253-5565
6)	William Murray Enterprises 630 Codrington Circle Gahanna, OH 43230	Mr. William R.T. Murphy 614/475-4791
7)	David L. Jones and Company 1342 West Third Street Dayton, OH 45407	Mr. David L. Jones 513/222-4352
8)	Mr. Paul Brown 31 West Whittier Street Columbus, OH 43206	Mr. Paul Brown 614/445-7228
9)	Mr. Robert Black 6100 Channingway Boulevard Columbus, OH 43227	Mr. Robert Black 614/861-7187
10)	Morgan, White, Braddock & Brown 706 Walnut Street Cincinnati, OH 45202	Mr. Ronald C. Morgan 513/621-7885
11)	Watson Rice & Company Citizens Federal Tower - Suite 1200 Cleveland, OH 44115	Mr. Thomas S. Watson, Jr. 216/696-0767
12)	Charter Franklin 20 East Broad Street Columbus, OH 43215	Mr. Warren Tyler 614/460-6100

g) A listing of clients which may have any financial interest in the utility, gas, or oil industry or which have any regulatory involvement in the Public Utilities Commission of Ohio. Proposers maintaining any present or ongoing contracts or agreements with the Ohio Edison Company may, at the discretion of the PUCO, be disqualified by reason of possible conflict of interest. In the proposal such contracts should be described in sufficient detail that the PUCO can determine whether such a conflict of interest exists.

h) Quotation of charges should set forth the classes of personnel to be utilized in the project, total hourly rate charged for each class and the estimated number of hours which will be utilized by each class of personnel. Any other direct cost items which the proposer plans to charge the PUCO should also be detailed and included. The maximum contract price quoted by the proposer shall include all items of work defined in the proposal. The Contractor will be expected to deliver the performance described in its proposal within that maximum price.

i) The Contractor shall include only relevant information and pertinent exhibits.

j) Consultant's total number of employees and the:

   1) Percentage of the total which are women.

   2) Percentage of the total which are Black, Hispanic, Oriental or American Indian.

3) Number of individuals to be assigned to work.

k) Consultant's total number of employees and the:

1) Name of state agency(s).

2) Cost.

3) Duration.

4) Brief description of contract.

VI. List of Deliverables and Deadlines

a) Progress Reports - The Contractor will submit written monthly progress reports. These reports shall provide adequate information to allow the PUCO Technical Monitor and Projects Coordinator to reach accurate conclusions regarding the current status of the work. The report shall include, but not be limited to, a statement of work accomplished during the past month, a statement addressing the schedule of the work and relative status, and a discussion of any unexpected developments and their impact on the schedule and work objective. Any other pertinent subjects should also be addressed.

b) Fiscal Reports - The Contractor will submit monthly invoices to the Projects Coordinator which are sufficiently detailed to allow the Coordinator to check and relate the charges to work performed. Upon approval of the invoice and receipt of funds, from Ohio Edison, payment will be made. Invoicing form and time periods will be formalized in final contract details.

c) Presentations - Upon request the Contractor will meet with the PUCO Staff to present its findings, conclusions, and recommendations.

d) Draft Final Report - Twenty-five (25) copies of the Draft Final Report shall be submitted by July 1, 1982.

e) Final Report - Twenty-five (25) copies of the final report plus one reproducible original will be filed with the Projects Coordinator of the Commission by August 31, 1982. Report pages will not have identification of any state or Contractor separate from the report text.

VII. Proposal Timing

The contract will begin no later than January 1, 1982. All work must be completed by August 31, 1982.

VIII. Budgeted Funds

The expenditures for this project cannot exceed $300,000.

IX. Due Date and Submittal Address

Any propoal submitted hereunder must be received at the following address no later than 5 p.m., Monday, October 26, 1981.

The proposal should be sent in a sealed envelope, clearly marked and addressed to:

Mr. Randall W. Williams
Projects Coordinator
Public Utilities Commission of Ohio
Response to RFP No. U81
375 South High Street
Columbus, Ohio 43215

Note: By responding to this request for proposal, the proposer expressly accepts and is bound by all the terms thereof including all attachments, exhibits, and schedules.

X. Copies

Twenty (20) copies of the proposal are to be submitted.

XI. Review Criteria

The proposal will be judged for acceptance on the basis of the following criteria:

a) Understanding of project objectives.

b) Quality of approach and methods to be used.

c) Experience of personnel assigned to the project/Related organizational experience.

d) Cost.

e) Timeliness - Ability to meet stated deadlines.

XII. Right to Reject Any and All Proposals

The Commission reserves the right, without limitation, to reject any and all proposals.

XIII. Proprietary Data in Proposal

Submissions to the Public Utilities Commission of Ohio become public documents available for open inspection. Proprietary data in a proposal will also assume this stature, therefore, discretionary action is recommended for any proprietary data to be submitted in proposals.

XIV. Late Proposals

A proposal is late if received at anytime after the exact time set for receipt of proposals. A late proposal will be considered along with other proposals only if it is received before the evaluation of proposals have, in the sole opinion of the PUCO, substantially progressed and then only if one of the three following conditions exists:

a) Mail Delay - The lateness is due solely to a delay in the mail when the response has been sent by registered or certified mail for which an official, dated postmark on the original receipt has been obtained.

b) PUCO Error - If it is received by any reasonable means at the PUCO in sufficient time to be delivered at the office designated for the opening and would have been received at such office except for delay due to mishandling at the PUCO. Only an appropriate date or time stamp showing the time of receipt will be accepted as evidence of timely receipt of the proposal.

c) Exceptions - Any other late proposal will not be considered, unless it is the only proposal received or in the sole judgement of the PUCO it offers some important technical or scientific advantages and is of overwhelming benefit to the PUCO.

XV. Modification or Withdrawal of Proposal

Any proposal may be withdrawn or modified by written request of the proposer which is received by the Commission at the above address before the date set for receipt of original proposals.

XVI. Modification or Withdrawal of this RFP

This Request for Proposal (RFP) may be modified or withdrawn at any time prior to the time set for receipt of proposals and thereafter as long as no proposal has been opened. Upon any such modification or withdrawal, all proposers will be notified and any person or firm who has expressly requested such notice in writing will also be notified. However, persons or firms who have been invited to propose, but who have not indicated their interest in writing, may not be notified of such changes at the discretion of the PUCO.

XVII. Penalty for Divulging Information (ORC 4901.16)

The Contractor shall abide by all provisions of Section 4901.16 of the Ohio Revised Code which states:

> Except in his report to the public utilities commission or when called on to testify in any court or proceeding of the public utilities commission, no employee or agent referred to in section 4905.13 of the Revised Code shall divulge any information acquired by him in respect to the transaction, property, or business of any public utility, while acting or claiming to act as such employee or agent. Whoever violates this section shall be disqualified from acting as agent, or acting in any other capacity under the appointment or employment of the commission.

XVIII. Questions

Questions regarding this RFP should be directed to Mr. Randall W. Williams, Projects Coordinator at 614/466-4566.

Pennsylvania Public Utility Commission: Request for Proposal for Comprehensive Management and Operations Study (Generic Form)

PART I

GENERAL INFORMATION FOR THE CONTRACTOR

I-1. PURPOSE. This Request for Proposals (RFP) provides interested contractors with sufficient information to enable them to prepare and submit proposals for consideration by the Public Utility Commission to conduct a comprehensive management and operations study of the following utility:

This audit may be performed in two phases as more fully discussed in Part IV, the Work Statement.

I-2. ISSUING OFFICE. This RFP issued by the Pennsylvania Public Utility Commission. The Issuing Office is the sole point of contact in the Commonwealth for this RFP. While the contract is between the Utility and the Consultant, the final selection, control and approval for payment is to be made by the Pennsylvania Public Utility Commission.

I-3. PROBLEM STATEMENT. To assist the Commission in its task of regulation it is proposed to perform management audits of the non-transportation utilities. Such audits will be used by the Commission to determine the extent to which a utility management has contained costs, developed reasonable long and short-range plans for the firm's continued operation, provided proper service to the customers it serves, and provided proper management and organizational structure (See General and Specific Objectives, IV-1 and IV-2).

I-4. TYPE OF CONTRACT. Payments to the consultant on a contract entered into as a result of this RFP will be made based upon hours actually expended on this engagement at rates quoted in the proposal. Total payments under this contract will not exceed the total cost quoted in the proposal. Negotiations may be undertaken with those contractors whose proposals as to price and other factors show them to be qualified, responsible and capable of performing the work.

I-5. REJECTION OF PROPOSALS. The PUC reserves the right to reject any and all proposals received as a result of this RFP, or to negotiate separately with competing contractors. Also, see III-6, Potential Conflicts of Interest.

I-6. INCURRING COSTS. Neither the PUC nor the Company is liable for any cost incurred by contractors prior to issuance of a contract.

I-7. RESPONSE DATE. To be considered, the proposal must arrive at the Issuing Office on or before the date specified in the cover letter. Contractors mailing proposals should allow normal mail delivery time to insure timely receipt of their proposals.

I-8. PROPOSALS. To be considered, contractors must submit a complete response to this RFP, using the format provided in Part II. Each proposal must be submitted in six (6) copies to the Issuing Office. No other distribution of proposals will be made by the contractor. Proposals must be signed by an official authorized to bind the contractor to its provision. For this RFP the proposal must remain valid for at least ninety (90) days. Moreover, the contents of the proposal of the successful bidder will become contractual obligations if a contract is entered into.

The proposal should set forth broadly, but concisely, the aspects of company operations which would receive study. It should be specifically tailored to the utility undergoing the study. The proposal should be in sufficient depth to afford the PUC a thorough understanding of your study plan. Areas for investigation would include the relationship of the various operations with those of the parent and of other affiliated companies as well as the effects of those relationships.

In connection with the development of the PUC's total management audit procedure, it retained a consultant to designate typical functional areas for each type of utility, measurement criteria and guidelines for auditing each function. This information is summarized in the appendix to this RFP. The information contained in the appendix is provided to assist you in preparing your proposal. You may use this information at your discretion. A complete copy of the measurement criteria and audit guidelines will be provided to the selected consultant to assist him in conducting the management audit.

I-9. ECONOMY OF PREPARATION. The proposal should be a straightforward, concise description of the contractor's ability to meet the requirements of the RFP.

I-10. ORAL PRESENTATION. Contractors who submit a proposal may be required to make an oral presentation of their proposal. Such presentations provide an opportunity for the contractor to clarify his proposal and allow the Commission staff to obtain answers to questions they may have regarding the proposal. The Issuing Office will schedule these presentations.

I-11. COPIES OF MANAGEMENT AUDITS. Contractors who submit proposals must provide copies of recent management audits for review by the staff. These audits should be submitted at the same time as the proposal.

I-12. PRIME CONTRACTOR RESPONSIBILITIES. The selected contractor will be required to assume responsibility for all services offered in his proposal. Further, the PUC will consider the selected contractor to be the sole point of contact with regard to contracts.

I-13. NEWS RELEASES. News releases pertaining to the RFP or the study to which it relates will not be made without prior PUC approval.

I-14. DISCLOSURE OF PROPOSAL CONTENTS. The entire proposal of the contractor selected to perform the audit will be made available for public inspection. Please do not include any information in the proposal which you do not wish released if you are the successful bidder.

The entire proposal of all unsuccessful bidders will be made available for public inspection subject to the following exceptions:

A. Any section of the narrative which you submit will be kept confidential at your request. Please note clearly in your proposals which narrative sections should be kept confidential.

B. All cost and price analysis except for the total amount of the contract will be kept confidential subject to the following provision.

The PUC staff committee, which will recommend selection of a consultant to the Commission, will report to the Commission on the reason for such selection. The Commission reserves the right to release this report to the public in sections or in its entirety. This report may contain sections of the cost/price data which might otherwise be confidential.

In addition, the proposals of the finalists (approximately three) will be discussed with the utility on an informal basis. The utility will be instructed to maintain strict confidentiality.

I-15. ORGANIZATION AND MISSION.

A. Organization. Pennsylvania Public Utility Commission, Commonwealth of Pennsylvania, North Office Building, P. O. Box 3265, Harrisburg, Pennsylvania, 17120.

B. Mission. The Pennsylvania Public Utility Commission regulates and approves rates and tariffs for common and contract carriers and power, water, gas and communication utilities operating within the Commonwealth of Pennsylvania.

I-16. PUC PARTICIPATION. A staff Project Officer will be designated by the Commission to coordinate the activities of the contractor with the PUC Commissioners to insure satisfactory and timely performance of the RFP when awarded. The Commission Project Officer or his designate will be the sole source of contact for the contractor in any discussions with the Commission.

The Commission staff will take an active part in the study and you should be prepared to work with them throughout the course of the audit. The Commission will rely upon the PUC management audit staff to answer various questions from time to time about the completed report and the management and operations of the subject utility. It will be necessary, therefore, that the staff be closely involved in the work of the management consultants. This will include attending selected interviews, reviewing analytical procedures, and monitoring the study's progress as to scope, budget, work plans, time, etc. In any event, it is expected that the individual consultant assigned to each task area will frequently discuss his/her progress informally and directly with the PUC Project Officer or his designates. The contractor's willingness to work with the PUC staff in the described manner should be stated in the proposal.

PART II

INFORMATION REQUIRED FROM CONTRACTORS

Contractors' proposal must be submitted in the format outline below. Prepare consecutively numbered pages with index tabs for each section outlined below.

II-1. STATEMENT OF THE PROBLEM. State in succinct terms your understanding of the problem presented by this RFP.

II-2. MANAGEMENT SUMMARY. Include a narrative description of the proposed effort and a list of the products that will be delivered.

II-3. WORK PLAN. Task descriptions are to be the guide in describing your technical plan for accomplishing the work. The task descriptions should be in sufficient depth to afford the PUC a thorough understanding of your work plan. Contractors are cautioned their proposal may be rejected if their work plan does not include specific recommendations as to how each of the task descriptions are to be accomplished.

II-4. PRIOR EXPERIENCE. Submit a statement of similar management audits conducted in the previous five years. This would also apply to a sub-contractor if appropriate. Indicate specifically any management audits of utilities. Experience shown should be work done by your company rather than by individuals. Studies or projects referred to should be identified and the name of the client shown, including the name, address and phone number of the responsible official of the client company or agency who may be contacted.

II-5. PERSONNEL. Include the names of all personnel - executive, professional, management analysts, systems analysts, auditors, staff consultants, etc. - that will be engaged in the work. Their education and experience in auditing and management evaluations, especially for stationary utilities, must be included. In addition, personnel employed by the "finalist" consulting firms that are to be assigned to the proposed audit shall be subject to personal interviews by Commission staff if requested. These interviews will be conducted at the PUC offices in Harrisburg prior to the final selection of a consultant.

II-6. STATEMENT ON POTENTIAL CONFLICTS OF INTERESTS. The consultant shall identify any relationships between itself or its employees and the utility to be audited or its employees. This would include any work done for the utility during the past five years. If there have been no such relationships, a statement to that effect is to be included in the proposal.

II-7. COST AND PRICE ANALYSIS. The information requested in this section is required to support the reasonableness of your quotation and is for internal use. This portion of the proposal must be bound and sealed separately from the remainder of the proposal. Use the format below:

1. Manpower Costs. Itemize so as to show the following for each category of personnel with a different rate per hour:
   a. Category; e.g., project manager, senior analyst, etc.
   b. Estimated hours.
   c. Rate per hour.
   d. Total cost for each category and for all manpower needs.
2. Cost of Supplies and Materials. Itemize.
3. Consultant Costs. Itemize as in 1 above.
4. Subcontract Costs. Itemize as in 1 above.
5. Transportation Costs. Show travel costs and per diem separately.
6. Total Cost.

II-8. TIME ESTIMATES. For each task in the Work Plan, estimate the elapsed time required for completion. Indicate the number of manhours you have allocated to each task. Include a Project Schedule type display, time related, showing each event.

II-9. PHASE II. Any Phase II portion of the audit will be dependent upon the results of Phase I. The Commission must approve a Phase II and a consultant to do the Phase II. (See IV-4).

PART III

CRITERIA FOR SELECTION

All proposals received shall be subject to evaluation by a committee of qualified PUC personnel for the purpose of selecting the proposal which most closely meets the requirements of the RFP. The following areas of consideration will be used in making the selection:

III-1. UNDERSTANDING OF THE PROBLEM. This refers to the contractor's understanding of the Commission and Company needs that generated the RFP, the agency's objective in asking for the services or undertaking the study, and the nature and scope of the work involved.

III-2. CONTRACTOR QUALIFICATIONS. This includes the ability of the contractor to meet the terms of the RFP, especially the time constraint and the quality, relevancy and recency of studies and projects completed by the contractor. Technical expertise and operational auditing techniques, knowledge of the utility industry, and independence with respect to present and historical utility company relationships will be considered.

III-3. PROFESSIONAL PERSONNEL. This refers to the competence of the professional personnel who would be assigned to the job by the contractor. Qualifications of professional personnel will be measured by education and experience, with particular reference to experience on studies similar to that described in the RFP.

III-4. SOUNDNESS OF APPROACH. Emphasis here is on the techniques for collecting and analyzing data, sequence and relationships of major steps, and methods of managing the study.

III-5. COST. While this area will be weighed heavily, it will not normally be the deciding factor in the selection process.

III-6. POTENTIAL CONFLICTS OF INTEREST. In order to insure a completely independent study and provide maximum credibility to the resultant report, the Commission may not consider proposals submitted by consultants who have performed similar work (including financial audits) for the utility under audit. The consulting firm selected will not be permitted to perform subsequent work for this utility for a period of one year following completion of the study without the approval of the Commission.

PART IV

WORK STATEMENT

IV-1. GENERAL OBJECTIVES. The Pennsylvania Public Utility Commission seeks proposals for the performance of Phase I of a two-phase management audit of the utility designated in I-1.

The objectives of this study include the determination of what improvements, if any, can be accomplished in the management and operations of the utility, specifically which, if any, cost saving measures can be instituted. The ultimate purpose is to explore all economically practicable opportunities for giving rate payers lower rates and/or better service.

IV-2. PHASE I. The first phase of the management audit will consist of two components. One component will be a broad but comprehensive review of the management and the entire operations of the company. While the scope of this review will be broad, its depth will be sufficient to determine significant cost savings, improvements in management methods or service to customers. Dollarization of recommendations should be made whenever possible. The second component will be an in-depth analysis of those specific objectives listed below. These analyses will be sufficient to provide responsible opinions, judgments and recommendations for specific changes together with projected costs and potential savings, if any.

SPECIFIC OBJECTIVES:

IV-3. PHASE II. The second phase, if necessary, will consist of in-depth analyses ordered by the Commission. Any Phase II recommendations will result from the consultant's review of those areas not studied in depth as outlined in IV-2. It will not be possible, therefore, to estimate the extent or cost of Phase II studies in your Phase I proposal. However, you would be required to agree that many of those individuals involved in the Phase I analysis would be available for any Phase II studies ordered by the Commission. We would expect, therefore, that your billing rates for those individuals during Phase II will be the same as for Phase I, except as you stipulate otherwise in your proposal. In addition, the Commission reserves the right to select the same consultant or a different consultant to perform Phase II of the audit.

IV-4. REPORTS AND PROJECT CONTROL. Although the study will be paid for by the utility, the contractor should realize that the Commission is the principal client. Consequently, there will be no direct reporting by your firm to the utility without prior Commission staff approval.

It is anticipated that the project officer will establish an advisory committe made up of company representatives and Commission staff to work closely with the consultant throughout the project. It is necessary that the PUC maintain control of this engagement and that it and the company be kept abreast of the study progress. Therefore, periodic oral and written reports will be necessary in addition to the frequent informal contact between the consulting staff and PUC management audit staff. These reports, as well as other documentation required from the contractor, are described below.

Weekly Informal Reports - Each week, the contractor should report to the PUC staff in person or by phone the interviews and site visits scheduled for the following week.

Monthly Written Status Reports - Based on the task plan submitted with the proposal, the interim reports should consist of two parts:

1. General narrative briefly describing progress to date and outlining reasons for any discrepancies between the task plan schedule and progress to date. This narrative should also contain a statement indicating the status of the study in relation to time - ahead, behind, or on schedule.
2. Status sheet indicating actual hours logged by category (i.e., project manager, senior analyst or auditor, junior analyst or auditor, etc.), material and supplies cost, and other costs, showing percentage of each in relation to proposal costs.

Interim reports (in triplicate) should be in the hands of the Project Officer by the 10th working day following the month's end and shall be submitted for any months worked.

Monthly Oral Reports - Considering the number of reviews underway, the PUC staff may not be able to work with the consultant continuously throughout the study. Therefore, the consultant may be required to present a detailed oral report. The presentation would be given by the senior consultant responsible for each functional area. Generally, the PUC staff will schedule these updates on a monthly basis in Harrisburg.

IV-5. DEVELOPMENT OF FINAL REPORT. Generally the procedure to develop the final report will evolve in three stages. A detailed description of each is listed below:

TASK REPORTS. The task reports of each functional area will be sent to the PUC for review. The PUC staff will approve the release of the reports by the consultant to the utility. For each task area, there will be a three-party meeting between the Company, Consultant and PUC staff. The purpose of the meeting is to review the consultant's findings in each task area with the Company's management responsible for that area. This process will ensure that material facts having an impact on the finding are not omitted. The task reports would be the basis of

DRAFT REPORT. The draft report should comprise the task reports, management summary, and recommendations. The Company and PUC staff will review the draft report prior to a meeting of all three parties. The company's comments to the draft report should be prepared in writing so the consultant can make any changes of fact before completing the final report. The consultant must address each of the company's comments to the draft report at the three party meeting.

FINAL REPORT. The Commission requires the final study report to include the following, written in terminology that will be meaningful to management and others generally familiar with the subject areas:

1. General statement and management summary.

2. Recommendations for immediate changes that management can institute involving potential cost savings. This would include a schedule listing, by priority, the Phase I recommendations.

3. Recommendations as to specific areas that would require in-depth analyses and estimates of time and cost factors involved in Phase II for further studies.

It will be necessary that recommendations, especially those involving potential cost savings, be justified and accompanied by adequate back-up information. The selected consulting firm must be willing to stand behind its conclusions and recommendations by testifying, if necessary in a future rate case or other hearing before the Commission, at its standard compensation rates.

Pennsylvania Public Utility Commission: Request for Proposal for Comprehensive Management and Operations Study of UGI-Luzerne Electric Division and Request for Proposal for Assisting the Public Utility Commission's Management Audit Staff in Conducting Audits of Citizens' Electric Company and Wellsborough Electric Company

REQUEST FOR PROPOSAL

PART I

GENERAL INFORMATION FOR THE CONTRACTOR

I-1. PURPOSE. This Request for Proposals (RFP) provides interested contractors with sufficient information to enable them to prepare and submit proposals, for consideration by the Public Utility Commission (PUC), to conduct in conjunction with selected PUC Audit staff a comprehensive management and operations study of UGI - Luzerne Electric Division (Luzerne Electric). This audit may be performed in two phases as more fully discussed in Part IV, the Work Statement.

The RFP further provides interested contractors with sufficient information to enable them to prepare and incorporate, as an addendum to the Luzerne Electric proposal, a separate proposal for assisting the PUC management audit staff in conducting similar audits of two small electric utilities -- Citizens' Electric Co. and Wellsborough Electric Co. The audits will be performed in one phase only. The PUC reserves the right to cancel one or both of these audits.

I-2. ISSUING OFFICE. This RFP is issued by the Pennsylvania Public Utility Commission. The Issuing Office is the sole point of contact in the Commonwealth for this RFP. While the contract for the Luzerne Electric audit will be between the Util and the Consultant, the final selection, control and approval for payment is to be made by the Pennsylvania Public Utility Commission.

The contract for assisting the PUC audit staff in independent management audits of Citizens' Electric and Wellsborough Electric will be between the Consultant and th Public Utility Commission.

I-3. PROBLEM STATEMENT. To assist the Commission in its task of regulation it is proposed to perform management audits of the non-transportation utilities. Such audits will be used by the Commission to determine the extent to which a utility management has contained costs, developed reasonable long and short-range plans

for the firm's continued operation, provided proper service to the customers it serves, and provided proper management and organizational structure (See General and Specific Objectives, IV-1 and IV-2).

I-4. TYPE OF CONTRACT. Payments to the consultant on contracts entered into as a result of this RFP will be made based upon hours actually expended on this engagement at rates quoted in the proposal. Total payments under these contracts will not exceed the total cost quoted in the proposal. Negotiations may be undertaken with those contractors whose proposals as to price and other factors show them to be qualified, responsible and capable of performing the work.

I-5. REJECTION OF PROPOSALS. The PUC reserves the right to reject any and all proposals received as a result of this RFP, or to negotiate separately with competing contractors. Also, see III-6, Potential Conflicts of Interest.

I-6. INCURRING COSTS. Neither the PUC nor the Company is liable for any cost incurred by contractors prior to issuance of a contract.

I-7. RESPONSE DATE. To be considered, the proposal must arrive at the Issuing Office on or before the date specified in the cover letter. Contractors mailing proposals should allow normal mail delivery time to insure timely receipts of their proposals.

I-8. PROPOSALS. To be considered, contractors must submit a complete response to this RFP, using the format provided in Part II. Each proposal must be submitted in six (6) copies to the Issuing Office. No other distribution of proposals will be made by the contractor. The proposal must be signed by an official authorized to bind the contractor to its provision. For this RFP the proposal must remain valid for at least ninety (90) days. Moreover, the contents of the proposal of the successful bidder will become contractual obligations if a contract is entered into.

The proposal should set forth broadly, but concisely, the aspects of Luzerne Electric's operations which would receive study. It should be specifically tailored to the utility undergoing the study. The proposal should be in sufficient depth to afford the PUC a thorough understanding of your study plan. Areas for investigation would include the relationship of the various operations with those of the parent and of other affiliated companies as well as the effects of those relationships. The proposal should include provisions to train PUC staff members and develop analytical techniques (See IV-1).

In connection with the development of the PUC's total management audit procedure, it retained a consultant to designate typical functional areas for each type of utility, measurement criteria and guidelines for auditing each function. This information is summarized in the appendix to this RFP. The information contained in the appendix is provided to assist you in preparing your proposal. You may use this information at your discretion. A complete copy of the measurement criteria and audit guidelines will be provided to the selected consultant to assist him in conducting the management audit.

The addendum to the proposal should concisely set forth the assistance you would provide in the PUC's management audits of Citizens' Electric Co. and Wellsborough Electric Co. (See IV-1C).

I-9. ECONOMY OF PREPARATION. The proposal should be a straightforward, concise description of the contractor's ability to meet the requirements of the RFP.

I-10. ORAL PRESENTATION. Contractors who submit a proposal may be required to make an oral presentation of their proposal. Such presentations provide an opportunity for the contractor to clarify his proposal and allow the Commission staff to obtain answers to questions they may have regarding the proposal. The Issuing Office will schedule these presentations.

I-11. COPIES OF MANAGEMENT AUDITS. Contractors who submit proposals must provide copies of recent management audits for review by the staff. These audits should be submitted at the same time as the proposal.

I-12. PRIME CONTRACTOR RESPONSIBILITIES. The selected contractor will be required to assume responsibility for all services offered in his proposal. Further, the PUC will consider the selected contractor to be the sole point of contact with regard to contracts.

I-13. NEWS RELEASES. News releases pertaining to the RFP or the study to which it relates will not be made without prior PUC approval.

I-14. DISCLOSURE OF PROPOSAL CONTENTS. The entire proposal of the contractor selected to perform the audit will be made available for public inspection. Please do not include any information in the proposal which you do not wish released if you are the successful bidder.

The entire proposal of all unsuccessful bidders will be made available for public inspection subject to the following exceptions:

A. Any section of the narrative which you submit will be kept confidential at your request. Please note clearly in your proposal which narrative sections should be kept confidential.

B. All cost and price analysis except for the total amount of the contract will be kept confidential subject to the following provision.

The PUC staff committee, which will recommend selection of a consultant to the Commission, will report to the Commission on the reason for such selection. The Commission reserves the right to release this report to the public in sections or in its entirety. This report may contain sections of the cost/price data which might otherwise be confidential.

In addition, the proposals of the finalists (approximately three) will be discussed with the utilities on an informal basis. The utilities will be instructed to maintain strict confidentiality.

I-15. ORGANIZATION AND MISSION.

A. Organization. Pennsylvania Public Utility Commission, Commonwealth of Pennsylvania, North Office Building, P. O. Box 3265, Harrisburg, Pennsylvania, 17120.

B. Mission. The Pennsylvania Public Utility Commission regulates and approves rates and tariffs for common and contract carriers and power, water, gas and communication utilities operating within the Commonwealth of Pennsylvania.

I-16. PUC PARTICIPATION. A staff Project Officer will be designated by the Commission to coordinate the activities of the contractor with the PUC Commissioners to insure satisfactory and timely performance of the proposal when awarded. The Commission Project Officer or his designate will be the sole source of contact for the contractor in any discussions with the Commission.

Luzerne Electric. The Commission staff will take an active part in the study and you should be prepared to work with them throughout the course of the audit. This will involve working jointly with the consultant during each audit phase, i.e., planning, data gathering, analysis and report preparation.

Citizens' Electric and Wellsborough Electric. These audits will be conducted by the PUC management audit staff. In these activities the consulting firm will oversee the PUC staff's performance and provide appropriate direction and advice.

The contractor's willingness to work with the PUC staff in the described manner should be stated in the proposal.

PART II

INFORMATION REQUIRED FROM CONTRACTORS

The contractors' proposal, as well as the addendum, must be submitted in the format outline below. Prepare consecutively numbered pages with index tabs for each section outlined below.

II-1. STATEMENT OF THE PROBLEM. State in succinct terms your understanding of the problem presented by this RFP.

II-2. MANAGEMENT SUMMARY. Include a narrative description of the proposed effort and a list of the products that will be delivered.

II-3. WORK PLAN. Task descriptions are to be the guide in describing your technical plan for accomplishing the work. The task descriptions should be in sufficient depth to afford the PUC a thorough understanding of your work plan. Contractors are cautioned their proposal may be rejected if their work plan does not include specific recommendations as to how each of the task descriptions are to be accomplished.

II-4. PRIOR EXPERIENCE. Submit a statement of similar management audits conducted in the previous five years. Indicate specifically any management audits of utilities. Also, indicate your company's experience in providing management audit training. This would also apply to a sub-contractor if appropriate. Experience shown should be work done by your company rather than by individuals. Studies or projects referred to should be identified and the name of the client shown, including the name, address and phone number of the responsible official of the client company or agency who may be contacted.

II-5. PERSONNEL. Include the names of all personnel - executive, professional, management analysts, systems analysts, auditors, staff consultants, etc. - that will be engaged in the work. Their education and experience in auditing and management evaluations, especially for stationary utilities, must be included. In addition, personnel employed by the "finalist" consulting firms that are to be assigned to the proposed audit shall be subject to personal interviews by Commission staff if requested. These interviews will be conducted at the PUC offices in Harrisburg prior to the final selection of a consultant.

II-6. STATEMENT ON POTENTIAL CONFLICTS OF INTERESTS. The consultant shall identify any relationships between itself or its employees and the utilities to be audited or its employees. This would include any work done for the utilities during the past five years. If there have been no such relationships, a statement to that effect is to be included in the proposal.

II-7. COST ANALYSIS. The information requested in this section is required to support the reasonableness of your quotations and is for internal use. This portion of the proposal must be bound and sealed separately from the remainder of the proposal. Separate cost analyses must be prepared for the Luzerne Electric proposal and its addendum. The cost analysis for the addendum must segregate costs for the Citizens' Electric and Wellsborough Electric Co. audits. Use the format below:

1. Manpower Costs. Itemize so as to show the following for each category of personnel with a different rate per hour:

   a. Category; e.g., project manager, senior analyst, etc.

   b. Estimated hours.

   c. Rate per hour.

   d. Total cost for each category and for all manpower needs.

2. Cost of Supplies and Materials. Itemize.

3. Consultant Costs. Itemize as in 1 above.

4. Subcontract Costs. Itemize as in 1 above.

5. Transportation Costs. Show travel costs and per diem separately.

6. Total Cost.

The Luzerne Electric management audit cost will be funded by the utility and supplemented by the PUC through a Federal PURPA grant from the Office of Utility Systems, Economic Regulatory Administration, Department of Energy. The cost of the Citizens' Electric and Wellsborough Electric Co. audits, as well as the costs for training and development of audit programs and analytical techniques, will be funded wholly by the PUC through the PURPA grant. It is estimated that $45,000 will be made available for the total project by the PUC based on the PURPA funds granted.

II-8. TIME ESTIMATES. For each task in the Work Plans, estimate the elapsed time required for completion. Indicate the number of manhours you have allocated to each task. Include a Project Schedule type display, time related, showing each event.

The estimated starting date for this project is April 15, 1980. The Luzerne Electric management audit must be completed prior to the start of the Citizens' Electric Co. and Wellsborough Electric Co. audits. Estimated minimum completion time for the latter audits is two months. The entire project must be completed no later than September 30, 1980.

II-9. PHASE II. Any Phase II portion of the Luzerne Electric audit will be dependent upon the results of Phase I. The Commission must approve a Phase II and a consultant to do the Phase II. (See IV-4).

PART III

CRITERIA FOR SELECTION

All proposals received will be evaluated by PUC management audit personnel for the purpose of selecting the proposal which most closely meets the requirements of the RFP. The following areas of consideration will be used in making the selection:

III-1. UNDERSTANDING OF THE PROBLEM. This refers to the contractor's understanding of the Commission and Company needs that generated the RFP, the agency's objective in asking for the services or undertaking the study, and the nature and scope of the work involved.

III-2. CONTRACTOR QUALIFICATIONS. This includes the ability of the contractor to meet the terms of the RFP, especially the time constraint and the quality, relevancy and recency of studies and projects completed by the contractor. Technical expertise and operational auditing techniques, knowledge of the utility industry, and independence with respect to present and historical utility company relationships will be considered.

III-3. PROFESSIONAL PERSONNEL. This refers to the competence of the professional personnel who would be assigned to the job by the contractor. Qualifications of professional personnel will be measured by education and experience, with particular reference to experience on studies similar to that described in the RFP.

III-4. SOUNDNESS OF APPROACH. Emphasis here is on the techniques for collecting and analyzing data, sequence and relationships of major steps, and methods of managing the study of Luzerne Electric.

Additionally, emphasis will be placed on the consultants' techniques for training PUC staff and advising it on the conduct of the Citizens' and Wellsborough utility studies.

III-5. COST. While this area will be weighed heavily, it will not normally be the deciding factor in the selection process.

III-6. POTENTIAL CONFLICTS OF INTEREST. In order to insure a completely independent study and provide maximum credibility to the resultant report, the Commission may not consider proposals submitted by consultants who have performed similar work (including financial audits) for the utilities under audit. The consulting firm selected will not be permitted to perform subsequent work for the utilities for a period of one year following completion of the studies without the approval of the Commission.

PART IV

WORK STATEMENT

IV-1. GENERAL OBJECTIVES.

A. The Pennsylvania Public Utility Commission seeks proposals for the performance of Phase I of a possible two-phase management audit of Luzerne Electric. Through the use of a professional management consulting firm, working in conjunction with selected Pennsylvania Public Utility Commission (PUC) audit staff, this audit will be expected to accomplish the following:

(1) Provide for the development and recommendation of specific actions to optimize the efficient use of facilities and resources by Luzerne Electric. This will include the determination of what improvements, if any, can be accomplished in the management and operations of the utility, specifically which, if any, cost saving measures can be instituted. The ultimate purpose is to explore all economically practicable opportunities for giving rate payers lower rates and/or better service.

(2) Provide training for and development of PUC audit staff personnel through an actual "case study", to enable them to analyze and audit small utility operations throughout Pennsylvania and recommend specific improvements for the efficient use of their facilities and resources.

B. In conjunction with the Luzerne Electric proposal, the development of detailed audit programs and analytical techniques for reviewing small utilities; and the formal training of the PUC staff in the use of those programs and techniques.

C. The PUC also seeks, as an addendum to the Luzerne Electric proposal, a separate proposal for assisting PUC staff members in the conduct of the Citizens' Electric Co. and Wellsborough Electric Co. management audits. This assistance will consist of providing appropriate guidance and direction to the staff in the areas of audit planning, data gathering, analysis, and report writing.

IV-2. PHASE I. (Luzerne Electric Only). The first phase of the management audit will consist of two components. One component will be a broad but comprehensive review of the management and the entire operations of the company. While the scope of this review will be broad, its depth will be sufficient to determine significant cost savings, improvements in management methods or service to customers. Dollarization of recommendations should be made whenever possible. The second component will be an in-depth analysis of those specific objectives listed below. These analyses will be sufficient to provide responsible opinions, judgments and recommendations for specific changes together with projected costs and potential savings, if any.

SPECIFIC OBJECTIVES.

The following specific objectives will be addressed:

A. Evaluation of the plans and alternatives for obtaining sufficient energy now and in the future.
   - Wholly or jointly-owned generation
   - Purchased power
   - Effectiveness of current generation program.

B. Allocation of fees and other costs to Luzerne Electric.
   - The necessity of the costs
   - The reasonableness of the costs
   - The appropriateness of the allocation method.

C. The company's cash management function.
   - Effectiveness of the function.
   - Allocation of costs and benefits to Luzerne Electric.

IV-3. PHASE II. (Luzerne Electric Only). The second phase, if necessary, will consist of in-depth analyses ordered by the Commission. Any Phase II recommendations will result from the consultant's review of those areas not studied in depth as outlined in IV-2. It will not be possible, therefore, to estimate the extent or cost of Phase II studies in your Phase I proposal. However, you would be required to agree that many of those individuals involved in the Phase I analysis would be available for any Phase II studies ordered by the Commission. We would expect, therefore, that your billing rates for those individuals during Phase II will be the same as for Phase I, except as you stipulate otherwise in your proposal. In addition, the Commission reserves the right to select the same consultant or a different consultant to perform Phase II of the audit.

IV-4. REPORTS AND PROJECT CONTROL. The contractor should realize that the Commission is the principal client. Consequently, there will be no direct reporting by your firm to the utilities without prior Commission staff approval.

It is anticipated that the project officer will establish an advisory committee made up of company representatives and Commission staff to work closely with the consultant throughout the project. It is necessary that the PUC maintain control of this engagement and that it and the company be kept abreast of the study progress. Therefore, periodic written reports will be necessary in addition to the frequent informal contact between the consulting staff and PUC management audit staff. These reports, as well as other documentation required from the contractor, are described below.

Monthly Written Status Reports - Based on the task plan submitted with the proposal, the interim reports should consist of two parts:

1. General narrative briefly describing progress to date and outlining reasons for any discrepancies between the task plan schedule and progress to date. This narrative should also contain a statement indicating tne status of the study in relation to time - ahead, behind, or on schedule.
2. Status sheet indicating actual hours logged by category (i.e., project manager, senior analyst or auditor, junior analyst or auditor, etc.), material and supplies cost, and other costs, showing percentage of each in relation to proposal costs.

Interim reports (in triplicate) should be in the hands of the Project Officer by the 10th working day following the month's end and shall be submitted for any months worked.

IV-5. DEVELOPMENT OF FINAL REPORT. The procedure to develop the final report for the Luzerne Electric management audit will evolve in three stages. A detailed description of each is listed below:

TASK REPORTS. The task reports of each functional area will be sent to the PUC for review. The PUC staff will approve the release of the reports by the consultant to the utility. For each task area, there will be a three-party meeting between the Company, Consultant and PUC staff. The purpose of the meeting is to review the consultant's findings in each task area with the company's management responsible for that area. This process will ensure that material facts having an impact on the finding are not omitted. The task reports would be the basis of the draft report.

DRAFT REPORT. The draft report should comprise the task reports, management summary, and recommendations. The company and PUC staff will review the draft report prior to a meeting of all three parties. The company's comments to the draft report should be prepared in writing so the consultant can make any changes of fact before completing the final report. The consultant must address each of the company's comments to the draft report at the three party meeting.

FINAL REPORT. The Commission requires the final study report to include the following, written in terminology that will be meaningful to management and others generally familiar with the subject areas:

1. General statement and management summary.
2. Recommendations for immediate changes that management can institute. This would include a schedule listing, by priority, of the Phase I recommendations.
3. Recommendations as to specific areas that would require in-depth analyses and estimates of time and cost factors involved in Phase II for further studies.

It will be necessary that recommendations, especially those involving significant cost savings, be justified and accompanied by adequate back-up information. In providing adequate back-up information for those recommendations involving cost savings, the consultant should include the following for a specific time period(s):

Operating costs incurred before implementation of the recommendation.

Operating costs to be incurred after implementation of the recommendation.

Costs of implementing the recommendaiton.

Savings after consideration of implementation costs.

The selected consulting firm must be willing to stand behind its conclusions and recommendations by testifying, if necessary, in a future rate case or other hearing before the Commission at its standard compensation rates.

APPENDIX D

PROPOSAL EVALUATION AND CONSULTANT SELECTION

This appendix contains guidelines and documents used by commissions in four states (Florida, Michigan, New York, and Pennsylvania) to evaluate proposals and select a consultant to perform a management audit. Most of the requests for proposal contained in appendix C provide further information on the evaluation and selection processes.

Florida Public Service Commission:
Consultant-Selection Process

STATE OF FLORIDA

Public Service Commission

Florida's selections process involves the following steps:

1. A review and grading of each proposal submitted is completed by each staff member.

2. An informal meeting is held to discuss each proposal. The number of consultants to be considered further is reduced to a manageable number, usually three to five.

3. The finalists are contacted and any questions developed by the staff are resolved, if possible.

4. A second imformal staff meeting is held to discuss the additional information obtained in 3 above.

5. The finalists are then contacted and interviews arranged. We specify, by name, which individuals are to be interviewed. While we do not limit the number of people they can bring, this does insure that the people directly responsible for doing the study will be present.

6. A final meeting is held after all the interviews have been completed. At this time we decide which consultant, if any, should be recommended to the Department Director. This recommendation is basically just a request to begin direct negotiations with the selected consultant to reconcile any differences that may still exist.

7. If our negotiations are successful, we make a recommendation to the Department Director as to which consultant should actually perform the study. If not, we would go to our second choice and begin negotiations. If he is in agreement, he recommends the selection to our Executive Director who, if in agreement, would recommend selection to the Commissioners

A unique rating schedule is developed for each study. The schedule is intended to evaluate both qualitative and quantitative aspects of each proposal. The first two which have been used appear on the following pages.

Florida Public Service Commission: Utility Management Audit Proposal Evaluation #001-A

UTILITY MANAGEMENT AUDIT PROPOSAL EVALUATION

PROJECT: _____

PROPOSAL SUBMITTED BY: _____

MAILING ADDRESS: _____

_____

_____

TELEPHONE: _____

CONTACT: _____

MANAGEMENT STUDIES REVIEWER

NAME: _____

TITLE: _____

DATE PROPOSAL ASSIGNED FOR REVIEW: _____

DATE REVIEW COMPLETED: _____

DATE EVALUATION SUBMITTED TO EVALUATION PROJECT MANAGER: _____

REVIEWER RECOMMENDATION

REJECT, NO FORMAL INTERVIEW RECOMMENDED: _____

_____

ACCEPTABLE, ADDITIONAL STUDY, REVIEW ECONOMICS & SCOPE RELATIVE TO OTHER PROPOSALS, FORMAL INTERVIEW RECOMMENDED: _____

_____

_____

CONDITIONAL ACCEPTANCE, REVIEWER CONDITIONS FOR RECOMMENDING FORMAL INTERVIEW DETAILED IN COMMENTS AND GENERAL REVIEW: _____

_____

_____

_____

MGMT. STUDIES #001

Evaluation Component 1
Administrative Requirements

Reviewers Guidelines - The proposal features listed below are strictly administrative in nature. The components outlined in the following information are not direct indicators of the quality of the proposed study. For this reason, no numerical evaluation is associated with this section. However, these requirements must be met in order for a particular consulting firm to be accepted by the Public Service Commission. Serious disregard for or noncompliance with PSC administrative requirements may result in the removal of an otherwise qualified consultant. A decision of this type will be made by the Management Studies Administrator after consideration of staff evaluations and discussions with the firm involved. It is hoped that all administrative requirements can be satisfied through negotiations with the consultant. Your identification of administrative shortcomings and evaluation of their collective significance is required.

If the consultant has, in your opinion, met a given requirement, check the box to the right of that requirement. If the consultant has omitted the requirement from the proposal or made an unacceptable effort to meet the requirement, you should comment in the space provided below each requirement. In the space provided at the end of this section, an overall evaluation of the consultant's adherence to administrative requirements should be made. Significant shortcomings requiring staff discussion and/or the Administrator's attention should also be listed.

1. The examination methodology to be utilized in the study is presented in sufficient detail to allow an accurate evaluation. ☐

2. The examination methodology reflects a cross-sectional comparative approach (with due consideration give to comparison limitations imposed by company differences in size, service area, etc.). ☐

3. The examination methodology does not incorporate any type of a phased approach. ☐

4. A detailed timetable is presented for all sections of the study and all associated reports/communications to the Public Service Commission. ☐

5. Professional fees and expenses are detailed by individuals. ☐

6. Professional fees and expenses do not exceed $40.00 per diem as required by Florida Statutes 112.061. ☐

7. The methodology incorporated to calculate professional fees and expenses is presented or a sample calculation is provided. ☐

8. Professional fees and expenses are separated by travel and other expenses (meals, lodging, incidentals, etc.). ☐

9. Three references (or more) including names, addresses, and telephone numbers, are provided for each senior professional concerning recent work. ☐

10. Resumes are provided for all consultant staff scheduled for participation in the study. ☐

11. Resumes indicate the approximate time and level of responsibility for engagements in which consultants have participated and which are submitted as qualifying experience. ☐

Reviewer's Evaluation of Consultant's Adherence to Administrative Requirements

Evaluation Component 2 - Qualitative Requirements

The evaluation criteria listed below are based upon either actual requirements outlined in the RFP or Management Studies goals/expectations. These criteria do have a direct effect upon probable quality of the proposed study or its value to the Commission. A numerical evaluation, based equally upon the proposal and the formal interview, is required.

The last page of this section is a numerical scoring sheet. Please note that it consists of three columns labeled proposal, interview, and total. For each of the criteria listed on the follpwing pages, you may award from 0 to 5 points. The numerical award should reflect your evaluation of the consultant's probable or actual performance with 5 representing excellence. Your initial evaluation, having access to only the proposal, should be recorded in the Proposal column. If the consultant is selected for an interview then an award of 0-5 is recorded in the Interviewer column. Since the interview process is deemed to be a better indicator of a consultant's ability to perform a management audit, the total number of points recorded at the bottom of the Interview column should be doubled. The most notable effect of doubling the Interview score is that a consulting firm with a highly rated proposal, will not be recommended with a corresponding low rating on the interview. The consultant's final "score" is the total of the two columns. Please enter this total also.

Qualitative Requirements

Study Methodology

1. The proposal submitted is unambiguous, comprehensive, and is sufficiently detailed enough to allow an accurate evaluation and thoroughly reflects the scope of work to be performed.

2. The overall study methodology presented by the consultant is an acceptable, valid approach. The approach appears compatible with Public Service Commission expectations.

3. The consultant's proposal, associated work plans, and other information (submitted in written form or communicated verbally) indicates a thorough well planned effort geared toward the needs of the Commission.

4. The study methodology outlined does consider the Commission intention to utilize the results/recommendations of the study to establish incentives which will promote maximum efficiency in purchasing operations. If not, the methodology appears to be capable of providing a study output which can be adapted to fit this purpose by the Management Studies Section and/or other PSC departments.

5. The study methodology is geared toward identification and assessment of both company strengths and weaknesses in the purchasing function.

6. The consultant will identify, to the maximum extent possible, any areas where opportunities exist to improve future performance. Such opportunities will be accompanied by a detailed action plan to facilitate realization. The plan will include specific company actions required, associated resource (personnel and financial) requirements, expected benefits, and an estimated total cost of implementation. The plan must be specific and easily adaptable to company operations.

7. The consultant has developed, to the maximum degree possible prior to actual study initiation, a comprehensive detailed workplan. This work plan contains (but not limited to) staff assignments, primary area/issues of investigation, planned examination person-hours for each area, and (where possible) probable methods of investigation to be applied.

8. The consultant will develop, where possible, a detailed plan which will allow the Commission to monitor the implementation of all study recommendations. The plan should be capable of generating indicators (numerical preferred) of benefits realized, preferably in terms of cost savings.

Consulting Team

9. The consulting firm, as a whole, appears to have adequate experience in the purchasing and/or telephone operations area to perform a study of this type and magnitude.

10. Individual consultants appear to be well qualified to perform the analyses and training associated with the areas to which they are assigned.

Staff Training

11. A detailed, comprehensive training program for Management Studies staff has been developed. The program does outline specific training goals, training documents and aids to be provided, training mechanisms and tools to be employed, performance evaluations, and any other pertinent information.

12. The staff training program outlined appears to be adequate and is compatible with Management Studies goals.

13. The consultant's training program for Management Studies staff provides for active participation in all phases of examination and analyses.

Evaluation Component 2 - Numerical Rating Sheet

Evaluation Criteria Area/Number	(1) Proposal	(2) Interview	(3) Total
Study Methodology			
1			
2			
3			
4			
5			
6			
7			
8			
Sub Total			
Consulting Team			
9			
10			
Sub Total			
Staff Training			
11			
12			
13			
Sub Total			
Grand Total Component 2*			
(Interview x 2)			

*On the line provided below the Interview Total only (Column 2), double the points. (x 2)

Max Quality Points Available: 195

Evaluation Component 3 - Evaluation of Proposed Study Scope

Reviewer Guidelines - Due to the relatively new introduction of utility management audits into the regulatory process, no detailed standard exists to compare the scope of the Florida PSC proposals against. A rough profile of a desired scope has been developed by the Management Studies Section. This profile reflects only the minimum expected scope. Detailed components or issues in each general area are not included to facilitate ease of evaluation. Adjacent to each general area is a box in which you place a numerical evaluation from 0 to 5.

Evaluation Component 3 - Evaluation of Proposed Study Scope

	General Area	Evaluation
1.	Organization	
2.	Functional Activities	
3.	Intercompany Interfaces, Responsibilities	
4.	Staffing Levels	
5.	Staff Training, Recruitment	
6.	Purchasing Policies and Procedures	
7.	Control Systems and Management Reports	
8.	Productivity and Efficiency Monitoring	
9.	Procurement Planning	
10.	Standards and Specifications	
11.	Procurement Methods	
12.	Cost Performance	
13.	Contract Administration	
14.	Supplier Performance Evaluation	
15.	Material & Equipment Quality Control	
16.	Contract Process	
17.	Competitive Bidding Practices	
18.	Non-Competitive Procurement	
19.	Inventory Control, Management	
20.	EDP Support, Management Systems	
21.	Committment, Authorization	
22.	Parent Company Purchases	
23.	Purchase Order Init, Control, System	
24.	Warehousing, Storage Operations	
25.	Professional Service Contracts	
	Total	
	Max Quality Points Available	125

GENERAL REVIEW OF OVERALL CONSULTANT PERFORMANCE & PROPOSAL QUALITY

Please utilize the space below for a general overview of the proposal and your opinion regarding any major shortcomings or features of significance. Include a recommendation for disposition of the proposal.

Total Quality Points Assigned: _____

Proposal Quality Maximum: 320

Florida Public Service Commission: Utility Management Audit Proposal Evaluation #001

UTILITY MANAGEMENT AUDIT PROPOSAL EVALUATION

PROPOSAL SUBMITTED BY: _____

MAILING ADDRESS: _____

_____

_____

TELEPHONE: _____

CONTACT: _____

MANAGEMENT STUDIES REVIEWER

NAME: _____

TITLE: _____

DATE PROPOSAL ASSIGNED FOR REVIEW: _____

DATE REVIEW COMPLETED: _____

DATE EVALUATION SUBMITTED TO ADMINISTRATOR: _____

REVIEWER RECOMMENDATION

REJECT, NO FURTHER EVALUATION RECOMMENDED: _____

ACCEPTABLE, ADDITIONAL STUDY, REVIEW ECONOMICS & SCOPE RELATIVE TO OTHER PROPOSALS: _____

_____

CONDITIONAL ACCEPTANCE, REVIEWER CONDITIONS FOR ACCEPTANCE DETAILED IN COMMENTS AND GENERAL REVIEW: _____

_____

_____

EVALUATION COMPONENT 1 - ADMINISTRATIVE REQUIREMENTS

Reviewer's Guidelines - The features listed below are proposal requirements outlined in the RFP. This component consists of administrative requirements which are not direct indicators of the quality of the proposed study. These features compose a checklist for evaluating the consultant's adherence to administrative requirements. No numerical evaluation is required. If the consultant has, in your opinion, met a given requirement, check the box to the right of that requirement. If the consultant has omitted the requirement from the proposal or made an unacceptable effort to meet the requirement, you may comment in the space provided below each requirement. The consultant's overall performance in this area should be indicated in the space provided at the end of the section.

1. The examination methodology to be utilized in the study is presented in sufficient detail. ☐

2. A detailed timetable is presented for all phases of the study. ☐

3. The previous experience of the consultant relating to scope of work is presented. ☐

4. The qualifications of all personnel directly involved in the study are presented. ☐

5. References are provided for all senior professionals concerning recent work. ☐

6. Professional fees and expenses are detailed by individuals. ☐

7. The methodology utilized by the consultant to calculate professional fees is presented. ☐

8. Expenses are separated by category (travel and other expenses). ☐

Administrative Requirements - General Performance Commentary/Recommendat

EVALAUTION COMPONENT 2 - QUALITATIVE REQUIREMENTS

Reviewer's Guidelines - The proposal features listed below are requirements that are outlined in the RFP and do have a direct effect upon the quality of the proposed study. The consultant's performance in this area is to be evaluated numerically. Using the information provided in the proposal regarding each feature, estimate the extent to which the study has (or will) satisfy each requirement. Your evaluation is to be reflected by assigning a number from 0 to 10 to each feature. The number 10 indicates that, in your opinion, the consultant will perform an excellent job in meeting the requirement or has met a requirement to the maximum extent possible. Deviations from the maximum should be reflected through decreasing scores. Comments are not required but a space is provided for this purpose if you desire to do so.

1. The overall study methodology presented by the consultant is an acceptable, valid approach. ☐

2. The consultant's experience in areas relevant to the scope of the study is acceptable. ☐

3. Staff qualifications indicate competence to perform examinations in assigned areas and to train Management Studies Staff. ☐

4. The consultant will identify all areas where opportunities exist to improve the future performance of the company. ☐

5. The consultant will develop specific and detailed plans/procedures to capitalize on cost saving opportunities. ☐

6. Recommendations will be accompanied by a detailed cost analysis for implementation. ☐

7. The consultant will develop a detailed and specific methodology for accurately determining benefits to be realized from implementing recommendations. ☐

8. The consultant will develop a specific plan for monitoring the results of implementation of study recommendations. ☐

9. The consultant will make suggestions and recommendations to aid the PSC in establishing an incentive program to ensure efficient operation of the electric utility. ☐

10. The consultant's training program for Management Studies Staff is sufficiently outlined. ☐

11. The consultant's training program for Management Studies Staff provides for active participation in all phases of examination and analysis. ☐

Reviewer's Comments:

Total Quality Points Assigned:

Evaluation Component 2 Quality Maximum: 110

EVALUATION COMPONENT 3 - PREVIOUS STUDIES STANDARD

Reviewers Guidelines - Due to the relatively new introduction of utility management audits into the regulatory process, no detailed "standard" exists to compare the scope of the Florida PSC proposals against. A recent survey of 28 utility management audits by Price Waterhouse compiled the common features of the audit scopes and the number of consultant's addressing each feature. Below is a listing of major study areas and component subjects within each area as identified by the survey. At the right of each component subject in the column headed Frequency Score, a number from 0 to 10 appears. This number indirectly indicates the percentages of consultants in the group of 28 who addressed this area. As an example, 9 represents an occurrence percentage of 80-89 percent. A frequency score of 2 means the subject was addressed in approximately 10-19 percent of the 28 studies. The total frequency score represents the overall value of each major study area.

Please note that an additional blank column (headed by Proposal Score) is provided adjacent to the frequency column. A blank area is provided for a proposal score on each subject. If the consultant indicates a particular area is to be addressed, the proposal score is recorded as being the same as the frequency score. Zero is to be entered where the consultant does not indicate addressing a particular area. After completing the process for all major study areas, the total proposal score is compared to the frequency score.

MAJOR STUDY AREA 1 - Executive Management

Component Subjects	Freq.Score	Proposal Score
1. Organizational Structure	9	
2. Selection of Officers & Directors	2	
3. Long Range (Strategic) Planning	6	
4. Conflicts of Interest	2	
5. Relationship with Affiliate Companies	6	
AREA TOTAL	25	

MAJOR STUDY AREA 2 - System Planning & Design

Component Subjects	Freq.Score	Proposal Score
1. System Planning	8	
2. Load Forecasting	9	
3. Generation & Bulk Trans.Planning	6	
4. Demand/Supply Studies	5	
AREA TOTAL	28	

MAJOR STUDY AREA 3 - Interchange & Pooling of Power

Component Subjects	Freq.Score	Proposal Score
1. System Operation	7	
2. Energy Accounting	6	
AREA TOTAL	13	

MAJOR STUDY AREA 4 - Construction

Component Subjects	Freq.Score	Proposal Score
1. Construction & engineering project planning	7	
2. Environmental requirements	4	
3. Power generation construction management	4	
4. Power delivery construction management (Trans. and distribution	5	
AREA TOTAL	20	

MAJOR STUDY AREA 5 - Fuels Management

Component Subjects	Freq.Score	Proposal Score
1. Planning	6	
2. Procurement	5	
3. Contracts Administration	4	
4. Transportation	3	
5. Fuel Adjustment Clause	1	
6. Quality Control	1	
7. Inventory management	5	
AREA TOTAL	25	

MAJOR STUDY AREA 6 - Power Generation Operation

Component Subjects	Freq.Score	Proposal Score
1. Operations & maintenance of generating equipment	9	
2. Condition of Physical Facilities	3	
3. Gas	3	
4. Water	2	
AREA TOTAL	17	

MAJOR STUDY AREA 7 - Power Delivery & Division Operations

Component Subjects	Freq.Score	Proposal Score
1. Field operations & maintenance of transmission and distribution facilities	9	
2. Meter installation/disconnection	2	
3. Customer Relations	4	
AREA TOTAL	15	

MAJOR STUDY AREA 8 - Financial Management

Component Subjects	Freq.Score	Proposal Score
1. Cash Management	7	
2. Accounting Systems and Financial Reporting	5	
3. Customer service-billing and collection	5	
4. Budgeting/Planning (Long & Short)	8	
5. Internal Auditing	5	
6. Financing methods and capital structure	3	
AREA TOTAL	33	

MAJOR STUDY AREA 9 - Rate Structure & Research

Component Subjects	Freq.Score	Proposal Score
1. Rate Case Management	2	
2. Load Management	6	
3. Rate Design	6	
4. Research and cost of service studies	4	
AREA TOTAL	18	

MAJOR STUDY AREA 10 - Human Resource Management

Component Subjects	Freq.Score	Proposal Score
1. Salary Administration	8	
2. Benefits	5	
3. Staffing	5	
4. Labor Relations	7	
5. Training	7	
6. Safety	7	
7. Equal Employment Opportunity	3	
AREA TOTAL	42	

MAJOR STUDY AREA 11 - Corporate Support Services

Component Subjects	Freq.Score	Proposal Score
1. Purchasing	4	
2. Inventory Management	8	
3. Land Management	4	
4. Transportation Management	7	
5. Facilities Management	5	
6. Electronic Data Processing	8	
7. Insurance	3	
8. Legal	6	
9. Security (Accounting,inventory(parts and fuel)	4	
10. Communication(internal and external)	5	
11. Written Policies & Procedures	10	
AREA TOTAL	64	

MAJOR STUDY AREA 12 - Productivity Practices

Component Subjects	Freq.Score	Proposal Score
1. Productivity of capital,materials,labor	6	
2. Work Force Management	6	
3. Corporate Management Services	3	
AREA TOTAL	15	

MAJOR STUDY AREA 13 - Contingency Planning

Component Subjects	Freq.Score	Proposal Score
1. Management Long Term Policy/Goals for Alternative Fuels (Generation & Company Fleet)	5	
2. Contingency Planning-Petroleum Product Supply Interruption	8	
3. Contingency Planning-Nuclear Facilities	7	
4. Contingency Planning-Natural Disasters	7	

MAJOR STUDY AREA 13 - Contingency Planning - Cont.

Component Subjects	Freq. Score	Proposal Score
6. Contingency Planning - Coal Supply Interruption	7	
AREA TOTAL	39	

Reviewer's Comments

Total Quality Points Assigned: _____

Evaluation Component 2 Quality Maximum: 354

GENERAL REVIEW OF OVERALL CONSULTANT PERFORMANCE & PROPOSAL QUALITY

Please utilize the space below for a general overview of the proposal and your opinion regarding any major shortcomings or features of significance. Include a recommendation for disposition of the proposal.

Total Quality Points Assigned: _____

Proposal Quality Maximum: 464

Michigan Public Service Commission: Proposal-Evaluation Process for Management Efficiency Review of the Detroit Edison Company

MANAGEMENT EFFICIENCY REVIEW OF THE DETROIT EDISON

Developed by Ned Poer

The Michigan Public Service Commission (MPSC) has provided a point system for evaluating the Proposed Detroit Edison Management Efficiency Studies submitted by various Accounting and Management Consulting firms. See the attached Proposal Evaluation Sheet.

In general, the system provides 10 points for Price, 45 points for Capability and Qualification and 45 points for Professional Personnel. Further, the suggested distribution of points for each of the three major categories are as follows:

A. Price - 10

Cost Per Man-Hour	- 5
Total Price	- 5

B. Capability and Qualification - 45

Company Experience	- 12
Understanding the Problem	- 18
Work Plan	- 10
Overall Evaluation	- 5

C. Professional Personnel - 45

Project Manager	- 18
Team Members	- 15
Team Composition	- 7
Overall Evaluation	- 5

For the purpose of our evaluation, we have decided to deviate somewhat from the above rating system and concentrate our efforts on the following four areas which we deem most indicative of a firm's ability to provide the best study:

		Points
I	Quality of Prior Experience	12
	A. Management review and analysis experience with Detroit Edison - 2	
	B. Management review and analysis experience with other Michigan utilities - 2	
	C. Management review and analysis experience with other utilities and regulatory agencies - 4	
	D. Experience in the various facets of utility management especially fuel procurement and capital construction - 4	
II	Understanding the Problem and Work Plan	33
	Understanding the Problem - 15	
	Work plan-18	
III	Professional Personnel	45
	Client Executives/Project Directors/ Advisors - 15	
	Team Leaders - 15	
	Team Members - 10	
	Team Composition/Overall Evaluation - 5	
IV	Quantity and Quality of Hours Spent	10

It was agreed by the members of T.O. performing the evaluation, that the Commission's category, Price, although important, would most likely reach the maximum allowable amount of $500,000, regardless of who was selected to perform the study. Given this premise, it was agreed that concentration of effort on the above four major areas would result in a more meaningful evaluation.

MICHIGAN PUBLIC SERVICE COMMISSION

PROPOSAL EVALUATION SHEET

MANAGEMENT EFFICIENCY REVIEW OF DETROIT EDISON COMPANY

Contractor_____

Evaluation Factor	Maximum Points	Suggested Points	Raters Points	Remarks
A. Price (10%)	10			
1. Cost per Man-Hour		5		
2. Total Price		5		
B. Capability and Qaulification (45%)	45			
1. Relevant and Recent Company Experience		12		
a. Regulatory Agencies				
b. Electric Utilities				
c. Other Utilities				
d. Industry or Special Projects				
2. Understand Problem and Soundness of Approach		18		
a. Relevancy of Approach				
b. Creativity				
c. Practicality/ Reasonableness				
d. Thoroughness				
e. Techniques Employed				
3. Work Plan		10		
a. Delineation of Events and Task				
b. Man-days of Effort				
c. Time Related PERT-type Analysis				
d. Documentation Methodology				
4. Overall Evaluation		5		
C. Professional Personnel (45%)	45			
1. Project Manager		18		
2. Team Members		15		
3. Team Composition		7		
4. Overall Evaluation		5		
TOTAL				

New York State Department of Public Service:
Description of Proposal-Evaluation Method

STATE OF NEW YORK
Department of Public Service

The following description of New York's method of proposal evaluation is excerpted from a letter to NRRI:

We have no rigid scheme for proposal evaluation. Each proposal is examined for conformance to the request for proposal. Every major functional area of the utility which is addressed by the proposal, e.g. gas supply planning, materials management, power generation, etc. is examined by the same staff member for each proposal. In that way a comparative evaluation, function by function, is possible.

We ask the staff to refrain from expressing opinions about particular proposals until the meeting at which we formally evaluate the proposals. At that time, we assign ratings such as excellent, satisfactory, or unsatisfactory to aspects of the proposal such as:

1.) corporate experience with management audits

2.) experience of proposed consulting staff

3.) each of 12-15 different functional areas described in the proposal as areas of inquiry

4.) willingness of firm to work "with" our staff

5.) cost and schedule

This, of course, only gives us the initial "cut" based upon the written proposal. We then begin the much more exhaustive review by meeting personally with all or most of the proposed consulting team. Those meetings typically last six to ten hours per proposal and are the acid test of the selection process.[1]

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[1]Howard A. Tarler, Chief Utility Management Analyst, New York Public Service Commission.

Pennsylvania Public Utility Commission: Evaluation of Proposals of Consultants

COMMONWEALTH OF PENNSYLVANIA

Public Utility Commission

Review of Proposals for Each Audit:

A committee is established within the Commission to review the proposals for each audit. This review committee includes two members of the Bureau of Audits, one member from Rates and Research, and one member from Conservation, Energy and Economic Planning. Selection of three finalists will be based on the consultant's understanding of the problem, firm qualifications, qualifications of personnel assigned to the engagement, soundness of approach, cost and potential conflicts of interest (Exhibit I).

The Committee then recommends one consultant to the Commission for approval to commence Phase I of the management audit.

(Exhibit I)

EVALUATION OF PROPOSALS
OF CONSULTANTS BY
THE PUC STAFF FOR
$10M. M REVENUE AND OVER

Understanding of the Problem (15)
- a. Consistent with RFP (5)
- b. Understand needs and objectives of consumers, utility, and PUC (10)

SUBTOTAL

Work Plan (25)
- a. Soundness of approach (10)
- b. Clarity of explanation (4)
- c. Personnel tasking (5)
- d. Time allowance (6)

SUBTOTAL

Personnel Qualifications (25)
- a. Supervision (P.M./Coordinators) (13)
  - 1. Experience in utilities (6)
  - 2. Experience in management audits (7)
- b. System Analysts or Auditors (12)
  - 1. Experience in utilities (6)
  - 2. Experience in management audits (6)

SUBTOTAL

Contractor Qualifications (20)
- a. Evaluation of completed MA (5)
- b. Contractor's resources and experience relative to the utility's size and complexity (E/T - See page 2) (15)

SUBTOTAL

TOTAL

EXPLANATIONS OF EVALUATIVE CRITERIA

1. Understanding of the Problem - does the consultant's proposal make clear that he has read the RFP and understands what the Commission is trying to do?

a. Consistent with RFP - has the consultant's proposal followed the format and provided the information requested in the RFP?

b. Understand needs and objectives of consumers, utility, and PUC - does the consultant's proposal indicate a balanced review of the utility?

2. Work Plan - how does the consultant's plan compare to those presented by his peers?

a. Soundness of approach - is the work plan sound? That is, does it address all the functional areas? Is it balanced? Is the sequencing logical?

b. Clarity of explanation - has the consultant described his approach to thetask in a clear, understandable fashion? Is there enough information given in the proposal to determine if the review will cover all major areas of the utility? Will the PUC be able to determine the consultant's legal compliance based on information supplied in the proposal?

c. Personnel tasking - are the right people assigned to the right task? For example, are there engineering personnel assigned to areas requiring engineering expertise? Are personnel with experience actually going to be on the job?

d. Time allowance - is the consultant allocating an appropriate amount of time to do a competent job? An analysis of this factor will require a comparison of the time each consultant allocates to the job. The management audit group may also have some guidelines based on past management audits.

There has to be some attempt to balance what is a reasonable time allowance for the task with the points granted. For example: If 1500 hours is judged to be reasonable for this audit, then a consultant allocating 2500 hours to the job should not necessarily be granted more points then the consultant allocating 1600 hours. The exception would be where the work plan included a functional review considered necessary and overlooked by others.

3. Personnel Qualifications -

a. Supervision (Project Manager/Coordinators) -

1. Experience in utilities - based on the individual's resume, how many similar studies of utilities has he been involved in? What was his level of responsibility compared to the current proposal?

2. Experience in management audits - based on the individual's resume, how many general management audits has he been involved in? What was his level of responsibility compared to the current proposal?

b. System Analysts or Auditors -

1. Experience in utilities - based on the individual's resume, determine how many similar studies of utilities has he been involved in? What was his level of responsibility compared to the current proposal?

2. Experience in management audits - based on the individual's resume, how many general management audits has he been involved in? What was his level of responsibility compared to the current proposal?

4. Contractor Qualifications - can the consultant perform the job required by the PUC?

a. Evaluation of a completed management-audit - the report is to be reviewed on a stand alone basis. Size of the firm that was addressed in the audit as well as the scope should not be considerations. The evaluation must consider whether the report is:

- Written in a clear, concise, and well-ordered manner.
- Precise in quantification of benefits resulting from the recommendations where possible.
- Balanced in stating the strengths as well as the areas that need improvements.

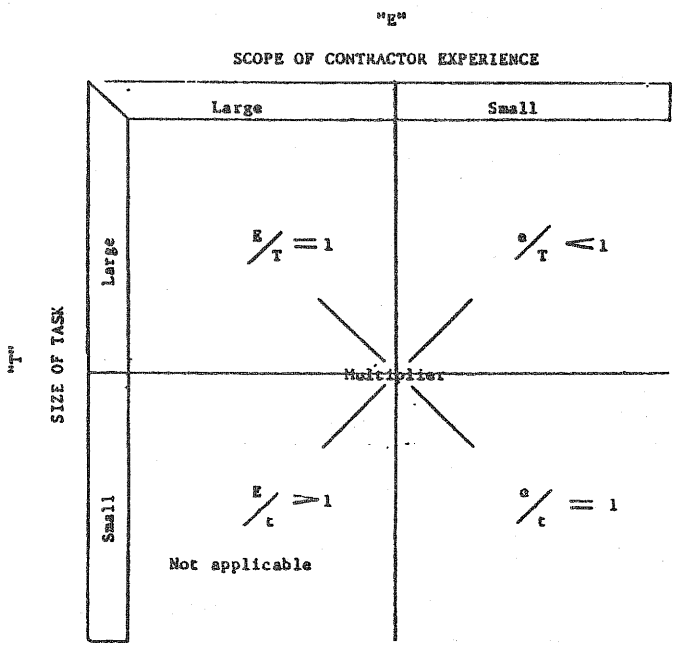
b. E/T: Experience vs. Task - this evaluation should be held to last. It should include the reviewers' overall judgment of the consultant's relative ability to perform the review based on the evaluative criteria preceding. In evaluating a consultant's ability to perform a comprehensive review, consideration should be given to the scope of reviews conducted in the past. For example: a consultant's experience in management audits of other firms may have been limited to the finance function, i.e., cash management, material management. In this case, the consultant's ability to perform a review in other areas of a firm such as engineering, construction, customer relations, etc., cannot be determined. On the other hand, a consultant may have past experience in all functional areas but has not addressed them all in one engagement. In this example, the consultant may or may not be able to perform a comprehensive review as contemplated in our program.

Another possibility is that one of the consulting firms has not performed a management audit as large as the one being proposed. However, there is a larger size range which the consulting firm's experience should be able to cover. For example: a consulting firm's largest management audit may have been of a $10 million firm. Based on the evaluations of the criteria above, and assuming a @25 million utility to be reviewed, you may feel that this consultant warrants a score of 10, the same as given to a consultant who has performed a management audit of a $100 million firm. On the other hand, if the present audit called for a review of a $250 million utility it may be reasonable to score consultants with the lesser experience less than 10 points.

See further discussion of this evaluative criterion on the next page.

CONTRACTOR QUALIFICATIONS MULTIPLIER

An objective evaluation of the contractor's resources and experience is qualified in terms of relevancy to the task at hand by application of an experience/task (E/T) multiplier of 1 or less than 1.



EXAMPLE: Contractor resources and experience score maximum 10 points based on objective review. Comparing the magnitude of the task in relation to the depth of experience and resources, the necessity of an adjustment to the raw score of 10 can be determined by referring to the above matrix; i.e., where $E/T < 1$ is evident, a score of less than 10 is a consideration. In no case will an E/T factor greater than 1 be used.

APPENDIX E

ILLUSTRATIVE RECOMMENDATIONS IN MANAGEMENT AUDIT REPORTS

This appendix shows some of the formats used by consultants and commission staff to present recommendations resulting from their studies. The simplest format states a conclusion and then a recommendation, underlined, as in example 1.

Several formats have been used to show priorities assigned to recommendations. For each recommendation, example 2 prescribes completion in the near term or the longer term and indicates whether further study is required. In example 3 recommendations are ranked from highest to lowest and expected benefits from carrying out each recommendation are listed. Example 4 shows another priority ranking together with an explanation of the definitions used for priority classifications.

Other formats present recommendations on what should be done and who should do it. Example 5 is such a format with a key to the designations for "recommended followup." Example 6 shows a tabular presentation of recommendations that provides both "recommended priority" and "recommended resources" to carry out the recommendation. Example 7 specifies whether an outside consultant is needed to carry out a recommendation and, if so, what the consultant's role should be and how much the consultant's work should cost.

Finally, comments by the utility are sometimes included in a management audit. Example 8 shows a list of recommendations with the utility's comments in italics.

These examples are taken from the following audits (see appendix A for a complete citation for each study):

Example	Utility	Management Audit
1	Missouri Power and Light Company	Missouri Public Service Commission, Office of Management Services
2	Pacific Gas and Electric Company	Cresap, McCormick, and Paget, Inc.
3	Jamaica Water Supply Company	Utility Management Audit Section, New York State Department of Public Service
4	Columbia Gas of Pennsylvania, Inc.	Stone and Webster Management Consultants, Inc.
5	Pennsylvania Power Company	Touche Ross and Company
6	Mid-Penn Telephone Corporation	K. W. Tunnell Company, Inc.
7	Philadelphia Suburban Water Company	Arthur Young and Company
8	New York State Electric and Gas Corporation	Theodore Barry and Associates

Example 1

SUPPORT FUNCTIONS

A. Accounting

- A general review and updating of the "General Instruction Book" and "Accounting Bulletins" have not been performed for some time. Some of these procedures are dated prior to 1960. A need exists for a review and updating of the accounting procedures manuals.

  Review and update the accounting procedures manuals. Management Letters should be incorporated as formal general procedures. All procedures should be reviewed for timeliness; if they are still in force, they should be updated with a current review date. The updated manual should be communicated Company-wide.

- As of the completion of our on-site review, MPL had not established a firm policy for addressing the plant unitization backlog. It has been estimated that eight to ten man-years would be required to bring plant unitization up to date. A means of assessing current status toward completion does not exist. Work quotas have not been established. Project target milestones are absent.

  Establish a firm policy for dealing with the backlog of electric plant unitization. This policy should include a detailed, measurable schedule of events that consists of work quotas and project targets that are assignable to responsible supervisors.

- A duplication of effort exists between the payroll section and other areas of the Company; principally, the personnel division. Payroll records are reportedly maintained in essentially every department of the Company.

  Define responsibility for the maintenance and control of payroll-related personnel records.

  Identify departmental needs for payroll-related personnel records such that controls can be established which restrict unwarranted access of personnel information.

- The internal audit division's performance audit produced several recommendations that, if implemented, would substantially modify manpower requirements for all sections of the accounting division. The need exists for the Company to actively review manpower requirements for all sections of the accounting division, with the objective of more fully optimizing resources.

  Review the manpower requirements for all sections of the accounting division, establish minimum staffing requirements, and transfer excess support to sections where manpower deficiencies currently exist.

Example 2

PACIFIC GAS AND ELECTRIC COMPANY

SUMMARY OF RECOMMENDATIONS

Recommendation	Type Of Recommendation — Implementation In: Near Term	Longer Term	Further Study Required
Corporate Management			
• Consideration should be given to enhancing and broadening the informational content of written materials provided to directors, and to the prudence of distribution in advance.	X		X
• Consideration should be given to enhancing the technological management expertise collectively represented among the outside directors.		X	
• Define and disseminate supplements to the information provided to new directors or advisory directors.	X		X
• A comprehensive study of corporate organization, including division arrangements, should be undertaken.	X		X
• Major improvements should be introduced into the basic management process.	X		X
Customer And External Relationships			
• PGandE should move toward a separate and more unified organization for managing the new business function.		X	X
• PGandE should move aggressively to ensure that all new or expanded commercial, industrial and agricultural customer facilities are reviewed for conservation potential.	X		
• The process for senior management determination of load management and conservation objectives and goals should be more structured.	X		
• PGandE should pursue a more aggressive course with respect to capital investment in load management and conservation equipment, program advocacy, and program funding.	X		
• PGandE should formalize and document procedures for assessing load management and conservation potential and identifying applicable programs.	X		
• PGandE should modify several aspects of its approach to evaluating conservation program cost-effectiveness.	X		X
• PGandE should develop a more uniform approach to organization for implementing conservation activities.		X	X
• Work standards and results-oriented performance measures should be adopted as widely as possible.		X	X
• PGandE should evaluate alternatives to the current computer support of residential energy audits.	X		X
• Senior management should formally establish overall guidelines for customer services, then comprehensively review plans and budgets based on these guidelines.	X		
• Customer services performance standards should be expanded to include more quality of service measures.	X		
• Customer services productivity management tools should be updated and expanded.	X		X

Example 4 (page 1 of 3)

COLUMBIA GAS OF PENNSYLVANIA, INC.
MANAGEMENT AUDIT
COMPILATION OF RECOMMENDATIONS

Priority	Recommendation
ORGANIZATION	
B .	Study the costs and benefits of replacing the CDC headquarters building and act in accordance with the results.
OPERATIONS	
General	
A .	Build mandatory consideration and analysis of alternative methods of operation into the budget preparation process.
A .	Develop and utilize an objective evaluation of the level and trend of unit man-hours and costs. Analyze this data to aid in establishing cost reducing goals and objectives.
A .	Establish more quantitative improvement objectives in the MBO program.
Plant Work Force Management	
A .	Develop and implement a comprehensive performance enhancement program for plant operations. The potential value of improved productivity is estimated to be $1.5 million annually.
Construction Practices	
A .	Review and revise the awarding procedure on construction contracts to increase competition and/or lower bid prices and regularly test various alternatives.
A .	Establish definitive measures of contractor and company crews' unit costs. Utilize such data to establish the most economical percentage mix of contractor and company crews.
C .	Review the prohibition of contractor performed tie-ins of gas carrying facilities with the intent of eliminating this prohibition.
Plant Operation and Maintenance	
C .	Report the status of required remedial corrosion control work to CDC Engineering on cathodically protected systems that have fallen below required protection levels.
C .	Prepare, regularly report, and analyze a summarization of crews' response times to emergencies.
Customer Service	
A .	Continue and accelerate development of a comprehensive system for analysis of customer service work force productivity.
A .	Compile and distribute monthly information regarding response time to emergencies for each Area of CPA. Establish reasonable response time goals for each Area against which performance can be compared.
B .	If the Pa.PUC indicates interest informally, thoroughly investigate the potential benefits of meter testing using random sampling. If favorable, pursue the matter with the Pennsylvania Gas Association and formally submit a joint request to the Pa.PUC for permission to adopt sample meter testing in Pennsylvania. After a period of years, annual savings of approximately $25,000 could result.

Example 3

RECOMMENDATIONS (Summarized)

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Recommendations	Benefits	Ranking
JWS should acquire the capability to perform methods analysis, efficiency and effectiveness assessments and economic analyses.	Improved workforce utilization and cost reduction or avoidance of future manpower and contractor expense, improved levels of service to customers where appropriate, and improved utilization of all resources and reduction in associated expenses.	Highest
JWS should establish a systematic planning and analysis capability to develop effective preventive maintenance programs.	Minimization of maintenance expenditures by extending the life of plant and equipment, reducing breakdown and emergency repairs, reducing equipment downtime and effective use of maintenance personnel and materials and supplies.	Highest
MANAGEMENT FUNCTION		
JWS should develop an ongoing management succession planning process with a moving five-year horizon.	The impact from imminent losses of experienced personnel will be reduced.	High
JWS, in future rate proceedings, should be directed by the Commission to demonstrate, when it purchases services including legal and financial, from firms represented by directors of JWS or its parent and affiliate, that no other firm would provide such services at a lower cost to the customer.	Provides further assurance to the Commission that the opportunity for conflict of interest is minimized.	High

COMPILATION OF RECOMMENDATIONS FOR IMPROVEMENT

The charts included at the end of this Executive Summary bring together all of our recommendations for improvement for ease of reference and as an aid to the Company and the Pa.PUC for monitoring the progress of implementation.

The priorities assigned to each recommendation reflect our judgment regarding the urgency with which each should be addressed. The following definitions have been used:

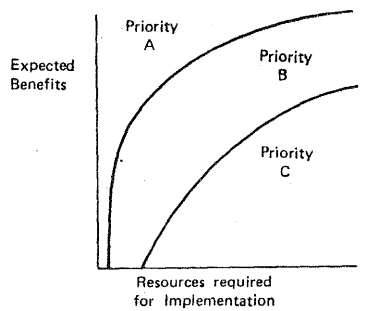
Priority	Definition
A	Implementation should proceed immediately or as quickly as possible.
B	Implementation should proceed without delay but should not employ resources needed for Priority A recommendations.
C	Implementation should proceed as resources are available.

Our judgment regarding priority classification of recommendations rests on two principal factors: expected benefits and resources required for implementation. All recommendations embody the implicit assumption that expected benefits exceed costs or they would not be recommended. Any recommendations carrying with them the likelihood of substantial benefits either in terms of cost savings or improvements in service are classified "A". At the same time, recommendations expected to cost little or nothing but with some benefits are also classified "A".

In many cases the benefits to be derived from implementation of a recommendation are intangible such as those accruing from establishment of more quantitative management objectives. It is impossible to predict what the specific effects of such an action may be. Nonetheless, if the recommended action is, in our judgment, a desirable management practice involving little cost, then the recommendation is given a high priority for implementation as in this example.

In other cases, it may be impossible to quantify benefits and costs without the gathering of additional information and expanded study beyond the scope of our investigation. Again, if, in our judgment, there is potential for significant benefit, then further study or implementation on a trial basis is recommended. This may be given a high priority depending on our assessment of that potential.

In order to help visualize priority classification the following chart shows the zones of each priority plotted against the two dimensions of expected benefits and costs defined as resources required for implementation.



Example 5

PENNSYLVANIA POWER COMPANY

PHASE I MANAGEMENT AUDIT

SUMMARY OF RECOMMENDATIONS

Functional Area	Recommendation	Recommended Follow Up
Forecasting	. Prepare forecasts for longer periods	A
	. Use alternative forecasting techniques	A
Facilities Planning	. Greater participation by Penn Power in facilities planning process	C
	. Analyze CAPCO facilities planning process	C
Construction Management	. Determine Penn Power's requirements and if Ohio Edison's new capabilities will satisfy Penn Power's requirements	C
	. Improve construction management	E
Generation Station Management	. Define split of responsibilities between Penn Power and Ohio Edison	D
Firm Capacity Sales	. Analyze firm sales policies and impact of policies on Penn Power customers	C
Penn Power Fuel Management	. Analyze alternatives for compliance with sulphur emission standards at New Castle plant	B
	. Analyze transportation and handling facilities at New Castle plant	B
	. Develop long range fuel acquisition policy	B

PENNSYLVANIA POWER COMPANY

PHASE I MANAGEMENT AUDIT

SUMMARY OF RECOMMENDATIONS

Functional Area	Recommendation	Recommended Follow up
Corporate Organization	. Determine functional responsibilities of Penn Power and Ohio Edison on each functional area	D
	. Analyze and restructure senior management organization within Penn Power	D

Recommended follow up codes:

A-Penn Power should implement immediately
B-Penn Power should analyze, develop specific recommedations and take appropriate action
C-Touche Ross should develop specific recommendations in Phase II
D-Consultants currently performing on organization study of the Company should address this issue
E-Penn Power is presently planning to or implementing charges in this area

Summary of Recommendations and Recommended Priority and Resource for Implementation

Topic/Recommendation	Recommended Priority[1]	Recommended Resource[2]
MANAGEMENT ORGANIZATION AND PLANNING		
• Mid-Continent Management Organization		
- Provide written position descriptions for officers and senior managers	3b	D
- Redefine mission of the Audit Committee of Mid-Continent Board of Directors	2a	D
• Mid-Penn Management Organization		
- Study Mid-Penn organization. Recommend new structure	1c	C
- Institute and maintain formal training program for improving managerial effectiveness	1c	C
- Institute formal cost containment and reduction program	1b	B
• Mid-Penn Board of Directors		
- Add individuals to Board who can provide points of view and experience not currently represented	Ongoing	A
• Strategic Planning		
- Adopt a formal approach to strategic planning	2b	D

Notes 1 & 2: Explanation of symbols used will be found at the end of this exhibit.

KEYS

1. Priority

The priority key is made up of a numeral and a letter in the form nx. The number, "n" is a measure of the cost impact or other perceived urgency in implementing the recommendation according to the following definitions:

- n = 1: most urgent, recommend starting within 3 months
- n = 2: less urgent, recommend starting within 6 months
- n = 3: least urgent, recommend starting within 12 months

The letter "x" is a measure of the effort and therefore time, estimated to be required to carry out the recommendation according to the following definitions:

- x = a: moderate - one to three months
- x = b: significant - three to six months
- x = c: extended - more than 6 months

2. Resource

The resource for implementing a recommendation is coded as follows:

- A = Mid-Penn
- B = Mid-Penn with moderate outside assistance from qualified consultant
- C = Mid-Penn with significant to extensive outside assistance from qualified consultant
- D = Mid-Continent
- E = Qualified outside consultant

Example 7

PHILADELPHIA SUBURBAN WATER COMPANY

SUMMARY OF SUGGESTED APPROACH
TO PHASE I RECOMMENDATIONS

Phase I Recommendations	Use Outside Consultant	Role of Consultant	Estimated Cost
A. Corporate Planning & Capital Budgeting			
• Analyze plant capacity and distribution storage planning criteria	Yes	In-depth Analysis	See Section VI-A*
• Reassess maximum yield from existing sources	No	-	-
• Develop long-range financial planning process	Yes	Consultative	$15,000-$25,000
• Develop capital budgeting criteria and standardized budget submission format	No	-	-
B. Organizational Structure			
• Formalize organizational plan	Yes	Consultative	$ 5,000-$15,000
C. Financial Planning and Control			
• Redefine accounting systems requirements	Yes	Assist with Implementation	$20,000-$30,000
• Strengthen budgeting and budgetary controls	Yes	Consultative	$ 5,000-$10,000
• Strengthen cash management	Yes	Assist with Implementation	Part of accounting system redefinition.
D. Personnel Administration			
• Upgrade role of personnel director	No		-
• Develop supervisory/management training program	Yes	Consultative	$ 2,000-$ 4,000
E. Electronic Data Processing Services			
• Develop long-range data processing plan	Yes	Assist with Implementation	$20,000-$25,000
• Formalize reporting structure for development projects	No	-	-
• Obtain competitive bids on major development projects	No	-	-
• Document PSWC systems	No	-	-
• Clarify reporting relationships between EDP Division of PSC and PSWC/hire systems analyst	No	-	-

* Section VI-A is not included in this example.

Example 8

NEW YORK STATE ELECTRIC & GAS CORPORATION

SUMMARY OF PROPOSED PHASE II PROJECTS

Function/Recommendation	Steps Required	Potential Cost Benefits
Personnel And Labor Relations		
Perform a detailed study of the personnel function to determine whether a more satisfactory staffing level can be attained.	1. Review in detail missions and functions in each segment of the personnel function 2. Develop workload requirements by area and function 3. Evaluate Corporate vs. Area personnel role 4. Conceptualize revised organization structure and quantify expected benefits	Cost avoidance of 11 manpower equivalents

NYSE&G Comment

NYSE&G does not agree with the need for a Phase II project regarding staffing levels of the Personnel function. We feel this is an arbitrary conclusion based largely on assumptions that do not appear to be valid. NYSE&G will undertake a study internally to determine what the satisfactory staffing level is.

Corporate Planning		
Initiate a more formalized, disciplined approach to developing a corporate model by performing a feasibility study.	1. Perform a system study and specifically evaluate objectives and goals, scope of model, MIS linkages and the extent of in-house development or tailoring of available software 2. Identify alternative approaches to building or purchasing the model including consideration of time, cost/benefits and priorities 3. Obtain senior and executive management approval of the system study and evaluation	

NYSE&G Comment

NYSE&G agrees with this recommendation and it is, at the present time, being implemented. There will be no need for a Phase II project.

APPENDIX F

NEW YORK STATE DEPARTMENT OF PUBLIC SERVICE: A GUIDE FOR THE IMPLEMENTATION OF MANAGEMENT STUDY RECOMMENDATIONS

This appendix is a document prepared and used by the Management Audit Section of the New York State Department of Public Service to monitor a utility's implementation of a commission-ordered management audit's recommendations.

PREFACE

The need to examine the effectiveness and efficiency as well as to assess the management and operations of New York State utilities is a part of the New York State Public Service Commission's responsibility to set rates at the lowest level commensurate with safe and adequate service. In early 1974, the first consultant was selected to undertake a management and operations study of the Consolidated Edison Company of New York, Inc. The Public Service Law has since been amended to require that a comprehensive management and operations study be performed for each major electric and each major gas utility at least once every five years.

The recommendations that result from a management and operations study must be considered by the utility, and the implementation decision must be reported in order for the Public Service Commission to be aware of each utility's progress in its implementation process. The implementation reports described in this manual will provide the necessary information to keep the Public Service Commission and its staff informed of the status of implementation and the degree of success for the implementation plans that have been developed. Successful implementation of management study recommendations should provide improved operating performance and cost savings, which are common goals of the utilities and the Commission.

In the Niagara Mohawk Power Corporation Phase II study, the development of an implementation procedures manual was a major project. The manual which was developed was used as the basis for the implementation procedures adopted for use in all future management studies. The resultant implementation guide is the product of a cooperative effort among the Public Service Commission staff and the utilities that are subject to the management audit program.

THE IMPLEMENTATION PROCESS

The fundamental purpose of the implementation program is to assure that all recommendations resulting from the management and operations study are addressed. It is also expected that the implementation reports will be used: to review the decisions made by utility management to accept or reject recommendations; to review the plans for implementation of those accepted; and to keep informed of the status and success of those plans. At a later date, it will be necessary for staff to perform follow-up studies to assess the results of the recommendations which have been implemented.

A standard report format and frequency of reporting have been established for all the utilities participating in the management studies program. These forms and procedures are described in this manual.

In the following paragraphs, the responsibilities for implementation are defined, the time schedule for the implementation program is described, and the use of the forms for reporting is explained.

It will be the responsibility of the utility to evaluate the recommendations, prepare recommendation evaluation documents, schedule the implementation of the recommendations, perform any studies required, prepare progress reports, monitor the progress of each recommendation, and issue status reports for use by the Public Service Commission staff.

It is the responsibility of the Public Service Commission staff to approve the utility's standard definition of major and minor projects, review the recommendation evaluation documents and the proposed implementation plans, and to monitor the progress toward achievement of the recommendations as reported by the utilities.

After receipt of the final management study report, the utility will, as soon as possible, within the next ninety days:

a) compile and number all recommendations

b) establish the internal organization which will be utilized for administering the implementation program.

c) develop a standard definition for major and minor projects

d) initiate (and attempt to complete) each of the recommendation evaluation documents (Form 1) and

e) begin work on the overall implementation schedule (Form 2).

The Public Service Commission's utility management audit staff will meet with the company at the end of the ninety-day period. The work performed on the recommendation evaluation documents and the implementation schedule will be discussed and reviewed, as will the plans for (1) use of the exception report (Form 3), (2) use of the corporate summary progress report (Form 4), (3) use of the recommendation implementation completion report (Form 5), and (4) the frequency of reporting to the Public Service Commission on the status of the implementation program.

The forms, and directions for use of the forms, as well as the time schedule for submission, are explained in the following sections of this manual.

DESCRIPTION OF STANDARD REPORTING FORMS

FORM #	TITLE	USE	FREQUENCY OF SUBMISSION OR UPDATE
1	Recommendation Evaluation Document	To identify the project which addresses one or more recommendations, the objectives, costs and benefits and reasons for acceptance or rejection. The major guideposts are also listed on this form.	Will be submitted for all projects within 90 days of issuance of study final report and prior to beginning of implementation program unless management audit staff agrees that additional time is required for one or more submissions.
2	Implementation Schedule	To prioritize and schedule the projects to be implemented so they can be accomplished in a timely and orderly manner.	Date will be set at initial meeting with PSC staff. Will be updated if a major revision in schedule occurs.
3	Exception Report	To report any major changes in the implementation of a project. A major change includes: scope change, objective change or schedule change.	Monthly: as needed.
4	Corporate Summary Progress Report	To report the status of the implementation program.	Updated quarterly.
5	Recommendation Implementation Completion Report	To report the completion of the project.	Will be submitted with the next corporate summary progress report following completion of implementation for each recommendation.

FORM I
INSTRUCTIONS

FORM TITLE: Recommendation Evaluation Document

ITEM

1 - Project identification number
2 - Title of project
3 - Department
4 - Final rank of project as determined by utility management
5 - Page reference(s) to specific recommendations in the consultant's report or any special study which may have been conducted by Public Service management audit staff
6 - Describe the project including references to related recommendations
7 - State the specific objectives of the project
8A- Check the status of the project:

Rejected:	State reasons for rejection in Item 15
Completed:	Form 5 will be filled out and submitted with quarterly summary progress report
Approved:	Project has been approved by management for implementation but has not been started
In Progress:	Implementation of project is currently underway

8B- Enter project category*
9 - Estimated implementation start date
10 - Estimated implementation completion date
11 - For major projects, enter the estimate of one-time and continuous costs associated with implementation
12 - Enter the tangible and/or intangible benefits
13 - Signature for approval by the utility
14 - Date the proposed planning document is approved
15 - If project was rejected, state reasons for rejection.
16 - This is to be used by the Public Service Commission for completed and rejected plans only. This will ensure that there has been a review by a Public Service Commission staff member and documentation verified upon conclusion.
17 - Number assigned to major project guidepost
18 - Description of guideposts. Whenever possible, a guidepost will not be greater than three months in duration, as this is the upper limit of the range to assist in the tracking process. If it is necessary to be greater than three months, intermediate guideposts must be included. Examples of guideposts are: issue first draft, have senior vice president review, etc.

* The designation of a project as "major" or "minor" will be based on the established definition of "major" and "minor" recommendations.

UMA-1
Form 1

Utility _____

STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE

RECOMMENDATION EVALUATION DOCUMENT

Project I.D. No. 1	Title 2	Department 3	
Project Rank 4	Phase I References 5		
Project Description: 6			
Objectives: 7			
Status 8A ☐ Rejected ☐ Completed ☐ Approved ☐ In Progress	Category 8B ☐ Major ☐ Minor	Est. Start Date 9 Est. Completion Date 10	

Costs 11	One-Time Costs	Recurring-Costs	THIS INFO.
Company			FOR MAJOR
Outside Services			PROJECTS ONLY
TOTAL			

Benefits: 12		
Approved by: 13	Date 14	
Reason for rejection 15		
Project Concluded 16 ☐ Yes ☐ No	PSC Use Only Initials	

MAJOR PROJECT GUIDEPOSTS

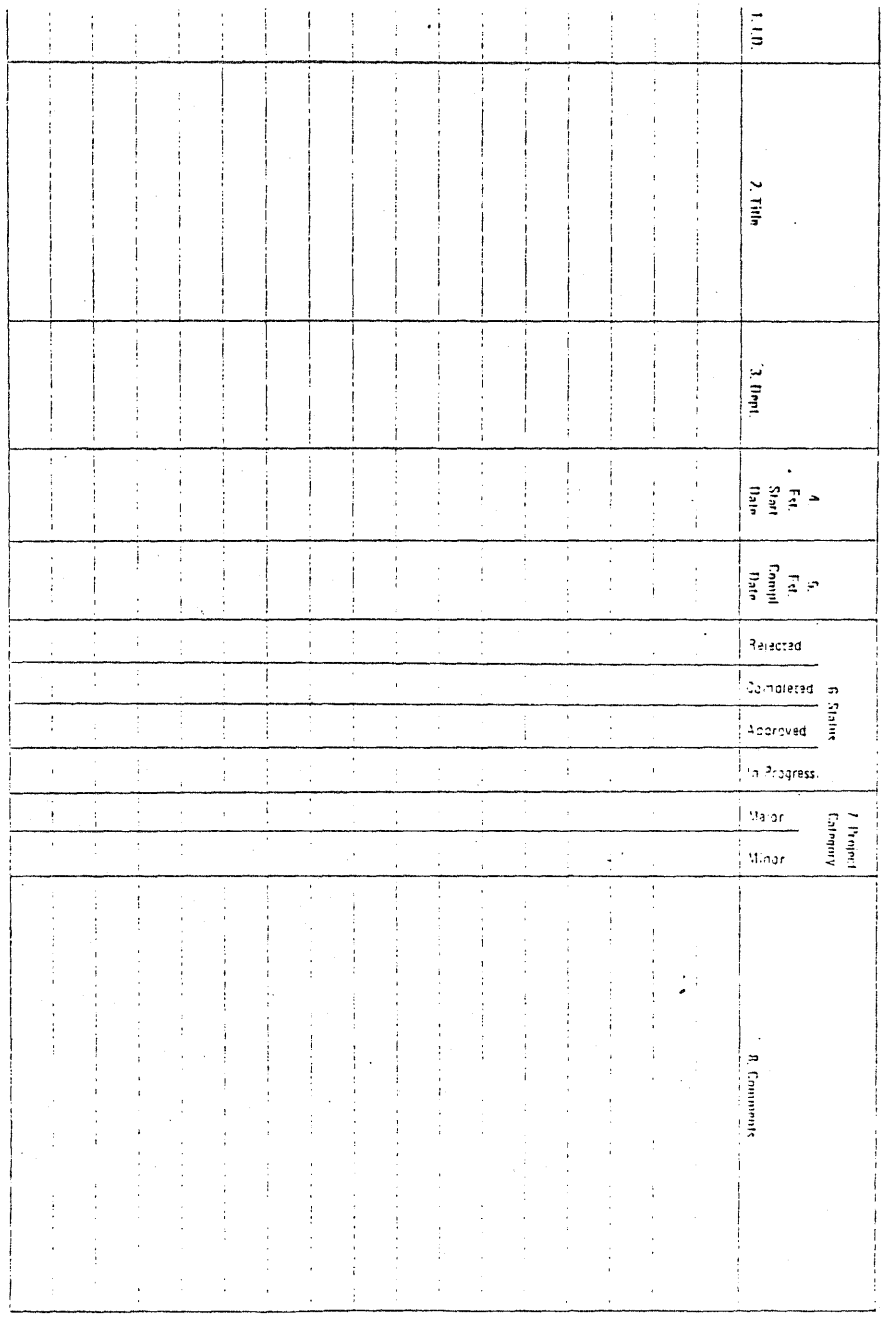
No. 17	Description 18	Est. Start Date 19A	Est. Completion Date 19B

FORM 2
INSTRUCTIONS

FORM TITLE: Implementation Schedule

ITEM

1 - Project identification number
2 - Title of project
3 - Department
4 - Estimated implementation start date
5 - Estimated implementation completion date
6 - Status of recommendation (choose one of four indicated)
7 - Project category (major or minor)
8 - Comments - a brief comment on any unusual circumstances relating to the implementation of each recommendation, if applicable.



FORM 3
INSTRUCTIONS

FORM TITLE: Exception Report

ITEM

1 - Project identification number
2 - Title of project
3 - Department
4 - Report date
5 - Signature of approval (each company will designate person(s) to sign this report)
6 - Remarks - Report and explain on an exception basis any major changes encountered: change of scope, objectives, schedule, work content, etc. Identify corrective action to be taken on problems associated with the particular guidepost number.

Form 3

Utility _____

STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE

EXCEPTION REPORT

Project ID No. 1	Title 2	Department 3
Date 4	Approved by	5
Remarks:		6

FORM 4
INSTRUCTIONS

FORM TITLE: Corporate Summary Progress Report

ITEM

1 - Current quarterly reporting date - Month, Day, Year
2 - To date, by major/minor category
- total number not yet scheduled to start
- total number completed
- total number behind (including projects scheduled to begin, but not started)
- total number on schedule
- total number ahead of schedule

Form 4

Utility _____

STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE

CORPORATE SUMMARY PROGRESS REPORT

The following table summarizes the implementation status of the management study recommendations.

1		2 To Date	
Schedule Status As Of _____		Major	Minor
Not Scheduled To Start			
Scheduled To Start	Completed		
	Behind		
	On Schedule		
	Ahead		

FORM 5

INSTRUCTIONS

FORM TITLE: Recommendation Implementation Completion Report

ITEM

1 - Project Identification Number
2 - Title of project
3 - Department
4 - Describe the project including references to related recommendations *
5 - State the specific objectives of the project*
6 - Summarize the action steps taken to achieve the objective and also describe results of any studies or actions to be taken after study completion*
7 - Summarize the benefits achieved by the project*
8 - Enter the costs associated with the project to include one-time and continuing costs *

* In those instances where the original plan and the final results are exactly the same, the statement "As shown on Form I" will suffice.

Form 5

Utility _____

STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE

RECOMMENDATION IMPLEMENTATION COMPLETION REPORT

ID No. 1	Title 2	Department 3

Recommendation Description 4

Objectives 5

Action Summary 6

Benefits Summary 7

Costs Summary 8

PSC Approval PSC Use Only 9

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