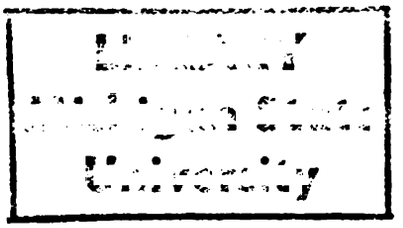
pt. 1



This is to certify that the

dissertation entitled

AN EMPIRICAL STUDY OF A RATEMAKING ISSUE: DETERMINING THE FEDERAL INCOME TAX ALLOWANCE OF AN AFFILIATED UTILITY

presented by

Debra Ertel McGilsky

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Accounting

Edmund Outslay
Major professor

Date May 16, 1986

O-12771

AN EMPIRICAL STUDY OF A RATEMAKING ISSUE: DETERMINING THE FEDERAL INCOME TAX ALLOWANCE OF AN AFFILIATED UTILITY

By

Debra Ertel McGilsky

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Accounting

1986

ABSTRACT

AN EMPIRICAL STUDY OF A RATEMAKING ISSUE:
DETERMINING THE FEDERAL INCOME TAX
ALLOWANCE OF AN AFFILIATED UTILITY

By

Debra Ertel McGilsky

Different regulatory commissions presently use different tax allowance methods to allocate the consolidated tax benefits realized by an affiliated utility between the utility's ratepayers and shareholders. The mechanics of the various methods affect both the revenue requirement and the cash flow of a utility that participates in the filing of a consolidated tax return. As a result, the various methods have an impact on both the ratepayers and shareholders of affiliated utilities. The purpose of this study was to determine the extent to which use of the various methods impacts the amount of rates an affiliated utility charges its ratepayers and the amount of income its shareholders earn.

Effective tax rate methods, imputed interest methods, and the stand-alone method were examined in this study. The effect the methods had on the rates a ratepayer would be assessed and the amount of dividend income a shareholder would earn was analyzed in simulated situations under different financial constraints.

The results of this study found that allowing all but the stand-alone method to be used to compute tax allowances creates an arbitrary relationship between the amount of rates charged and either: (1) the operations of the utility's affiliates, or (2) the financing policy of

the utility's affiliates. This relationship was found to be neither logical nor fair.

The recommendation of this study is to preclude utilities from participating in the filing of a consolidated tax return by amending IRC section 1504(b). One effect of adopting this recommendation would be to ensure that results experienced by ratepayers and shareholders would not be dependent upon either the operations or decisions of a utility's affiliates. Furthermore, it would ensure that all tax benefits realized by a utility would flow to the party that incurred the costs that generated the benefits and that bore the risks inherent in incurring the expenses.

This study provides an empirical framework with which to assess the effect the tax allowance methods have on ratepayers and shareholders of affiliated utilities. It should have implications for the diversification plans of utilities and for the plans of other companies presently affiliated with utilities.

To the Two Most Important Persons in My Life:
My Husband, Tim, and My Daughter, Kate

ACKNOWLEDGMENTS

To undertake and complete a project such as this one, the support and encouragement of many people are needed. I wish to express my gratitude to all those people in my life. In the limited space that follows I will be able to identify only some of them. To those who go unnamed I wish to thank them, too, for their words of encouragement. It is my hope they will remember that although they remain unnamed in these pages, their support will not be forgotten.

I would first like to express my thanks to the members of my dissertation committee: Dr. Ed Outslay, Dr. Dennis Gaffney, and Dr. John O'Donnell. Their help allowed me to complete this study. I would particularly like to thank my dissertation chairman, Dr. Ed Outslay, for his helpful suggestions, his continuing support, and his words of encouragement throughout the research. It has been a pleasure working with him.

I wish to express my gratitude for financial assistance provided by the Department of Accountancy at Northern Illinois University which allowed me to complete this work. I wish to also thank my chairmen, Pat Delaney and John Engstrom, as well as my colleagues at Northern Illinois University, for their support and understanding during the completion of my dissertation.

Special thanks also go to my typist, Marie Dumeney, who spent many hours typing the final draft of my dissertation.

On a more personal note, I would like to thank my parents, Art and Jean Ertel, who instilled in me a desire for learning and who taught me the value of perseverance.

Many thanks also go to my good friends Carolyn Callahan, Bill Cummings, and Jim Sander, all of whom were going through the dissertation process while I was. Their prayers, support, and many words of encouragement have been greatly appreciated. Without their support during the "low" points, I may never have completed this research.

I wish to also thank the many members of the Sycamore United Methodist Church and the DeKalb-Sycamore Evangelical Free Church who spent many hours in prayer on my behalf. Our Lord, Jesus Christ, heard their prayers and answered abundantly.

Much heartfelt and deep appreciation goes to my family. Without the constant support, and help, and understanding of my husband, Tim, I would never have attained this goal. In a sense, this dissertation is as much his as it is mine. And to my daughter, Kate, I wish to thank her for the many times she remembered her "Mom's project" in her prayers--she was a constant and much needed prayer warrior for me throughout this process. Her support and understanding for all the hours I took away from her young life will never be forgotten. She made it all worthwhile. God has richly blessed me with a wonderful family.

Above all, I wish to acknowledge the most important source of support in my life during this project, Our Lord, Jesus Christ. I know beyond a shadow of a doubt that His hand was the guiding force behind the completion of this project. All praise and glory goes to Him. It was His hand that opened many closed doors throughout my

work. I particularly wish to thank Him for the wisdom He provided me with which allowed me to complete this research. I also wish to thank Him for His unending encouragement; for the many times I heard the words, "You will complete this work." To God be the glory!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

The Regulatory Process

Public utilities have been regulated by independent commissions since the beginning of this century. Commission regulation is currently common at both the federal and state level. In theory, the responsibility of a commission entails the regulation of the price, investment, and service decisions of all public utilities over which the particular commission has jurisdiction.

The major emphasis of both federal and state regulatory commissions is on the establishment of rates its jurisdictional utilities will be allowed to earn. A utility must compete with other regulated and nonregulated industries for its factors of production--land, labor, and capital. The amount of revenue a utility is allowed to earn by a commission sets the limit on what that utility will be able to bid for these factors of production. If the utility's bid is too low the factors will seek employment in other activities or industries. Thus a commission must afford a utility the opportunity to earn an amount of revenue that is sufficient to: (1) cover its operating expenses, (2) compensate its investors reasonably, (3) maintain its credit, and (4) attract capital. It must provide enough incentive to encourage the utility to produce more efficiently and to ensure it will continue to operate and provide its consumers with dependable service. On the

other hand, it must also ensure that the utility's consumers are not forced to pay the unreasonable prices that a utility, as a natural monopoly, could command for its indispensable services.

In setting rates, a commission must first determine the amount of revenue the utility needs to operate. This level of revenue is referred to as the utility's "revenue requirement." Once the revenue requirement is determined, the commission designs the schedule of rates that will allow the utility to earn a certain percentage of its revenue requirement from each of its particular classes of ratepayers.

The general ratemaking formula used by commissions to set utility rates allows a utility to earn sufficient revenues: (1) to cover its proper operating expenses, including depreciation expense, (2) to cover the tax liability that would be payable if the utility's authorized rate of return were earned, and (3) to provide a reasonable rate of return on the firm's capital used and useful in utility service.

Consolidated Tax Returns

Congress has extended the privilege of filing a consolidated tax return to an affiliated group of corporations, provided that the consolidated tax return is not used as a tax avoidance device and provided the return clearly reflects the tax liability of the group.[1] Consolidated tax returns have been allowed based on the theory that the income tax should be assessed on the income of a single business entity. Thus, through use of a consolidated tax return, an affiliated group of corporations is treated as a single business entity.

---

[1] Internal Revenue Code Sections 1501-1504.

The total consolidated federal income tax liability of a group of affiliated corporations filing a consolidated tax return will often differ from the sum of the total separate federal income tax liabilities that would be incurred if each corporation in the group filed a separate tax return. One cause for this result, which generates a consolidated tax savings to a group of affiliated corporations filing a consolidated tax return, is the group's ability to currently offset the net operating loss (NOL) of one or more of the affiliates against the operating income of the other affiliates. Any excess NOL for a separate corporation would become a carryover and could only be used to offset its taxable income in other years.

Once the consolidated tax liability is determined, it is allocated among the group members by the parent corporation. The parent must elect an allocation method from one of the different methods specified in the Internal Revenue Code and the Treasury Regulations or use any other method, provided it is approved by the Commissioner of the Internal Revenue. Each affiliate then pays its allocated share of the tax liability to the parent corporation, which in turn pays the total consolidated tax liability due to the federal government.

Determination of the Proper Amount of Federal Income Tax Allowance to Include in the Revenue Requirement of an Affiliated Utility

The terminology that has been used by regulators, accountants, and academicians to discuss the determination of an affiliated utility's[2] tax allowance has not been uniform. Therefore, to provide

---

[2]Henceforth in this study, a utility that qualifies to participate in the filing of a consolidated tax return will be referred to as an "affiliated utility."

consistency throughout this study, the respective definition of each relevant term, as the term is used in this research, is set forth in this chapter. The relevant terms and their respective meanings are as follows:

1. Tax expense: the provision for taxes recorded on the income statement of the utility. This is typically computed by multiplying the utility's pretax accounting income by the statutory tax rate.

2. Tax liability: the amount of tax that is actually payable to the federal government by the utility. This is the amount of tax computed per the federal income tax return. In the case of an affiliated utility this is the utility's portion of the actual consolidated tax payable to the federal government per the consolidated tax return. A utility's tax liability typically differs from its tax expense due to tax timing differences.

3. Tax allowance: the amount of tax allowed by the utility's jurisdictional commission to be included in the revenue requirement of the utility; thus, the amount of tax allowed to be recovered from the ratepayers through the rates the utility charges. Typically the tax allowance amount differs from both the tax expense of the utility and the tax liability of the utility because it represents "the tax the utility would pay on the basis of its projected revenues less deductions for all operating, maintenance, and interest expenses included in the cost of service."[3]

In reading commission decisions which appear in this study, it is important to note that commissioners have often used the above terms interchangeably. Therefore, in analyzing the comments made by commissioners, the reader of this study should be aware that it may be necessary to overlook the specific terminology used by the commissioners. Instead the reader should attempt to understand the context

---

[3] Re Columbia Gulf Transmission Company, 54 PUR4th 31, Opinion No. 173, Docket Nos. RP75-105-002, RP75-106-006 (Federal Energy Regulatory Commission 1983), p. 38.

of the decisions in terms of the above terminology and respective meanings.

The tax allowance of an independent utility is generally calculated by multiplying the tax base of the utility by the factor [t/(1 - t)], where t represents the statutory federal income tax rate. When the utility is a party to a consolidated tax return, commissioners must decide how, if at all, to adjust the utility's tax allowance to account for any consolidated tax benefits/detriments the utility realizes. The public policy issue that commissioners face when dealing with this decision is to determine what portion, if any, of the consolidated tax benefits/detriments is to be realized by the ratepayers of the affiliated utility and what portion, if any, is to be realized by the shareholders. Thus the commissioners must decide what portion of the consolidated tax benefits/detriments represents a reduction (increase) in the tax allowance of the utility (i.e., a reduction [increase] in the revenue requirement of the utility) and what portion represents additional (reduced) earnings on the capital invested by the owners of the utility.

Stand-Alone Treatment

Some regulatory commissions have taken the position that an affiliated utility should be treated as though it was actually an independent utility. Under this approach, referred to as "stand-alone" treatment, an affiliated utility's tax allowance is calculated as though it was an independent utility. The actual consolidated tax benefits/detriments realized by the utility thus accrue to the shareholders of the utility. This results because in the instance when

consolidated tax savings are realized by the utility the excess of the tax allowance computed under the stand-alone method (i.e., the amount of tax recovered from the ratepayers) over the utility's allocated share of the consolidated tax liability (i.e., the amount of tax actually paid to the parent corporation by the utility) represents earnings to the owners in excess of those allowed to them through the required rate of return.

One reason often given by commissions for favoring the stand-alone approach is the belief that items of income and expense, resulting from activities engaged in by a utility's affiliates, are not proper determinants of that utility's revenue requirement:

> We determine that utility rates for Indiana utilities should be determined on their own and just as the properties, revenues, and expenses of other affiliated companies should not be attributed to petitioner, likewise the tax expense deductions of such nonjurisdictional affiliates should not be considered (Indiana Public Service Commission, 1955).[4]

> There is no justification in this record for the departure from the traditional rate-making principle of excluding from consideration items of expense and income resulting from nonregulated activities. . . .
> . . . The losses under consideration here were sustained by those not in any way related to the ratepayers of the company, and no action of either the company or its ratepayers could affect, in any way, those losses. But for the beneficial feature of the tax law permitting the consolidated return, the tax obligation of the company would have to be paid. In determining that the benefit of the tax reduction should be diverted to a group not sustaining any losses, this Commission would thwart the intent of Congress in its attempt to make whole those incurring those losses. . . .
> . . . A regulated industry should not subsidize losses or benefit from the profits of a non-regulated operation. To allow the company's ratepayers to

---

[4]Indiana Public Service Commission v. Indiana Bell Telephone Company, 235 Ind. 1, 11 PUR3d 209 (Indiana Supreme Court 1955).

> benefit from unrelated losses would be no more fair or logical than flowing through an increased tax liability from the parent to the company if the profit status should reverse (Missouri Public Service Commission, 1979).[5]

Another argument given for favoring stand-alone treatment is the belief that when tax losses are incurred by a utility's affiliates, such losses should be realized by the shareholders of those affiliates that incurred the tax losses:

> It would be difficult to justify the appropriation of any tax savings attributable to the subsidiary by the jurisdictional consumers when the same consumers did not pay the expenses which created the deductions for tax purposes (Federal Power Commission, 1977).[6]

Consolidated-Entity Treatment

Some commissions have held that consolidated tax benefits realized by an affiliated utility are to be allocated, at least partially, to the ratepayers of the affiliated utility. To accomplish this allocation several different tax allowance methods have been developed by various commissions. Each method generates a tax allowance that differs from the stand-alone tax allowance.

Under some methods an effective tax rate is calculated and is used in place of the statutory tax rate, t, in the factor [t/(1 - t)], when calculating the tax allowance of an affiliated utility. This effective tax rate is generally lower than the statutory tax rate. Other methods reduce the affiliated utility's tax allowance as calculated under the stand-alone method, by some portion of the consolidated

---

[5] Re Missouri Cities Water Company, 29 PUR4th 4-5 (Missouri Public Service Commission 1979).

[6] Re Southern California Edison Company, 23 PUR4th 51 (Federal Power Commission 1977).

tax benefits realized by the utility. These methods are broadly referred to in this study as the "consolidated-entity" methods.

The tax allowance computed under a consolidated-entity method is generally lower than the tax allowance computed under the stand-alone method. Therefore, the revenue requirement of an affiliated utility required to use a consolidated-entity method to compute its tax allowance is lower than the revenue requirement of an affiliated utility required to use the stand-alone method. As a result, lower rates are charged to the ratepayers of an affiliated utility that is required to use a consolidated-entity method as opposed to one required to use the stand-alone method.

Commissions which have argued against use of the stand-alone method believe such treatment ignores the reality of the situation:

> Appalachian Power Company (APCO) argues that the company's jurisdictional customers should enjoy the benefits of the savings only to the extent that they share in the costs which produced the parent company's loss. This argument, while reasonable on its face, ignores the basic principle that, to the extent that APCO has taxable income, it benefits from the consolidated tax savings whether it or its ratepayers pick up part of the costs that create the parent company's loss or not. The recognition of consolidated tax savings in a company's cost of service is recognition that the company has, in the past, and will, in the future, pay less actual tax as a result of the consolidated filing than it would if it filed a separate return (West Virginia Public Service Commission, 1981).[7]

Likewise, the Mississippi Public Service Commission felt that by treating the utility as a separate entity the "uncontroverted facts of the real world situation" were ignored. It also felt that the reduction in the federal income tax liability due to the filing of a

---

[7] Re Appalachian Power Company, 42 PUR4th 642 (West Virginia Public Service Commission 1981).

consolidated tax return was "not in the nature of a timing difference that will be paid at some future date, but rather, the reduction is permanent." Therefore, it found that it was "not fair nor reasonable to inflate the company's cost of service by an amount for which the company will absolutely never be liable."[8]

Commissions that favor consolidated-entity treatment attempt to recognize the fact that the affiliated utility is a member of a consolidated group of corporations. They argue that the inclusion in an affiliated utility's revenue requirement of an amount of tax that is different from the utility's share of the consolidated tax liability actually incurred results in the shareholders of the utility receiving an additional return on their capital:

> While the stockholder of an applicant company is entitled to a fair rate of return, and the income tax thereon is to be paid by the utility customers so that its return will not be reduced, it may not earn in excess of a fair rate of return by claiming a tax charge that is larger than the actual liability (Connecticut Public Utilities Commission, 1975).[9]

> It is patently obvious that if the company's cost of service is not reduced by the tax savings resulting from the filing of a consolidated federal income tax return, the ratepayers are providing an outright gift to the company and to the company's parent and ultimately to the stockholders of the parent (Mississippi Public Service Commission, 1980).[10]

The Indiana Court of Appeals stated that "allowing an expense which was never incurred" to be included in the revenue requirement of a

---

[8] Re Mississippi Power Company, 36 PUR4th 353 (Mississippi Public Service Commission 1980).

[9] Re Connecticut Natural Gas Corporation, 11 PUR4th 78 (Connecticut Public Utilities Commission 1975).

[10] Re Mississippi Power Company, 36 PUR4th 353 (Mississippi Public Service Commission 1980).

utility resulted in "allowing an additional, hidden return on capital to the shareholder at the expense of the ratepayer."[11]

Growing Number of Affiliated Utilities

The allocation of consolidated tax benefits is a current problem for commissions due to both the number of utilities that are presently members of an affiliated group of corporations and the number of corporations that are considering diversifying. For example, there are approximately seventy major suppliers of electrical energy listed in Moody's Public Utility Manual. Approximately 60 percent of these firms are members of an affiliated group for financial reporting purposes.[12]

In addition, during the past few years a number of separate utilities have been considering diversifying their interests so as to maintain their future profitability.[13] The management of these utilities believes there will be less need for electrical energy in the future, due to such factors as effective conservation techniques, a lower U.S. population size, and new alternative sources of energy. Their management is interested in expanding into areas other than electrical energy production.

One noteworthy acquisition that occurred in the past few years was the acquisition of a 45.67 percent interest in Northern States

---

[11]City of Muncie v. Indiana Public Service Commission, 378 NE2nd 896, 26 PUR4th 591 (Indiana Court of Appeals, 1978).

[12]Those affiliated groups of corporations, which report consolidated earnings for financial purposes, will generally file a consolidated tax return for tax reporting purposes.

[13]"A High-Risk Era for the Utilities," Business Week, February 23, 1981, p. 76.

Power Company, a major supplier of electrical energy in the northern midwestern states, by Safeco Corporation, an insurance holding company.[14] Such mergers/acquisitions may be expected to continue in the future. The resulting problems they create for regulatory commissions, in addition to the consolidated tax issue, are expected to increase as well.[15]

Objectives of the Research

This study assesses the impact mandatory use of the various regulatory methods has on the ratepayer and the shareholder of an affiliated utility. The difference in treatment between the stand-alone method and the consolidated-entity methods, as well as the mechanics of the various consolidated-entity methods, can and do affect the revenue requirement and the cash flow of an affiliated utility. As a result, the various methods developed by the different regulatory commissions to compute the tax allowance of an affiliated utility have an impact on the amount of rates an affiliated utility can assess its ratepayers, which in turn affects the amount of income that can be distributed to the shareholders of an affiliated utility.

The primary motivation of this study was to analyze the extent to which mandatory use of the various tax allowance methods, including the

---

[14]"For the Record (U.S. Mergers and Acquisitions)," Mergers & Acquisitions, 16 (Winter 1982): R29.

[15]See Donald W. Kiefer, "Economic Recovery Tax Act of 1981: Effects on Revenue Requirements, Financial Structure, Tax Payments, and the Regulation of Public Utilities;" and Stanley York, "New Problems Confronting State Commissioners as a Result of Diversification in Electricity and Gas," both unpublished papers presented at the National Association of Regulatory Utility Commissioners Conference held in Washington, D.C., on February 21, 1982.

stand-alone method, impacts the ratepayers and the shareholders of an affiliated utility. The specific objectives of this study were as follows:

1. To investigate the regulatory methods used, either currently or in the past, to calculate the federal income tax allowance of an affiliated utility;

2. To analyze the impact certain attributes have on the federal income tax allowance calculated under the various methods; and

3. To analyze the impact the different methods and attributes have on the amount of rates assessed the ratepayers of an affiliated utility and on the amount of dividend income earned by the shareholders of such a utility.

Methodology of the Research

The research methodology of this study consisted of two sections. In the first section, Part I, the following was identified: (1) the extent to which the stand-alone method and the various consolidated-entity methods produce different federal income tax allowances for ratemaking purposes, and (2) the extent to which such differences are dependent upon certain attributes. In Part II the economic implications such differences have on the ratepayers and the shareholders of an affiliated utility were addressed.

In Part I of the methodology section several of the methods that have been used by the federal commission and by different state commissions to compute the tax allowance of an affiliated utility were described. All of these methods deal with allocating consolidated tax benefits; to date no rate case has dealt with allocating consolidated tax detriments.

Also in Part I of the methodology section, the attributes that impact the amount of tax allowance computed under each of the methods

were identified. These attributes consist of the significant variables that cause the tax allowance methods to differ, for example: (1) the amount of net operating loss incurred by an affiliate, (2) the regulatory status of the affiliate incurring the net operating loss (i.e., regulated or nonregulated), and (3) the type of net operating loss incurred (i.e., chronic tax loss or nonchronic tax loss).

After identifying the attributes that cause the methods to differ, the tax allowance was computed under several selected methods for three different hypothetical affiliated utilities. The hypothetical utilities used as subjects in this study were modeled from actual financial data obtained from Moody's Public Utility Service for three different utilities.

In Part II of the methodology section an examination was made of the economic implications on the ratepayers and the shareholders of an affiliated utility, when a commission enforces the use of one particular tax allowance method rather than another. To perform this analysis, the amount of rates each of the utilities assessed their ratepayers and the amount of dividend income earned by their shareholders were computed for each of the utilities under each of the selected tax allowance methods, using the tax allowances computed in Part I. Simulation was used to analyze the effect changes in the various attributes had on the amount of rates that were charged per ratepayer and on the amount of dividend income that was earned per shareholder under the different methods.

An analysis of the results was made for each of the utilities, comparing: (1) the amount of rates a ratepayer of each utility would be charged under each of the selected methods, and (2) the amount of

dividend income a shareholder of each utility would earn under each of the selected methods. In addition, these amounts were also compared to the amount of rates a ratepayer of a similar but independent utility would be assessed (i.e., under the stand-alone method) and the amount of dividend income a shareholder of a similar but independent utility would earn. In performing this analysis the following questions were addressed:

1. Which party benefits, the ratepayer or the shareholder, under each of the various methods?
2. Which method minimizes the amount of rates assessed the ratepayers?
3. Which method maximizes the amount of income earned by the shareholders?

Contributions of the Research

Public utilities are a major industry in the United States and, as a result of operating in a monopolistic environment, their actions affect many different individuals and interest groups. The method by which consolidated tax benefits are treated for public utility rate-making purposes affects both the consumers and the investors of an affiliated utility. Under existing rate regulation rules, there are several methods that allocate such tax benefits between the ratepayers and the shareholders of a utility.

The results of this research provide an analysis of who the "winners" and the "losers" are under each method as well as the extent to which any such "gains" or "losses" are dependent upon the particular attributes of the utility.

This research determined that the ratepayers of otherwise identical utilities, except for their form of ownership (i.e., independent

versus affiliated), could conceivably incur different utility charges. Likewise, it was found that the shareholders of such similar utilities could conceivably earn different returns on otherwise identical investments. Therefore, from the results of the study one tax allowance method was selected as being the most appropriate to enforce, in terms of its ability to promote efficient resource allocation both between the ratepayers of an independent utility and an affiliated utility, as well as between the shareholders of such utilities.

This study is intended to provide the ratepayers and shareholders of affiliated utilities, regulatory commissioners, and other interest groups with an empirical framework with which to assess the impact mandatory use of these various methods, including the stand-alone method, has on the ratepayers and the shareholders of affiliated utilities. The results of the study should also have implications for the diversification plans of independent public utilities, holding companies which presently own public utilities, and other companies that are presently considering the acquisition of public utilities.

This study is intended to provide insight into a currently unresolved issue that is frequently debated by the management of affiliated utilities, regulatory commissioners, and consumer interest groups. It is hoped this study will provide useful information for future regulatory action.

The remaining portion of this thesis is organized as follows: Chapter 2 presents an explanation of the regulatory framework and the ratemaking process. Chapter 3 sets forth the requirements for filing a consolidated tax return. It also explains the benefits that can be derived from filing a consolidated tax return. Chapter 4 presents the

position of the Federal Energy Regulatory Commission (FERC) on consolidated tax savings and explains the mechanics of the FERC's stand-alone method. Chapter 5 sets forth the various positions taken by state regulatory commissions on consolidated tax savings and also presents several of the consolidated-entity methods. Chapter 6 discusses methodology, including an explanation of how the hypothetical utilities were modeled. Chapter 7 presents an analysis of the results of the study. Chapter 8 provides the conclusions and identifies, based on the results of this study, the allocation method selected as the most appropriate one commissions should enforce for purposes of computing the tax allowance of an affiliated utility.

CHAPTER 2

THE REGULATORY FRAMEWORK

Government Regulation of Public Utilities

U.S. Constitution

Article I, Section 8 of the U.S. Constitution provides the federal government with authority "to regulate Commerce . . . among the States." The term "commerce" has been broadly interpreted by the courts. Under the courts' interpretation, the federal government has the authority to regulate the interstate activity of almost any business. On the other hand, it has the authority to regulate the intrastate activities of a business only when the purpose of such regulation is to eliminate undue discrimination. Presently the intrastate activities of business are regulated by the state governments. The Tenth Amendment to the U.S. Constitution grants to the state governments those powers that have not been expressly delegated to the federal government, providing such powers are not expressly prohibited elsewhere. The Tenth Amendment, along with the police powers of the state governments, have been used by the courts to justify state regulation of intrastate business activities.[1]

---

[1]Keith M. Howe and Eugene F. Rasmussen, Public Utility Economics and Finance (Englewood Cliffs, New Jersey: Prentice-Hall, 1982), pp. 43-44.

The Interstate Commerce Commission and the Federal Communications Commission

Public utilities have been regulated by the federal government since the enactment of the Interstate Commerce Act in 1887. This Act, in addition to providing for federal regulation of the railroad industry, served as a model for regulating other public utilities. Federal regulation of the railroad industry was expanded with the passing of the Mann-Elkins Act of 1910. This Act also granted authority over the interstate and foreign business activities of telegraph, telephone, and cable companies to the Interstate Commerce Commission.

In 1934 the Federal Communications Commission (FCC) was established by the Federal Communications Act of 1934 and amendments to the Act in 1937. The Act transferred regulatory authority over telephone, telegraph, and radio companies to the FCC. The FCC has jurisdiction over interstate and foreign wire and radio communications, and has the authority to set reasonable rates for the public utilities under its jurisdiction.

The Federal Energy Regulatory Commission

The Federal Power Commission (FPC) was established in 1920 by the Federal Water Power Act. It was granted regulatory authority over water power and resources. The FPC was originally composed of the secretaries of interior, agriculture, and war. However, in 1930 it was reorganized and became an independent commission made up of five full-time commissioners.

During the 1930s the FPC's regulatory authority was expanded through the passing of a number of Congressional reforms. The Federal Power Act of 1935 expanded the FPC's regulatory authority over the

transmission and wholesale sales of electric energy in interstate transactions. Of particular importance, it granted the FPC "the power to find rates unjust, unreasonable, or unduly discriminatory or preferential and, if so found, to establish just and reasonable rates for the transmission of power and for wholesale sales in interstate commerce."[2] To carry out its power to find rates unjust, the Act gave the FPC authority to require public utilities to: (1) keep their records and accounts in a prescribed manner, (2) use depreciation rates set by the FPC, (3) make public their rates and charges, and (4) provide annual reports to the FPC. Other powers granted to the FPC under the Act included the authority to approve:

"1. The sale, lease, or disposition of facilities.

"2. The merger or consolidation of facilities.

"3. The purchase, acquisition, or taking of securities in any other utility."[3]

In 1938, with the passing of the Natural Gas Act, the regulatory authority of the FPC was further expanded. Under the Act the FPC was granted authority to establish reasonable rates in the natural gas industry. Specifically, the Act gave the FPC regulatory authority over the interstate business activities of public utilities involved in: (1) transporting natural gas, and (2) selling natural gas for resale for ultimate public consumption. Natural gas sales made by independent producers to interstate pipeline companies were held by the U.S. Supreme Court in 1954 to also fall under the jurisdiction of the FPC.[4]

---

[2]Ibid., p. 45.

[3]Ibid., p. 45.

[4]Phillips Petroleum Co. v. Wisconsin, 347 U.S. 67 (U.S. Supreme Court 1954).

In 1977, the Federal Energy Regulatory Commission (FERC) was established as part of the new federal Department of Energy. At that time, many of the FPC's powers were transferred to the FERC. The primary impact of the FERC on its jurisdictional public utilities rests with the precedent it sets. As a general rule, policies set by the FERC for its jurisdictional utilities tend to be adopted by state regulatory commissions.

State Regulatory Commissions

State regulation of public utilities began in the late 1800s when the Massachusetts Commission was granted limited powers. By the 1920s over half of the states had established utility commissions. Presently, every state and the District of Columbia has a regulatory commission. These commissions have regulatory authority over the intrastate sales made by investor-owned electric, gas, and telephone utilities.[5]

State commissions hold the bulk of rate setting authority. Each state regulatory commission is comprised usually of three to six commissioners. Some state commissioners are elected by the public. In the majority of the states, however, they are appointed by the Governor of the state subject to the approval of the state legislature. As a quasi-judicial body, the state commission rules on decisions concerning the general operations, finances, and rates charged by the public utilities operating in its jurisdiction.

---

[5]The State of Nebraska has no privately owned electric utilities, only telephone utilities are regulated. See Howe and Rasmussen, Public Utility Economics and Finance, p. 49.

Legislative and Judicial Review of Government Regulation

Regulatory jurisdiction may be increased or decreased by Congress and state legislatures. In fact, the primary source of authority for utility regulation is statutory legislation, providing such legislation is not found to be unconstitutional. Therefore, should a particular party be dissatisfied with an area of regulation, the issue may be brought before the appropriate legislative branch for review and possible revision.

Federal and state legislation on regulatory matters and administrative actions taken by the various regulatory commissions are both subject to review by the courts. In 1968 the U.S. Supreme Court set forth the policy that reviewing courts are to assume orders of a regulatory commission are final providing such orders are: (1) constitutional, (2) correctly based on law, and (3) set by a commission which was not acting capriciously or arbitrarily. Therefore, in regulatory issues, a reviewing court is not, for example, supposed to hold its own separate and new rate hearing. Instead, its objective is to ascertain that the commission: (1) has not exceeded its authority, (2) has issued orders that are supported by substantial evidence, and (3) has issued orders that allow the utility to reasonably expect it will maintain its "financial integrity, attract necessary capital, and fairly compensate its investors for the risks they have assumed, and yet provide appropriate protection to the relevant public interests, both existing and foreseeable."[6]

---

[6]Permian Basin Area Rate Cases, 390 U.S. 747, 20 L ed 2d 312, 88 S Ct 1344 at 350 (U.S. Supreme Court 1968).

The Rate-Setting Process

An Overview

The primary objective of both federal and state regulatory commissions is to establish the rates their jurisdictional public utilities will be allowed to earn. There are two major steps involved in setting rates. First, the commission determines the amount of revenue the utility will need to operate. This level of revenue is referred to as the utility's "revenue requirement." It is calculated based upon the costs the utility expects to incur to produce its service during the future period. After the revenue requirement is determined, the commission designs the schedule of rates. This rate schedule designates the particular rate the utility will be allowed to charge each of its classes of ratepayers (e.g., residential, industrial) in order to earn its revenue requirement.

In setting rates, a commission must afford a utility the opportunity to earn an amount of revenue that is sufficient to: (1) cover its operating expenses, (2) compensate its investors reasonably, (3) maintain its credit, and (4) attract capital. Furthermore, a commission must provide a utility with enough incentive: (1) to encourage it to produce more efficiently, and (2) to ensure it will continue to operate and provide its consumers with dependable service. On the other hand, it must also ensure that the utility's consumers are not forced to pay unreasonable prices that a utility, as a natural monopoly, could command for its indispensable services.

The Cost of Service Formula

The general formula used by commissions to set utility rates allows a utility to earn sufficient revenues: (1) to cover its proper operating expenses, including depreciation expense, (2) to cover the amount of tax that would be payable if the utility's authorized rate of return were earned, and (3) to provide a reasonable rate of return on the firm's capital used and useful in utility service. Thus, the revenue requirement may be defined as follows:[7]

$$R_t = \left[r \bullet \left[V_t - \sum_{j=t-n}^{t} D_j \right] \right] + D_t + C_t + T_t$$

where:

R_t = allowed or required revenue in year t

r = allowed rate of return

V_t = average gross value of assets in year t

D_t = total amount of depreciation in year t

$\sum_{j=t-n}^{t} D_j$ = total amount of depreciation taken through year t on assets included in V_t (n = life of utility's assets)

C_t = operating costs (except interest and income taxes) in year t

T_t = federal income tax in year t

The above formula is often referred to as the "cost of service" formula. It is important to note that although the formula appears

---

[7]This formula was developed by Donald W. Kiefer in his study entitled Accelerated Depreciation and the Investment Tax Credit in the Public Utility Industry: A Background Analysis (Columbus, Ohio: National Regulatory Research Institute, 1979), p. 48.

simple to use, in actual practice the ratemaking processing is not an easy one. The determination of each component of the formula for a particular utility requires informed judgment with respect to a number of considerations, including among them financial, economic, accounting and engineering concerns.

The Income Statement of a Public Utility

Utilities use a unique format to present their net income (see Figure 1). The income statement format is based on the cost of service formula. On a utility's income statement, financial data on utility operations is reported separately from financial data on nonutility operations. Income and expense items incurred in utility operations are reported as "above-the-line" items, whereas income and expense items incurred in nonutility operations are reported "below-the-line." The above-the-line items are used by commissions to set the revenue requirement for utilities. Therefore, a commission may, if it desires, control the cost of service for a utility by requiring that certain items of income and expense be recorded "below-the-line." Because below-the-line items are not charged to ratepayers, they represent income and expense items that are borne by a utility's shareholders.

Rate Hearings

The rate decisions made by a commission result primarily from hearings held by the commission. These hearings are conducted in courtroom style either before the presiding commissioners or before an administrative law judge. Each side in the hearing is allowed to present direct testimony and to cross examine witnesses. The steps involved in a typical rate case include the following:

Operating revenues			$2,105
Less:			
Operating expenses	$890		
Depreciation expense	340		
Taxes other than income taxes	120		
Income Taxes	290		
Total Operating expenses			$1,640
Utility Operating income			$ 465
(Above the line)			
(Below the line)			
Other income and deductions:			
Other income	230		
Other income expenses	80		
		150	
Interest expense		145	
Net income			$ 470

FIGURE 1

ILLUSTRATION OF AN INCOME STATEMENT FOR A UTILITY

1. Selection of a recent test year.
2. Calculation of total operating expenses incurred in the test year.
3. Modification of operating expenses to account for certain documented changes in costs.
4. Determination of the utility's rate base.
5. Determination of the allowable rate of return to be permitted on the rate base.
6. Comparison of earnings after taxes for the test year with the allowed return (product of the rate base and the allowed rate of return).
7. Adjustments, if necessary, to ensure expected revenues after taxes equal the allowable revenues.
8. Designing the rate schedule.[8]

In order to gain a better understanding of how a utility's revenue requirement is set, Steps 1 through 5 above will be briefly expanded upon in the remaining sections of this chapter.

The Test Period

In setting a utility's revenue requirement, a commission bases the includible amount of expenses on costs the utility has incurred in the past or will incur over a selected period of time. This period of time is referred to as the "test period." The test period is generally a 12-month period of time. Most often the test period is a historical period of time, with the result that past actual operating data is relied upon by commissions to set current revenue requirements. Occasionally, however, commissions have used a forecast test period, which employs estimated expenses, when the commission has been concerned with

---

[8]Howe and Rasmussen, Public Utility Economics and Finance, p. 63.

the effects of inflation and rising costs. In some cases commissions have even used various combinations of historical and forecast test periods. For example, six months of historical data combined with six months of forecast data. The historical test year is the method primarily used by commissions, however.

Expenses Included in the Cost of Service Formula

After the appropriate test year is selected, the commission closely scrutinizes the income and expense items as well as the rate base items incurred by the utility during that test year. This review is made to ensure that only reasonable and proper items have been charged by the utility to the test year. It is the responsibility of a commission to prevent any unnecessary, extravagant, or inefficient costs incurred by a utility to be charged to the ratepayers. In fact, commissions are responsible for seeing that ratepayers pay the lowest reasonable cost for the utility services they receive. A utility may, of course, incur unreasonable expenses. However, if it does, it is the responsibility of its jurisdictional commission to ensure such costs will not be recovered by the utility from its ratepayers.

Operating Expenses

One category of expenses included in the cost of service formula is operating expenses. This category includes actual costs incurred by the utility during its test year to run its operations. This category of expenses would include, for example, maintenance and repair expenses, wages, administrative and general expenses, production expenses, customer accounts and service expenses, and sales expenses. Before a commission will include an operating expense in the cost of

service formula, the utility must prove the expense incurred was: (1) reasonable in amount, (2) actually incurred, and (3) represents a necessary component of utility operations.

Depreciation Expense

A number of U.S. Supreme court cases during the 1930s and 1940s dealt with determining the proper method of depreciation allowable for ratemaking purposes.[9] As a result of these cases the depreciation expense presently included in the cost of service formula is computed based on the historical cost of depreciable assets less their salvage value, as opposed to their fair market value or their replacement cost. The straight-line method of depreciation has generally been used by commissions to compute depreciation. They have also generally depreciated assets on a group basis as opposed to an item-by-item basis.

It is important to note that the amount of depreciation expense that is included in the cost of service formula is also accumulated as an offset to the historical cost of the utility's rate base used for ratemaking purposes. Asset retirements are charged against the rate base as well as against accumulated depreciation.

Tax Allowance

The tax allowance for a utility is segregated into "taxes other than income" and "income taxes." Taxes incurred in utility operations are reported above-the-line while taxes incurred in nonutility operations are reported below-the-line. Taxes included in the "other than

---

[9]See United Railways Electric Co. v. West, 280 U.S. 234 (U.S. Supreme Court 1930), Lindheimer v. Illinois Bell Telephone Company, 320 U.S. 591 (U.S. Supreme Court 1934), and Federal Power Commission v. Hope Natural Gas Company, 51 PUR(NS) 202 (U.S. Supreme Court 1944).

income" category for ratemaking purposes include, for example, social security taxes, unemployment taxes, real estate taxes, and franchise taxes.

The income tax allowance that is included in the cost of service represents a major exception to the general rule that only actual costs incurred by a utility are chargeable to the ratepayers. Due to the timing differences arising between book and taxable income, particularly due to the use of accelerated depreciation for tax purposes, an amount of deferred taxes is included in the cost of service. Ratepayers have argued that by allowing deferred taxes to be included in the cost of service, they are being charged a "hypothetical" expense. In fact, they argue, for any year in which the utility's amount of deferred taxes exceeds the amount of actual tax paid by that utility, the utility effectively receives a tax-free loan from its ratepayers. In addition, they argue, to the extent that the utility continues to expand and purchase more depreciable assets, the tax-free "loan" is never repaid to the ratepayers.[10]

Commissions have treated a utility's tax charge arising from income tax timing differences in different manners. Under the normalization method, a utility is required to establish a deferred tax reserve to account for the timing differences. The income tax allowance computed for ratemaking purposes under normalization is based on the utility's book income. The difference between this "hypothetical" tax allowance and the actual income tax liability paid by the utility

---

[10]See Environmental Action Foundation, "Phantom Taxes in Your Electric Bill," Washington, D.C., 1975; and Environmental Action Foundation, "Phantom Taxes Update," Washington, D.C., 1980.

is credited to the deferred tax reserve. Most commissions that allow the normalization method either reduce the utility's rate base by its deferred tax reserve or include the deferred tax reserve in the utility's cost of capital calculation as a source of capital at zero cost to compute its allowable rate of return. By handling the deferred tax reserve in either of these two manners the utility is not allowed, at least for ratemaking purposes, to earn a return on the "loan" from its ratepayers.

The other method used to account for the income tax timing differences is referred to as the flow-through method. This method is used by relatively few commissions. Under flow-through, only the actual tax liability incurred by the utility is included in the revenue requirement. Thus, the tax savings arising from accelerated depreciation, for example, "flows through" to the ratepayers in the form of lower rates.

See Table 1 which notes how the various state commissions: (1) account for accelerated depreciation (e.g., normalization or flow-through), and (2) whether the normalization commissions require that the utility's rate base be reduced by its accumulated tax reserve.

The Component Representing "Compensation to Investors" Included in the Cost of Service Formula

The cost of service formula includes a component that provides a utility with a source of funds with which to compensate its investors. This component also provides a utility with the ability to attract and maintain capital for development. This component consists of the product of the utility's rate base and its allowed rate of return.

TABLE 1

TREATMENT OF ACCELERATED DEPRECIATION
BY STATE COMMISSIONS

State	Accelerated Depreciation	Accumulated Deferrals Deducted From Rate Base
Alabama	E	NR
Alaska	N	Yes
Arizona	E	Yes
Arkansas	N	Yes
California	F(1)	Yes
Colorado	E	Yes
Connecticut	F	Yes
Delaware	N	NR
D.C.	N	Yes
Florida	N	Yes
Georgia	N	Yes
Hawaii	N	Yes
Idaho	U(2)	Yes
Illinois	N	Yes
Indiana	N	No
Iowa	N	Yes
Kansas	N	No
Kentucky	N	Yes
Louisiana	N	Yes
Maine	F	Yes
Maryland	E	Yes
Massachusetts	N	Yes
Michigan	N	Yes
Minnesota	U	Yes
Mississippi	N	Yes
Missouri	N	Yes
Montana	E	No
Nebraska	NR	Yes
Nevada	U	Yes
New Hampshire	E	Yes
New Jersey	N	Yes
New Mexico	N	Yes
New York	F	Yes
North Carolina	N	Yes
North Dakota	N	Yes
Ohio	N(3)	Yes
Oklahoma	N	Yes
Oregon	E	Yes
Pennsylvania	N	Yes
Rhode Island	N	Yes
South Carolina	N	Yes

TABLE 1--Continued

State	Accelerated Depreciation	Accumulated Deferrals Deducted From Rate Base
South Dakota	N	Yes
Tennessee	E	Yes
Texas	N	Yes
Utah	E	NR
Vermont	E	Yes
Virginia	E	No
Washington	F	Yes
West Virginia	E	Yes
Wisconsin	N	Yes
Wyoming	N	Yes

F - Flow-through
N - Normalization
E - Either Method
U - Undecided
NR - Not Reported

(1) Four utilities normalize.

(2) Commission requires consistent treatment of tax after election of method by each utility, based on latest commission policy.

(3) Some companies continue to flow through under orders issued prior to the Tax Reform Act of 1969.

Source: Accelerated Depreciation and the Investment Tax Credit in the Public Utility Industry: A Background Analysis by Donald Kiefer, The National Regulatory Research Institute, The Ohio State University, April, 1979, p. 44.

Rate Base

The factor, $\left[V_t - \sum_{j=t-n}^{t} D_j \right]$, in the cost of service formula is referred to as the rate base of a utility. The rate base consists primarily of the net value of a utility's investment in property used and useful in rendering its utility services. Certain other items that are also typically included in the rate base are an allowance for working capital, certain overhead costs, and the net value of investment in property held for future use. The major offset to the rate base is accumulated depreciation. Recall that the accumulated depreciation account that offsets the rate base is credited only with that amount of depreciation expense that is or has been included in the cost of service.

The purpose of the rate base is to approximate investor capital in a utility. Capital contributed by ratepayers is generally not allowed to earn a return and is, therefore, not included in the rate base. The net value of investment in property used to render services in the nonutility operations of a utility is also not included in the rate base.

A controversial issue in utility rate cases has dealt with determining which valuation method is acceptable for purposes of valuing a utility's plant in service (e.g., historical cost, replacement cost, fair market value). The rate base valuation method used by a particular utility is dependent upon the preference of its jurisdictional regulatory commission. The majority of state commissions use historical cost.

Rate of Return

The rate of return variable, r, included in the cost of service formula represents a weighted average of the allowed rates of return on common equity, preferred equity and the cost of long-term debt. The weighting factor used is the ratio of the dollar amount of the applicable type of capital (e.g., long-term debt) to the dollar amount of total capital. Usually book-value weights, as opposed to market-valued weights, are used. Figure 2 illustrates an example of a weighted rate of return calculation.

The allowed rate of return is set in the rate hearing. However, it is not a guaranteed rate of return to the utility. The commission determines the rate of return a utility will be allowed to earn, but it is the responsibility of utility management to earn it. The opportunity to earn a specified rate of return does not always generate realized earnings. Determining the allowed rate of return is a complex task for commissions. A statement made by an FPC staff witness summarizes the issues a commission must deal with in setting a fair rate of return:

> The fixing of a fair rate of return involves a consideration of the interests of both investors and the consuming public. The rate of return should not be so high as to place an unnecessary burden on consumers, or give rise to unusual or speculative profits. But it must be high enough to insure investor confidence in the financial soundness of the enterprise, and sufficient to maintain its credit standing so that it may be able to raise any funds which may be needed to permit the carrying out of its public duties and responsibilities. The determination of a fair rate of return in accordance with these criteria necessarily requires the use of judgment and the consideration of all facts which are relevant to the subject.[11]

---

[11] From proposed testimony of FPC Staff Witness F. I. Shaffner in Re Amerada Petroleum Company, Docket No. G-9385, et al. (Federal Power Commission 1960), p. 5.

Source of Capital	Percentage of Total Capitalization[a]	Rate of Return	Weighted Rate of Return
Debt	30%	10.0%[b]	3.0%
Preferred Equity	10%	11.0%[c]	1.1%
Common Equity	60%	15.0%[d]	9.0%
Total	100%		13.1%[e]

[a]Based upon book values on date of rate proceeding.

[b]Total interest expense divided by book value of debt.

[c]Preferred dividends divided by book value of preferred equity.

[d]Calculated by a number of possible methods, for example, the discounted cash flow method.

[e]Allowed rate of return used in the cost of service formula.

FIGURE 2

ILLUSTRATION OF A WEIGHTED RATE OF RETURN CALCULATION

Other Adjustments to the Cost of Service Formula

Jurisdictional Adjustments

A commission must ensure that a utility's ratepayers are only being charged for the reasonable and necessary expenses the utility incurs in its utility operations. It is not uncommon for public utilities to be involved in unregulated operations such as real estate investments or manufacturing operations. In these instances, a commission must exclude from the utility's revenue requirement all income and expense items relating to the nonutility operations of the utility.

Another jurisdictional adjustment that must be made by a commission when calculating a utility's revenue requirement involves those utilities operating in more than one state. For example, assume an electric utility is operating in both Illinois and Wisconsin. The Illinois ratepayers must only be charged for the expenses incurred by the utility to produce electricity in Illinois; the Wisconsin ratepayers must only be charged for its Wisconsin operations expenses. This jurisdictional separation of financial items is particularly important when calculating the allowable rate base for this Illinois/Wisconsin utility. The Illinois Commission, for example, must ensure that only that plant in service used to produce electricity in Illinois is included in the rate base used to set the utility's revenue requirement for Illinois.

Another similar jurisdictional adjustment must be made when a utility provides two different regulatory services (e.g., gas services and electric services). When this occurs, the utility's jurisdictional commission must separate the financial data related to gas services from the financial data related to electric services. Typically, one

rate hearing would be set to determine the utility's allowable gas rates and another hearing would be held to set its allowable electricity rates.

Pro Forma Adjustments

Once the actual test year costs are agreed upon by a commission, pro forma adjustments are typically made to the data. These adjustments are made to reflect more accurately the conditions the utility will be operating under when it is earning the rates that are currently being set. For example, if a utility is presently negotiating a new labor contract with its employees, the test year wages expense would need to be adjusted by the new expected wage rates.

Pro forma adjustments can present a difficult computational problem for commissioners. For example, in a rate case a commission may be faced with making any of the following possible pro forma adjustments:

1. How much should the test-year income and expense items of a gas utility be adjusted due to the fact that the test year was a particularly cold year?

2. What plant additions made during the test year actually represent costs incurred to increase plant capacity?

3. What adjustments to the test-year data need to be made to account for inflation?

The Rate Schedule

After the revenue requirement of a utility is set, its jurisdictional commission then designs the utility's rate schedule. The rate schedule sets the particular rates the utility may charge each class of its ratepayers. The rate schedule is set in such a manner as to

allow the utility the right to earn its newly determined revenue requirement. This rate schedule would remain in effect until it is found that such rates are either too high or too low. Such findings would be made in a new rate hearing using all of the steps and procedures discussed above.

CHAPTER 3

THE AFFILIATED UTILITY

Growing Number of Affiliated Utilities

A large percentage of utilities do not currently operate as separate independent utilities. For example, almost 60 percent of the approximately seventy major suppliers of electrical energy listed in Moody's Public Utility Manual are members of a consolidated group of corporations for financial reporting purposes.

In addition, a number of separate utilities have recently been considering diversifying their interests so as to maintain their future profitability. Due to such factors as a lower U.S. population size, effective conservation techniques, and new alternative sources of energy, the management of these utilities believes there will be less need for electrical energy in the future. As a result, management is interested in expanding into operating areas other than electrical energy production in a "search for a solution to skyrocketing costs, weakening demand for traditional services, emerging competition, and inadequate rate increases."[1] Within the past few years, Safeco Corporation, an insurance holding company, acquired a 45.67 percent interest in Northern States Power Company, a major supplier of electrical energy in the northern midwestern states. It is expected that

---

[1]Jordan D. Lewis and William Warfield Ross, "A Road Map for Utility Diversification," Public Utilities Fortnightly, December 23, 1982, p. 17.

public utilities will continue to be involved in such mergers/acquisitions in the future.[2]

The Public Utility Holding Company Act of 1935

Utility holding companies have been and are still allowed to operate within the regulatory framework. The only limitations placed on the operations of certain utility holding companies have been as a result of the Public Utility Company Act of 1935 (PUHCA).

Prior to 1935, "approximately eighty percent of the electric operating capacity in the United States"[3] was controlled by slightly more than five utility holding companies. "A similar concentration of ownership existed in the gas pipeline and distribution businesses."[4] At this period of time, state regulation of public utilities, and in particular of holding companies, was very ineffective. As a result, some of the conglomerate companies especially in the electric utility industry abused their power to the detriment of utility ratepayers and shareholders.[5]

The PUHCA was enacted in 1935 partially to combat the abusive power of these holding companies. The Act improved the effectiveness

---

[2]Donald W. Kiefer, "Economic Recovery Tax Act of 1981: Effects on Revenue Requirements, Financial Structure, Tax Payments, and the Regulation of Public Utilities;" and Stanley York, "New Problems Confronting State Commissioners as a Result of Diversification in Electricity and Gas," both unpublished papers presented at the National Association of Regulatory Utility Commissioners Conference held in Washington, D.C., on February 21, 1982.

[3]Francis J. Andrews, Jr., "Diversification and the Public Utility Holding Company Act," Public Utilities Fortnightly, December 23, 1982, p. 24.

[4]Ibid.

[5]Ibid.

of state regulation of holding companies and required more accounting information disclosures to protect utility shareholders. It is widely believed that the PUHCA did effectively deal with the holding company problem of that era.[6] It has been recently argued, however, that the PUHCA is no longer needed. This is due to the fact that: (1) state regulation of public utilities has vastly improved since 1935, (2) the Security and Exchange Commission presently has adequate power to protect shareholders through its requirement of various accounting information disclosures, and (3) accounting practices have greatly improved since the 1930s.[7] Francis Andrews stated in his article dealing with the PUHCA:

> Change or repeal of the act is important because it is felt that it no longer serves the public interest. Furthermore, it is believed that the act, as it exists today, restricts the financial development of utilities because of its limitations on the issuance of common stock for the purpose of expansion into nonutility activities.[8]

Bills have been introduced in Congress to change certain provisions of the PUHCA, as well as to repeal it. However, whether or not the PUHCA is changed or repealed, utilities are, and will continue, diversifying. Diversification is possible today, for one reason, because of various omissions in the PUHCA. For example, the PUHCA does not deal with nonjurisdiction holding companies; so, nonjurisdiction

---

[6]Keith M. Howe and Eugene F. Rasmussen, Public Utility Economics and Finance (Englewood Cliffs; New Jersey: Prentice-Hall, 1982), p. 46.

[7]Andrews, "Diversification and the Public Utility Holding Company Act," p. 25.

[8]Ibid., p. 26.

holding companies are able to diversify into nonutility activities.[9] Furthermore, of those public utility holding companies that are currently in existence, only the following twelve are registered under the act:

> Allegheny Power System Inc.
> American Electric Power Company, Inc.
> Central and Southwest Corporation
> Columbia Gas System, Inc.
> Consolidated Natural Gas Company
> Eastern Utilities Associates
> General Public Utilities Corporation
> Middle South Utilities Inc.
> National Fuel Gas Company
> New England Electric System
> Northeast Utilities
> The Southern Company[10]

The important point to note is that a utility may diversify today even if it is under the jurisdiction of the PUHCA.

The National Association of Regulatory Utility Commissioners (NARUC) set up an Ad Hoc Committee on Utility Diversification in October, 1981, to address the issues that utility diversification poses for regulatory commissioners. This committee was directed to update the 1972 NARUC report concerning nonutility investments. Its findings were reported in the "1982 Report of the Ad Hoc Committee on Utility Diversification." The recommendations of the committee were based on certain understandings:

> For example, the underlying philosophical question in diversification has long since been answered. The question is not should we have diversification. We have it. It is pervasive throughout the industry. It has been here for a long time, and it is going to be here for the foreseeable future. The question is not whether, but rather, how does a regulatory

---

[9]Howe and Rasmussen, Public Utility Economics and Finance, p. 46.

[10]Andrews, "Diversification and the Public Utility Holding Company Act," p. 25.

> commission deal with the problems posed by diversification? How much diversification is acceptable? What kinds of diversification are reasonable? Who controls diversification within the regulated utility? What are the relationships between the regulated utility and the diversified activity?[11]

One of the many problems faced by regulatory commissioners in setting the revenue requirement for utilities that are diversified and/or are members of a group of corporations will be addressed in this research; specifically, the problem of determining how the tax allowance of an affiliated utility should be calculated. Should its tax allowance be adjusted if it participates in the filing of a consolidated tax return?

Consolidated Tax Returns

Two or more corporations that are related in a certain manner may elect to file a single consolidated corporate income tax return as opposed to each member of the group filing its own separate corporate tax return. If so elected, this single consolidated tax return includes the separate taxable income/losses of each qualified member of the related group, as adjusted by various required eliminations, combinations and adjustments. A single consolidated tax liability is computed and paid by the group based on the sum of these adjusted incomes/losses of the related members.

The total consolidated federal income tax liability of a qualified group of corporations filing a consolidated tax return will often differ from the sum of the separate federal income tax liabilities that would be incurred if each group member filed its own separate corporate

---

[11]Stanley York and J. Robert Malko, "Utility Diversification: A Regulatory Perspective," Public Utilities Fortnightly, January 6, 1983, p. 18.

tax return. One reason for this, which produces a consolidated tax savings to a group of related corporations, is a group's ability on a consolidated tax return to offset currently the net operating loss (NOL) of one or more of its affiliates against the operating income of the other affiliates.[12] In this instance, if the group affiliates were filing separate income tax returns, the NOL affiliate would generate its own separate NOL carryover. Such NOL carryover could only be used by the NOL affiliate to offset its own taxable income in other tax years.[13]

Another major advantage to filing a consolidated tax return is a group's ability to offset currently the capital losses of one affiliate against the capital gains of other affiliates.[14] A corporation that files a separate corporate tax return is able to offset its current year's capital losses only to the extent of its current year's capital gains;[15] and furthermore, any excess capital loss it realizes becomes a carryover and may be used only to offset capital gains it realizes in other tax years.[16]

Other advantages to filing a consolidated tax return include the following: (1) transfers of depreciable property among group members do not immediately trigger depreciation recapture,[17] (2) designation of

---

[12]Treasury Regulation 1.1502-11(a)(1) and Treasury Regulation 1.1502-11(a)(2).

[13]Internal Revenue Code (IRC) Section 172(b).

[14]Treasury Regulation 1.1502-11(a)(3) and Treasury Regulation 1.1502-22.

[15]IRC Section 1211(a).

[16]IRC Section 1212(a).

[17]Treasury Regulation 1.1502-13(d).

the parent company as agent of the group for tax purposes,[18] (3) use by the group of one affiliate's investment tax credit[19] or foreign tax credit[20] over the limitation that would apply to a separate return, and (4) deferral of income for tax purposes on certain intercompany transactions, particularly advantageous when sales are increasing from year to year.[21]

Some disadvantages to filing a consolidated tax return include: (1) the need for additional bookkeeping to account for intercompany transactions, (2) the deferral of losses on intercompany transactions,[22] and (3) the limitation of only $25,000 of consolidated taxable income in each corporate taxable income bracket below the 46 percent bracket.[23]

Congress has granted the privilege of filing a consolidated tax return to a qualified affiliated group of corporations. The privilege to file a consolidated tax return is an election; thus, even though a group of affiliated corporations qualifies to file a consolidated tax return, the group may choose to file separate returns. To elect to file a consolidated tax return, "all corporations which at any time during the taxable year have been members of the affiliated group must consent to all the consolidated return regulations prescribed under

---

[18]Treasury Regulation 1.1502-77(a).

[19]Treasury Regulation 1.1502-3.

[20]Treasury Regulation 1.1502-4.

[21]Treasury Regulation 1.1502-13(c).

[22]Ibid.

[23]IRC Section 1561(a)(1).

Section 1502."[24] If all members so elect, the group may file a consolidated return.

An affiliated group of corporations that files a consolidated tax return must continue to file a consolidated return until it requests and receives permission from the Internal Revenue Service to discontinue the filing of such a return[25] or until the affiliated group no longer exists. An affiliated group of corporations is considered to exist as long as the common parent remains the common parent and at least one of the subsidiaries remains affiliated with it.[26] Grounds for discontinuance of a consolidated tax return include any changes in the tax law or any other circumstances that have "a substantial adverse effect on the consolidated tax liability of the group for such year relative to what the aggregate tax liability would be if the members of the group filed separate returns for such year."[27] "Other changes in law or circumstances, which do not affect Federal income tax liability," will also be taken into account "in determining whether good cause exists for granting permission to discontinue" the filing of a consolidated tax return.[28]

Section 1504 of the Internal Revenue Code of 1954 (IRC) defines a qualified affiliated group of corporations as being "1 or more chains of includible corporations" that are related through stock ownership

---

[24]IRC Section 1501.

[25]Treasury Regulation 1.1502-75(a)(12).

[26]Treasury Regulation 1.1502-75(d).

[27]Treasury Regulation 1.1502-75(c)(ii).

[28]Treasury Regulation 1.1502-75(c)(iii).

with a common parent corporation. The common parent corporation, as well as all of the other corporations in the consolidated group, must be an "includible" corporation.[29] An "includible" corporation is any corporation except for the following:

1. Corporations exempt from taxation.
2. Life insurance or mutual insurance companies unless the insurance companies are taxable under the same IRC section.
3. Foreign corporations.
4. Corporations electing the IRC section 936 possessions tax credit.
5. Regulated investment companies and real estate investment trusts, and
6. Domestic International Sales Corporations (DISCs).[30]

An affiliated group of corporations is formed when: (1) one or more of the includible corporations, except for the common parent corporation, owns directly at least 80 percent of the voting stock and 80 percent of the fair market value of the nonvoting stock of each of the includible corporations other than the common parent corporation; and (2) the common parent corporation owns directly at least 80 percent of the total voting power and 80 percent of the fair market value of the stock of at least one of the other includible corporations.[31] The term "stock" does not include nonvoting preferred stock which is not convertible into another class of stock.[32]

---

[29] IRC Section 1504(a).

[30] IRC Sections 1504(b), (c), (d), and (e).

[31] IRC Section 1504(a)(1) and IRC Section 1504(a)(2).

[32] IRC Section 1504(a).

The consolidated return of a group must: (1) "be filed on the basis of the common parent's taxable year, and each subsidiary must adopt the common parent's annual accounting period"[33] and (2) "include the income of the common parent for that corporation's entire taxable year . . . and the income of each subsidiary for the portion of such taxable year during which it was a member of the group."[34] Various consolidated adjustments need to be made to this total income figure to account for such items as intercompany transactions. The resulting figure, consolidated taxable income, is used to calculate the gross consolidated tax liability of the group. The same corporate income tax rates and alternative capital gains computation used for separate corporate income tax returns are also used for consolidated tax return purposes, except that the rates are applied against consolidated taxable income. Certain tax credits, such as the investment tax credit and the foreign tax credit, computed on a consolidated basis, reduce the consolidated tax liability.

The common parent and each subsidiary that was a member of the group during any part of the consolidated return year are severally liable for the consolidated tax liability.[35] This means that although the consolidated tax liability arises primarily from the income of one member, the entire tax deficiency may nonetheless be collected from any other member of the group, including the parent corporation. Furthermore, the IRS will not honor any agreements made between group members

---

[33]Treasury Regulation 1.1502-76(a)(1).

[34]Treasury Regulation 1.1502-76(b)(1).

[35]Treasury Regulation 1.1502-6(a).

and/or other persons that allocate payment of the consolidated tax liability in a certain manner. Thus, such agreements will not reduce this liability for any member.[36]

Once the consolidated tax liability is determined it is generally paid in full by the parent corporation. Afterwards the parent collects, from each of its affiliates, each affiliate's respective share of the consolidated tax liability based on the particular tax allocation agreement the group has agreed upon. A group may agree to use any tax allocation method it desires for nontax purposes. Applicable corporate law, not tax law, determines the validity of such allocation agreements used for nontax purposes. It is important to note again, however, that such allocation agreements do not alter the liabilities of the group members to pay the tax.

Tax allocation agreements typically provide for allocation of the actual consolidated tax liability among the profit members of the group. In addition, they normally provide for compensating amounts to be paid by the profit members to the loss members. These compensating payments are made to reflect the fact that because of consolidation the loss members will be unable to use their respective NOL as a carryback or carryover to offset their own respective taxable incomes in other years.

Allocation of the payment of the actual tax liability among group members is typically carried out in tax allocation agreements according to the provisions of Internal Revenue Code Section 1552. IRC Section 1552 prescribes various allocation methods that must be used to

---

[36]Treasury Regulation 1.1502-6(c).

allocate the actual consolidated tax liability among the members of an affiliated group for the purpose of computing each member's respective earnings and profits (E&P) figure. Briefly, the E&P of a corporation determines the amount of taxable dividends the corporation has available for payment to its shareholders. The E&P of a corporation that is participating in the filing of a consolidated return is reduced by that member's allocated share of the consolidated tax liability.[37] Furthermore, each member's respective allocated share is treated as a "liability of such corporation (and) if the full amount of such liability is not paid by such corporation, . . . the (unpaid) amount will generally be treated as a dividend, a contribution to capital, or a combination thereof."[38]

Code Section 1552(a) and Treasury Regulation 1.1552-1(a) provide various methods that may be used for E&P purposes to allocate a group's consolidated tax liability among its members. The group may elect one of the following methods:

1. Taxable income method. A member's allocated share of the tax liability is "an amount equal to the tax liability of the group multiplied by a fraction, the numerator of which is the taxable income of such member, and the denominator of which is the sum of the taxable incomes of all the members."[39] Taxable income refers to the separate taxable income of the member after certain adjustments. If the separate taxable income of a member, as adjusted, is negative, such member's taxable income is zero for purposes of this calculation.[40] See Figure 3 for an example of this allocation method.

---

[37]Treasury Regulation 1.1552-1(b)(2).

[38]Ibid.

[39]IRC Section 1552(a)(1) and Treasury Regulation 1.1552-1(a)(1).

[40]Treasury Regulation 1.1552-1(a)(1)(ii).

The XYZ affiliated group has taxable income as follows:

Affiliate	Taxable Income
X	$1,500,000
Y	1,000,000
Z	(500,000)
Total consolidated taxable income	$2,000,000
Consolidated return tax liability	$ 899,750

Allocation of the consolidated return tax liability will be as follows:

Affiliate	Consolidated Return Tax Liability
X	$ 539,850[a]
Y	359,900[b]
Z	0
Allocated consolidated return tax liability	$ 899,750

[a] $\frac{\$1,500,000}{(\$1,500,000 + \$1,000,000 + \$0)} \times \$899,750 = \$539,850$

[b] $\frac{\$1,000,000}{(\$1,500,000 + \$1,000,000 + \$0)} \times \$899,750 = \$359,900$

FIGURE 3

ILLUSTRATION OF THE TAXABLE INCOME ALLOCATION METHOD

2. Separate return liability method. A member's allocated share of the tax liability is "an amount equal to the tax liability of the group multiplied by a fraction, the numerator of which is the separate return tax liability of such member, and the denominator of which is the sum of the separate return tax liabilities of all the members. . . . The separate return tax liability of a member is its tax liability computed as if it had filed a separate return for the year."[41] Certain adjustments are made to the taxable income figure used to calculate the separate return tax liability.[42] If the separate return tax liability, computed after the adjustments, is not positive, such member's separate return tax liability is treated as being zero.[43] See Figure 4 for an example of this allocation method.

3. Tax increase method. "The tax liability of the group (excluding the tax increases arising from the consolidation) shall be allocated on the basis of the contribution of each member of the group to the consolidated taxable income of the group. Any tax increases arising from the consolidation shall be distributed to the several members in direct proportion to the reduction in tax liability resulting to such members from the filing of the consolidated return as measured by the difference between their tax liabilities determined on a separate return basis and their tax liabilities based on their contributions to the consolidated taxable income."[44] A member's allocated share of the consolidated tax liability shall never exceed such member's separate return tax liability.[45] "The sum of the amounts which would be allocated to the members but for the separate return tax liability limitation shall be apportioned among the other members in direct proportion, but limited to, the reduction in tax liability resulting to such other members."[46] A member's reduction in tax

---

[41] IRC Section 1552(a)(2); Treasury Regulation 1.1552-1(a)(2).

[42] Treasury Regulation 1.1552-1(a)(2)(ii).

[43] Treasury Regulation 1.1552-1(a)(2)(ii)(i).

[44] IRC Section 1552(a)(3) and Treasury Regulation 1.1552-1(a)(3).

[45] Treasury Regulation 1.1552-1(a)(3)(ii)(b).

[46] Treasury Regulation 1.1552-1(a)(3)(ii)(c).

The ABC affiliated group has a consolidated return tax liability of $500,000. Each affiliate's separate return tax liability was as follows:

Affiliate	Separate Return Tax Liability
A	$750,000
B	200,000
C	0
Total	$950,000

Allocation of the consolidated return tax liability will be as follows:

Affiliate	Consolidated Return Tax Liability
A	$394,737[a]
B	105,263[b]
C	0
Allocated consolidated return tax liability	$500,000

[a] $\frac{\$750,000}{\$950,000} \times \$500,000 = \$394,737$

[b] $\frac{\$200,000}{\$950,000} \times \$500,000 = \$105,263$

FIGURE 4

ILLUSTRATION OF THE SEPARATE RETURN LIABILITY ALLOCATION METHOD

liability is equal to the excess if any of (a) such member's separate return liability under the separate return liability allocation method, over (b) the amount of tax liability allocated to the member under the taxable income allocation method.[47] If any of the consolidated tax liability remains unapportioned after these allocations, the remaining unapportioned amount is allocated among the members in the same proportions as would be allocated to such members under the taxable income allocation method.[48] See Figure 5 for an example of this allocation method.

4. Discretionary allocation method. The consolidated tax liability shall be allocated in accord with any other allocation method selected by the group, subject to the approval of the IRS.[49] However, such method cannot result in either more or less of the positive actual tax liability being allocated among the members.[50] By adding this limitation tax compensating payments are barred from being allocated. However, such payments may be allcoated under one of the modified allocation methods.[51]

5. Modified allocation methods. In addition to the above four allocation methods, Treasury Regulation 1.1502-33(d)(2) provides for three other allocation methods that are basically modifications of the above four methods. The major advantage of these modified allocation methods is that any tax compensating payment made by members in excess of the group's actual tax liability may be allocated and treated, for E&P purposes, as taxes paid by the member making the payment, as opposed to being treated as either a dividend paid or a contribution to capital.[52]

A group must elect, for E&P purposes, to use one of the allocation methods stated above. The election is made with the first

---

[47] Ibid.

[48] Treasury Regulation 1.1552-1(a)(3)(ii).

[49] IRC Section 1552(a)(4) and Treasury Regulation 1.1552-1(a)(4).

[50] Treasury Regulation 1.1552-1(a)(4).

[51] Ibid.

[52] Treasury Regulation 1.1502-33(d)(1).

The ABC affiliated group has taxable income as follows:

Affiliate	Taxable Income
A	$1,000,000
B	600,000
C	(400,000)
Total consolidated taxable income	$1,200,000
Consolidated return tax liability	$ 531,750

Each affiliate's separate return tax liability is as follows:

Affiliate	Separate Return Tax Liability (assumed)
A	$ 550,000
B	165,750
C	0
Total separate return tax liability	$ 715,750

Allocation of the consolidated return tax liability will be computed in the following manner:

Step 1. Allocated consolidated return tax liability under the taxable allocation method:

Affiliate	Consolidated Return Tax Liability
A	$ 332,344[a]
B	199,406[b]
C	0
Total	$ 531,750

FIGURE 5

ILLUSTRATION OF THE TAX INCREASE ALLOCATION METHOD

Step 2. Allocate consolidated return tax liability under the separate return liability allocation method:

Affiliate	Consolidated Return Tax Liability
A	$ 408,610[c]
B	123,140[d]
C	0
Total	$ 531,750

Step 3. Determine over-ceiling allocations (excess of share of tax computed in Step 1 over share of tax computed in Step 2):

	A	B	C
Step 1	$332,344	$199,406	$ 0
Step 2	$408,610	$123,440	$ 0
Excess	$ 0	$ 76,266	$ 0

Step 4. Apportion the over-ceiling allocation of $76,266 between A and C in proportion to (but not in excess of) the reduction in tax liability as follows:

	Taxable Income Method	Separate Return Tax Liability Method	Reduction in Tax Liability
A	$332,344	$406,610	$76,266
C	0	0	0

Only A had a reduction in tax liability, therefore, 100% of the over-ceiling allocation of $76,266 is allocated to A. The over-ceiling allocation does not exceed A's reduction in tax liability, so there is no unapportioned excess to be allocated under the taxable income method.

FIGURE 5--continued

Allocation of the consolidated return tax liability will be as follows:

Affiliate	Consolidated Return Tax Liability
A	$ 408,610[e]
B	123,140
C	0
Allocated consolidated return tax liability	$ 531,750

---

[a] $\frac{\$1,000,000}{(\$1,000,000 + \$600,000 + \$0)} \times \$531,750 = \$332,344$

[b] $\frac{\$600,000}{(\$1,000,000 + \$600,000 + \$0)} \times \$531,750 = \$199,406$

[c] $\frac{\$550,000}{\$715,750} \times \$531,750 = \$408,610$

[d] $\frac{\$165,750}{\$715,750} \times \$531,750 = \$123,140$

[e] $\$332,344 + \$76,266 = \$408,610$

FIGURE 5--continued

consolidated tax return that is filed. If a group fails to make an election, the taxable income method shall be applied to the group by the IRS and "shall be binding upon the group in the same manner as if an election had been made to so allocate."[53]

Determination of the Proper Amount of Federal Income Tax Allowance to Include in the Cost of Service of an Affiliated Utility

The amount of federal income tax allowance included in a utility's cost of service is generally estimated by multiplying the tax base of the utility by the factor [t/(1 - t)]. The tax rate, t, would in most cases currently be 46 percent for an independent utility. When a utility is a party to a consolidated tax return, however, commissioners must decide how to account for any consolidated tax benefits/detriments the utility realizes. Commissioners become faced with determining what portion if any, of the consolidated tax benefits/detriments is to be realized by the ratepayers of the affiliated utility and what portion, if any, is to be realized by the shareholders. Thus the commissioners must decide what portion of the consolidated tax benefits/detriments represents a reduction (increase) in the tax allowance of the utility (i.e., a reduction [increase] in the utility's revenue requirement) and what portion represents additional (reduced) earnings on the capital invested by the owners of the utility. The positions that have been taken by the Federal Energy Regulatory Commission on this issue are discussed in the next chapter. The positions that have been taken by various state commissions are presented in Chapter 5.

---

[53]Treasury Regulation 1.1552-1(d).

CHAPTER 4

THE FERC POSITION ON CONSOLIDATED TAX SAVINGS: A REVIEW OF ADMINISTRATIVE AND JUDICIAL RATE DECISIONS

The FPC Looks at Consolidated Tax Savings: The Earlier Decisions (1946-1963)

Before examining in detail the FPC decisions dealing with the issue of consolidated tax savings, a brief background on the two primary situations that typically give rise to consolidated tax savings will be provided. In the first situation, the parent corporation, generally a holding company, earns no separate operating income of its own. Its primary source of income is dividend income received from its subsidiaries, which is tax-free to the parent due to the allowable dividends-received tax deduction. Interest expense incurred for the financing of its subsidiaries is the primary expense of the parent company. Since the interest expense is tax-deductible, the parent company typically reports a tax loss. By offsetting the parent's tax loss against the taxable income of the subsidiaries, consolidated tax savings usually are realized. In the second situation it is the affiliates of the regulated utility that report the excess deductions and/or tax losses arising from their separate operations. Assuming no other affiliates reported taxable income, such losses would either be lost or carried over. However, by offsetting the incomes of the profit-making affiliates, typically the regulated utilities, with such deductions/losses, consolidated tax savings will again normally be realized.

The first cases addressed by the FPC that dealt with consolidated tax savings were issued during the 1940s and 1950s.[1] These cases involved consolidated groups of corporations comprised entirely, or predominantly, of regulated businesses.[2] The records from these cases establish that in all but one instance the consolidated tax savings arose due to tax losses generated by the parent corporation.[3] The one exception to this was the fact situation in the first consolidated tax case, issued in 1946, which dealt with Penn-York Natural Gas Corporation;[4] the source of the consolidated tax savings in that case was not apparent from the record.[5]

The FPC held in these initial cases tax savings generated from a parent corporation's tax loss were to be passed on to the ratepayers of the regulated companies.[6] The allocation method the FPC used to accomplish this consisted essentially of:

> (1) multiplying the consolidated tax liability by the ratio the jurisdictional utility's taxable income bore to the total taxable income of all members of the group having taxable income (resulting amount represents the utility's share of the consolidated tax liability);

---

[1] Re Columbia Gulf Transmission Company, 54 PUR4th 31, Opinion No. 173, Docket Nos. RP75-105-002, RP75-106-006 (FERC June 22, 1983), p. 41, n. 23.

[2] Re Cities Service Gas Company, 49 PUR3d 229, Opinion No. 396, Docket No. G-18799 (FPC July 15, 1963), p. 242.

[3] Re Columbia Gulf Transmission Company, 54 PUR4th 31, p. 41, n. 24.

[4] Re Penn-York Natural Gas Corporation, 5 FPC 33, 63 PUR(NS) 235, Opinion No. 129 (FPC 1946).

[5] Re Columbia Gulf Transmission Company, 54 PUR4th 31, p. 41, n. 24.

[6] Re Cities Service Gas Company, p. 242.

(2) dividing the utility's taxable income into the utility's share of the consolidated tax liability to compute an effective tax rate; and

(3) using that effective tax rate instead of the statutory tax rate to compute the utility's tax allowance.

In those few cases where the tax savings were generated by a nonrecurring or atypical loss, the FPC ruled not to pass the savings on to the ratepayers.

The Issue of Unregulated and Unrelated Affiliates

It was not until 1957 that the FPC first addressed the issue of whether business losses of unregulated and unrelated corporations participating in a consolidated return (with a regulated natural gas company) should benefit the consumers of the regulated natural gas company; this occurred in a case dealing with Olin Gas Transmission Company (Olin).[8] The issue of "unregulated and unrelated corporations" was an important issue to the FPC as well as to all the regulatory commissions. The consolidated tax savings issue can present particular problems for regulatory commissions in those situations where: (1) the affiliates of the utility are nonregulated entities or entities regulated by other jurisdictional commissions, and (2) these affiliates are realizing tax losses which are generating consolidated tax savings for the group. In such situations, commissions must determine whether the decision of the commission may lawfully extend to the nonjurisdictional activities of the utility's affiliates in order to benefit the ratepayers of the jurisdictional utility.

---

[7] Re Columbia Gulf Transmission Company, 54 PUR4th 31, p. 40.

[8] Re Olin Gas Transmission Company, 17 FPC 695, (FPC 1957), cited in Re Columbia Gulf Transmission Company, 54 PUR4th 31, p. 42, n. 33.

The Olin case was briefly explained by the Commission in one of its later decisions. It summarized the facts relating to the case as follows:

> Olin explored, produced, and transported gas. The group to which Olin belonged reported a tax loss on the consolidated return because the losses of Olin's parent on its independent gas exploration and development program exceeded the income from Olin and its other subsidiaries.
>
> The commission staff, following the established method, argued that because the group paid no taxes, no tax allowance should be included in Olin's cost of service. The judge and the commission disagreed and allowed a tax allowance based on the company's return on equity. The commission did so because the losses arose 'from unregulated (i.e., nonjurisdictional) business activities unrelated to Olin's natural gas operation.'[9]

The commission, in one of its later cases, noted one problem with the Olin decision: the failure of the Commission to specify in the decision how an activity would, in practice, be classified as either "related" or "unrelated" to the jurisdictional activities of the utility.[10] This question was never addressed by the FPC after its Olin decision. However, problems never arose over the issue because, in the next case addressed by the Commission that dealt with tax losses realized by unregulated and unrelated affiliates of a jurisdictional utility, the Commission decided to change its policy.

The Cities Service Decision

The issue of nonregulated entities and consolidated tax savings came before the FPC again due to a decision involving Cities Service Gas Company (Gas Company), which was issued April 23, 1962. In that

---

[9] Re Columbia Gulf Transmission Company, 54 PUR4th 31, pp. 42-43.

[10] Ibid., p. 43.

decision the stand-alone method had been applied by the examiner of the case to compute the tax allowance of Gas Company. It should be noted use of the stand-alone method by the examiner was consistent with the conclusion reached by the FPC in its Olin decision. However, the FPC staff as well as a number of municipals did not agree with the initial examiner's decision to use the stand-alone method, and therefore, filed exceptions to that decision. As a result it became necessary in 1963 for the FPC to again address the issue of whether the non-jurisdictional activities of a jurisdictional utility's affiliates were to impact that utility's tax allowance.[11] The sole issue dealt with in this case was the "proper tax allowance to be included in the cost of service of Cities Service Gas Company."[12]

Before examining the details of the Cities Service case, it would be appropriate to explain briefly the mechanics of the stand-alone method. The Commission did this in a later case in which it stated:

> 'A stand-alone income tax allowance is one that takes into account the revenues and costs entering into the regulated cost of service without increase or decrease for tax gains or losses related to other activities.' The stand-alone method results in the tax allowance being equal to the tax the utility would pay on the basis of its projected revenues less deductions for all operating, maintenance, and interest expenses included in the cost of service. In short, it results in a tax allowance equal to the tax on the allowed return on equity.
>
> The mechanics of calculating a stand-alone tax allowance are as follows: From the total return allowed on rate base are deducted interest expenses (computed by multiplying the rate base by the weighted cost of long-term debt used in determining the rate of

---

[11] Re Cities Service Gas Company.

[12] Re Cities Service Gas Company, p. 230.

> return), permanent tax differences, and the effect of the surtax exemption to arrive at the tax base. The tax base is then multiplied by the factor of 48 per cent over 52 percent (now 46 percent over 54 per cent) [ratio of "t" over "1-t", where t represents the statutory tax rate] to produce the tax allowance, which includes recognition of the fact that the tax allowance itself is subject to tax when received by the utility and is not deductible. The amount so calculated is the tax allowance.
>
> That the mechanics of calculating a stand-alone tax allowance do not take into account the revenue received and deductions for operating and maintenance expenses is not important. In calculating the tax allowance our policy is that a legitimate expense for cost-of-service purposes is to be considered to be a legitimate deductible expense in calculating a company's cost-of-service tax allowance. Accordingly, we can safely ignore the utility's operating and maintenance expenses and the revenues needed to recover those expenses. The only area for concern is the return on rate base.[13]

Cities Service Gas Company, at the time of the decision, was a member of the Cities Service system. Cities Service Company, the parent corporation, owned all the outstanding stock of Gas Company through its wholly-owned subsidiary, Empire Gas and Fuel Company. The parent corporation, directly or indirectly, owned thirty-seven corporations, about six of which were regulated. Gas Company engaged in the interstate transportation and sale of natural gas. The other subsidiaries were engaged in such activities as exploring for and producing oil and natural gas, producing petroleum products, and owning and operating refineries, railroad tank cars, ocean oil tankers, and an office building.

A consolidated tax return had been filed by the Cities Service System for a number of years. "By virtue of filing a consolidated federal income tax return for the years 1957 through 1959, the Cities

---

[13] Re Columbia Gulf Transmission Company, 54 PUR4th 31, p. 38.

Service system companies collectively enjoyed a federal income tax saving in the order of some $48 million."[14] Payment of the consolidated tax liability was allocated by the parent company among the subsidiaries in the following manner:

> The regulated companies, such as Gas Company, were charged 52 percent of their net taxable income while the remainder of the consolidated tax, if any, was then allocated among the nonregulated subsidiaries showing a profit in proportion to their respective taxable incomes.[15]

The FPC, however, commenting upon this allocation scheme, stated that "their intrasystem methods of allocation cannot be the basis of determining the amount allowable to Gas Company as an operating expense in a rate case."[16]

The FPC developed and used in the Cities Service case a new tax allowance method to compute the proper amount of "federal income taxes included in the cost of service of a regulated company where that company has joined in a consolidated return with affiliates."[17] The Cities Service method was designed to allow the ratepayers of the regulated company to benefit from a portion of the system's consolidated tax savings. The mechanics of the Cities Service formula consists of the following steps:

> "(1) separate the companies into regulated and nonregulated groups,
>
> "(2) determine the net aggregate taxable income of each group, and

---

[14] Re Cities Service Gas Company, p. 236.

[15] Ibid., pp. 231-232.

[16] Ibid., p. 232.

[17] Ibid., p. 236.

> "(3) apportion the net total consolidated tax liability over a representative period of time between the two groups, and among the companies in the regulated group, on the basis of their respective taxable incomes; provided that the allowance so computed for the regulated company shall not exceed what its tax liability would be for rate-making purposes, if computed on a separate return basis."[18]

It should be noted at this point that the above formula does allow the nonjurisdictional activities of a utility's affiliates to impact the ratepayers of that utility.

Before applying the mechanics of the above method to Gas Company, the FPC first allocated the taxable incomes of those companies in the Cities Service system that had only a portion of their business subject to regulation, into regulated and nonregulated categories. The FPC stated:

> We wish to make it clear that a simple manner of allocating the taxable income of mixed companies should be used in any future cases involving this issue. Obviously, it is administratively infeasible to compute a detailed cost of service for large integrated corporations to determine one element of a regulated company's cost of service.[19]

Another detail of the method decided upon by the FPC was the period of time that would qualify as being "representative." In explaining why a three-year period was chosen for Gas Company the FPC stated:

> The parent company paid no federal income tax for 1958, the test year. If this test period were representative, we would include no tax allowance in Gas Company's cost of service. However, the tax liability of a complex such as Cities Service for a single year is not apt to be representative. As stated above,

---

[18] Ibid.

[19] Ibid., p. 235, n. 9.

> the record shows extensive tax data for each of the companies of the Cities Service system for the years 1957 through 1959. While data for a longer period of time might be useful for normalization purposes, in our opinion the detailed data for this 3-year period of time is sufficient to determine the tax rate applicable to Gas Company.[20]

Cities Service did not agree with the FPC decision. It argued that the tax rate actually payable on Gas Company's stipulated return was 52 percent. Furthermore, it said, taking into account the carryback of losses, there were no tax savings which could be attributed to Gas Company's inclusion in the consolidated return. Lastly, it contended, it was Gas Company's rates that were at issue in the case, not the rates of its affiliates' products. It argued:

> Where rates are being set for a utility operation, the costs applicable to that operation are germane, not the costs of the unrelated nonutility operations. . . . if there is any saving from the nonutility operations they belong to the stockholder who incurred the losses and not to the ratepayer, who has paid no obligation of the nonjurisdictional subsidiaries and has not contributed to their losses. The staff's proposal would take away from the investors a portion of the incentive provided by Congress to encourage exploration for oil, domestically and abroad, would put the company at a competitive disadvantage with other oil companies, and would penalize the parent company for its form of corporate organization.[21]

The initial examiner in this case, who had used the stand-alone method to compute Gas Company's tax allowance, agreed with the position taken by Cities Service. He could not "see the justice of permitting Gas Company's customers to receive a windfall from losses occurring in businesses unrelated to that of the regulated natural gas company merely because Gas Company and the corporations having the losses

---

[20]Ibid., pp. 234-235.

[21]Ibid., pp. 232-233.

happen to have a common corporate owner."[22] He also stated "the regulated businesses should not have the right to take away from the non-regulated entity any part of the losses it utilizes for tax purposes."[23] He thought "if driven to it, the parent company could rearrange its system of corporations in such manner as to eliminate tax losses, and there would then be no tax saving to allot to the gain companies, including Gas Company."[24] He argued that by not allowing use of the stand-alone method "the true congressional intent of the tax law permitting the filing of a consolidated return, which was to encourage holding companies to expand their overall businesses for the betterment of the national and international economy," would be thwarted.[25]

The FPC, on the other hand, in explaining their position on the issue, stated:

> The authorities do not give us a clear answer to the question of whether the tax allowance for the regulated company should take into account the losses of affiliates. Some authorities appear to support the 'actual taxes' concept as advanced here by the staff. . . . Other authorities eliminate the losses of affiliated companies or of separable operations of the same company. . . .
>
> The starting point in resolving the consolidated tax issue is the amount of the consolidated tax payment. This is the only real cost which was incurred by Gas Company in conjunction with the other Cities Service affiliates. The task is then to determine the proportion of the consolidated tax which is reasonably attributable to the Gas Company vis-a-vis the other Cities Service affiliates. The basic error in the

---

[22] Ibid., p. 233.

[23] Ibid.

[24] Ibid.

[25] Ibid.

> position of Cities Service is that it ignores this point and claims an amount of federal income taxes in Gas Company's costs of service on the basis of a hypothetical figure which Gas Company would have paid if it were a separate company. The simple truth of the matter is that Gas Company paid no separate federal income tax but participated in the filing of a consolidated return with the other Cities Service affiliates. To accept Cities Service's position would be to approve fixing of jurisdictional rates on the basis of converting a hypothetical tax payment into a prudent operating expense. In effect, Cities Service argues that Gas Company ratepayers should make Cities Service stockholders whole for the tax losses of nonregulated enterprises even though this means an allowance for taxes over and beyond that which the consolidated system as a whole actually paid. We reject this view as neither just nor reasonable. Tax allowances in a cost of service are for the purpose of permitting the regulated entity to secure a rate which, after taxes, will provide a reasonable return on jurisdictional investment, not to insure that other components of a complex corporate system are enabled to 'cash-in' on their tax losses.[26]

The FPC staff had developed a method that was somewhat different than the method finally agreed upon by the FPC. It consisted of applying the effective tax rate of Gas Company to its income in the test year:

> This tax rate was derived, in essence, by dividing the consolidated tax paid by the Cities Service system by the total taxable income of all the profit-making affiliates computed separately for the years 1957, 1958, and 1959. By this method the staff computed an effective tax rate of 23.92 per cent for 1957, 0 per cent for 1958 (where there was a consolidated tax loss), and 7.67 per cent for 1959. It averaged these three figures to obtain its effective tax rate of 10.53 per cent which it applied to the Gas Company's income in the test year 1958 to obtain a tax allowance of $785,565.[27]

---

[26] Ibid., pp. 233-234.

[27] Ibid., p. 232.

The FPC also disagreed in part with this method because it found that a "separation between regulated and unregulated costs and revenues"[28] was necessary and the staff's method did not provide for such separations. The FPC argued:

> If we were to allocate the consolidated system tax return among all profit companies including those in whole or part engaged in unregulated activities, there would be no sound reason for refusing to fix jurisdictional rates at a level sufficient to make up any real losses these companies might suffer.
>
> Staff's approach possesses a quality of artificiality and instability which renders it unsatisfactory for ratemaking purposes. In effect, staff's effective tax rate is derived by taking the ratio Gas Company's income bears to the total income of the profit-making companies, and applying this percentage to the system tax paid. It would be easy for Cities Service to escape from this onerous assessment by rearranging affiliates, mergers, or intrasystem pricing arrangements in order to eliminate all or most of the other profit entities and thus increase the effective tax rate of the Gas Company. Significantly, the record shows that Cities Service could accomplish this result.[29]

Therefore, in explaining the method it agreed upon, the FPC stated the method was "similar to staff's approach which we consider reasonable when the nonregulated affiliates have been excluded."[30]

Some of the FPC commissioners provided additional personal comments on the FPC decision in separately stated opinions. Their opinions provide some additional insight into this issue. Commissioner Morgan, who concurred with the FPC decision, stated the following:

> It also appears from the record before us that with few exceptions, one of which is discussed below, the parent company allocated this enormous [tax] saving among the members of its corporate family on the

---

[28] Ibid., p. 234.

[29] Ibid.

[30] Ibid., p. 236.

proportionate basis of the taxable income each of them produced. This appears eminently fair, and this, moreover, is the method the tax regulations suggest for distributing these savings among the corporate family.

It is the 'few exceptions' that concern us--most particularly, the Cities Service Gas Company. We are concerned with this 'exception,' first, because that company sells a commodity vested with a public interest, at rates having the force of law, to consumers whose ratepaying welfare we are charged by Congress with protecting; second, because on the basis of allocating this saving which parent has chosen for its unregulated companies (that is, in proportion to taxable income), this particular public utility should have enjoyed savings of about $17,700,000 during the period mentioned; third, because utility regulation traditionally and without detectable exception has always required savings in utility tax costs to flow through in the form of reduced rates to the consumers who alone and by law must bear the utility's entire tax burden; and fourth, because the parent in this case has refused to apportion, distribute, allocate, or grant a single penny of the entire tax saving to the public utility that has been placed under what should be the watchful eye of the Federal Power Commission. . . .

If this were a matter of tax law, as company and the dissenting opinion would have us treat it, we, like the Internal Revenue Service, would only be interested in checking the accuracy of company's arithmetic. But this is a rate proceeding, not a tax audit. The problem here is only the problem of determining how the utility's share of the system's actual tax liability should be determined; or the extent to which a regulated utility's tax and ratepaying consumers should realize or be deprived of a saving in tax charges which in utility law are imposed upon and chargeable exclusively to utility ratepayers.

The difficulty is not in determining whether this utility's share of the tax savings should benefit the consumers who pay its taxes; the difficulty is in estimating this utility's proper share of the saving. . . .

. . . The position of Cities Service Company is that none of the system's tax savings should be used to reduce Gas Company's hypothetical 'tax' charges to its consumers, because those consumers did not finance the tax losses that gave rise to those savings. But, as we shall see, that is exactly what the consumers did, although involuntarily.

This entire practice is in complete conflict with the established principle that because a utility's consumers alone must pay its entire tax bill under rates having the force of law, a utility cannot charge its consumers more for taxes than the actual amount,

> estimated where necessary, that the utility actually paid or contributed to the U.S. Treasury, or more than the utility's proper and equitable share of the system tax actually paid. In the utility field, stockholders are entitled to a fair, constitutional rate of return, and the tax thereon is paid by utility consumers so that the fair return will not be reduced by taxes. Once the utility or its stockholders have received that return, they may not obtain more by claiming higher, fictitious, or hypothetical costs they might have incurred if they had been organized or operated in some other, unreal manner. To allow additional return--over and above a fair return as defined by the courts--is to countenance unjust enrichment of the utility or its owners at the expense of the ratepayer.[31]

Commissioner Morgan, although concurring with the FPC decision, actually preferred use of the staff's tax allowance method over the method agreed upon by the FPC. He believed the FPC's method actually gave "the priority of use of the system's tax loss benefits primarily or even entirely to its unregulated profit companies."[32] He stated:

> In passing, it may be noted that if this policy is equitable and if 'turn about is fair play,' the priority could and perhaps should be reversed for regulatory purposes. That is, if preference is to be given either group of subsidiaries regulatory authority might properly apply the tax loss benefits first to wipe out the tax liability of the regulated subsidiaries (which almost invariably operate at a taxable profit), and then to use whatever loss deductions may remain to reduce the tax liability that the unregulated subsidiaries would have had if their taxes had been separately computed. This would not alter the system's overall tax liability. But it would produce significantly larger tax reductions for the regulated companies, which would eventually be translated by regulatory authority into reduced rates and gross revenues. It would likewise greatly reduce the expendable funds, generated in the guise of 'taxes' paid by utility ratepayers, which the parent company now disburses across the face of the earth to operate the speculative ventures of its various nonregulated corporations. It is these specific corporate operations, in large part

---

[31] Ibid., pp. 236-238, 240.

[32] Ibid., p. 240.

financed and underwritten by 'taxes' extracted from ratepayers, which give rise to the tax loss benefits which the parent company claims it has the exclusive right to enjoy on the ground that the ratepayers had nothing to do with them! . . .

In any event, it is clear that the policy adopted here gives priority and favored treatment to the non-regulated companies rather than to those whose rates are subject to regulatory control by this and other commissions. I should have preferred that no priority or favored treatment be given to either group; and, speaking only for myself, I therefore believe that the actual tax and actual tax allocation method here urged by the staff is the preferred solution to this problem.

Most reluctantly, however, and solely for the purpose of enabling a decision to be reached in this case, I concur in the policy adopted by my colleagues of the majority. Though far from perfect, it is a discernible improvement over the situation that has existed here and in numerous other corporate families for many years. The approach of the majority, which is more in the nature of an assignment than an allocation, will serve at least to limit the tax liability of Gas Company's ratepayers to the actual liability of the entire system as a whole. It at least will prevent them from having to pay a tax charge that is larger than the actual liability of the entire system of which Gas Company is a minor part. This is no small matter, for Gas Company's lawyers have been unable to obscure the fact that in 1958, when the tax liability of the total system was zero, the parent company nevertheless imposed a 'tax' charge upon the ratepayers of the regulated utility in the amount of $6,367,534, not one penny of which was paid to the federal treasury.

In sum, this method of apportioning the tax saving and tax burden has the limited virtue of accommodating, to a very small and unsatisfactory degree, the two irreconcilable concepts at war with one another here. That is, it permits company and stockholder to enjoy an overly generous portion of the benefits which they erroneously claim are entirely theirs by virtue of the tax law alone; and it goes some small way toward producing a more equitable charge to ratepayers for the estimated amount of tax liability actually incurred by or attributable to the regulated utility that serves them.[33]

---

[33] Ibid., pp. 240-242.

Commissioner Woodward joined by Commissioner O'Connor, Jr., gave dissenting opinions to the FPC decision. In describing the FPC tax allowance method they stated:

> If each of the resulting groups shows a net taxable income, this formula would fairly allocate the total tax in accordance with the respective amounts of taxable income. But where, as here, the unregulated group has a net loss for the test period, the formula appropriates that loss which was the result of expenses and losses financed by the stockholders and deducts it from the tax allowance to be charged the ratepayers, thereby granting to them the entire benefit emanating from the tax loss. As applied here, the $2,400,000 net taxable loss of the unregulated group is handed over to the ratepayers by deducting it from the taxable income of Gas Company, thereby reducing its tax allowance by $1,200,000.[34]

One of the primary problems Woodward and O'Connor found with the FPC decision was it limited, in their opinion, the rights of Cities Service to benefit from the filing of a consolidated return. They stated:

> Depriving Gas Company of a tax allowance which would be routinely granted to it by the commission if it were not for its having a common owner with an unregulated and unrelated petroleum business, should not be done without some very persuasive reasons based upon sound rate-making policies which impose no confiscatory rates, which balance equitably consumer and investor interests, and which take fully into consideration the impact of such action upon national economic policies. At the root of regulation is economic policy. The problem of economic growth in the United States is crucially important and inseparably related to economic growth is investment. Under the majority view, the consolidated return would not result in stimulating investment and growth because it has the effect of converting nonjurisdictional losses within the parent company's system into a rate reduction for gas consumers. The majority opinion is not supported by persuasive reasons based on sound policy.
>
> . . . The majority view is unlawful because it has the effect of regulating nonutility enterprises

---

[34] Ibid., p. 242.

> beyond the commission's jurisdiction; it would strip the parent company of congressionally-conferred rights to tax deductions of its nonjurisdictional subsidiaries. . . .
>
> If the economic advantage arising out of the filing of a consolidated tax return is to be passed on to Gas Company's ratepayers, which is the effect of the majority decision, the intent of Congress will be defeated.[35]

Woodward and O'Connor also noted Cities Service, as the sole shareholder, bore "100 per cent of every risk, expense, and loss sustained by its subsidiaries."[36] Therefore, in their opinion, the expenses and losses of its subsidiaries:

> Should not be appropriated for the consumers of a regulated natural gas company who bore no part of them, assumed no risks in relation to them, and have no right to use them to reduce their gas costs. . . .
>
> . . . Most assuredly, Gas Company is not entitled to tax savings arising out of foreign and domestic exploration, production, refineries, gas station operations, petrochemical, tanker, and other nonjurisdictional operations.[37]

As a result of this problem, the commissioners questioned the effect this decision would have on the ability of the affiliates of Gas Company to compete in their respective marketplaces:

> Following the theory of the majority, how can an integrated oil company, which also has a natural gas pipeline company within its corporate structure, compete on equal terms with an oil company not having similar pipeline operations, if the latter can use all of its tax savings in its oil business but the former cannot? Clearly, it cannot so compete.[38]

Effectively they argued activities of the nonjurisdictional affiliates

---

[35] Ibid., pp. 242-247.

[36] Ibid., p. 244.

[37] Ibid.

[38] Ibid., p. 246.

of a utility should not be allowed to impact the amount of revenue requirement that utility is allowed to earn.

Another point the commissioners emphasized was that "the parent company obtained no tax or other advantage from including Gas Company in its consolidated return."[39] In fact, they noted, the inclusion of Gas Company in each consolidated return actually increased the cost of such returns by an amount "equal to 52 per cent of Gas Company's taxable income."[40] They stated:

> In 1957, the parent company paid a consolidated tax of $12,251,639 on the income of its subsidiaries of which $5,860,398 was attributable to and equal to 52 per cent of Gas Company's taxable income. In 1958 the parent company received a tax refund of $6,367,534, but it would have received a total refund of $10,224,666 if Gas Company had not participated in the consolidated return. Thus, the parent company, in effect, paid a tax of $6,367,534, representing 52 per cent of Gas Company's 1958 taxable income, by foregoing the additional refund in that amount. In 1959, the parent company paid a tax of $2,965,014, but it would have received a refund in the amount of $6,566,531, if Gas Company had not been included in the consolidated return. Thus, the parent, in effect, paid $9,531,545 in payment of the tax at the rate of 52 per cent on Gas Company's taxable income. The record shows that Gas Company's taxable income was not necessary to produce tax savings in the test years.
>
> There is no question that Gas Company would pay a 52 per cent tax had it been considered on a separate basis. The parent, by including Gas Company in the consolidated return, added a cost thereto equal to 52 per cent and allocated a 52 per cent cost to the Gas Company.[41]

Woodward and O'Connor agreed with the examiner's use of the stand-alone method to compute Gas Company's tax allowance. They noted

---

[39] Ibid., p. 245.

[40] Ibid.

[41] Ibid.

use of it would result in no "attendant harm" to the ratepayers, and would not result in higher rates to the ratepayers; use of the stand-alone method, they argued, would simply not operate to reduce the utility's rates.[42]

Response to the Cities Service Decision

The method developed in the Cities Service decision was not readily accepted either by the courts or by affiliated utilities. In 1964, the U.S. Court of Appeals for the tenth circuit reversed the Cities Service decision. The issue before the court was:

> Whether the commission, in the exercise of its undoubted power to determine just and reasonable rates for jurisdictional gas sales, may, in these circumstances, take into account the losses of nonregulated and unrelated affiliates to calculate the tax allowance includable in the cost of service of a regulated company.[43]

To begin with, the court held no tax savings resulted to the Cities Service system from the inclusion of Gas Company in the consolidated return. In fact it found, as the dissenting commissioners Woodward and O'Connor had argued, that the inclusion of Gas Company in the consolidated return actually increased the system's consolidated tax liability by 52 per cent of Gas Company's taxable income. It stated:

> We think it is legally fallacious to calculate the Gas Company's tax allowance on the basis of the consolidated tax liability of the parent company. This approach cannot be justified by the actualities of the case. The uncontroverted facts show that the Gas Company not only incurred a tax liability during the

---

[42] Ibid., p. 247.

[43] Cities Service Gas Company v. Federal Power Commission, 337 F2d 97, 56 PUR3d 51, 52 (10th Cir. 1964).

> representative years at the statutory 52 per cent rate, but its tax liability at that rate was reported to the parent company, and the consolidated returns actually reflect that tax liability.[44]

However, more importantly the court held use of the commission's method made the tax allowance of a utility dependent upon the profits or losses of its nonregulated affiliates. Since jurisdictional limits of the FPC required "a separation of regulated and nonregulated profits and losses in the determination of the tax allowance"[45] of a utility, the court ruled use of the commission's method was unauthorized.

Nonetheless, the FPC continued to use the Cities Service method to compute the tax allowance of other affiliated utilities under its jurisdiction. In 1964 in a case dealing with United Gas Pipe Line Company (Pipe Line) the commission applied the method to compute Pipe Line's tax allowance, using the same reasoning and conclusions set forth in its Cities Service decision.[46] Pipe Line, a natural gas transmission company, was wholly owned by United Gas Corporation, a regulated gas distribution company. United Gas Corporation also held 100 percent of the stock of two other subsidiaries--Union Producing Company, a regulated domestic oil and gas producer, and United Overseas Production Company, a nonregulated oil exploration company engaged in exploration in foreign countries. These latter two subsidiaries had reported tax losses for the period 1957-1961 that had created consolidated tax savings for the system. In computing Pipe Line's tax

---

[44]Cities Service Gas Company v. Federal Power Commission, 56 PUR3d 51, p. 54.

[45]Ibid., p. 52.

[46]Re United Gas Pipe Line Company, 31 FPC 1180, 54 PUR3d 285 (FPC 1964).

allowance, the FPC allocated the actual consolidated tax liability paid during the 5-year period, 1957-1961, among the members of the group in accordance with the Cities Service method. Due to the particular fact situation in the Pipe Line case, the FPC found five years rather than three years to be the "representative" period of time over which to compute Pipe Line's tax allowance.

Pipe Line petitioned the U.S. Court of Appeals for the fifth circuit for a review of the FPC order in 1966. The court found no fact differences between the Cities Service case and the Pipe Line case, and, because it agreed with the decision reached by the tenth circuit in the Cities Service case, it held the principles announced in that opinion were also applicable and controlling in the Pipe Line case. Therefore, it found the commission's method to be erroneous, and ruled the FPC order dealing with the tax allowance of Pipe Line be vacated and set aside.[47]

The FPC responded to rejection of its Cities Service method by requesting the United States Supreme Court to review the United Gas Pipe Line decision. In 1967, in a 5-3 opinion, the Supreme Court held the FPC had not exceeded its power in allowing a tax allowance to United Gas Pipe Line Company which was less than the amount it would have been allowed had it filed a separate return.[48] It stated:

> In our view what the commission did here did not exceed the powers granted to it by Congress. One of its statutory duties is to determine just and reasonable rates which will be sufficient to permit the company to recover its costs of service and a reasonable return on

---

[47]United Gas Pipe Line Company v. Federal Power Commission, 357 F2d 230, 63 PUR3d 173 (5th Cir. 1966).

[48]Federal Power Commission v. United Gas Pipe Line Company et al., 386 US 237, 87 S Ct 1003, 68 PUR3d 321 (U.S. Sup. Ct. 1967).

> its investment. Cost of service is therefore a major focus of inquiry. Normally included as a cost of service is a proper allowance for taxes, including federal income taxes. The determination of this allowance, as a general propostion, is obviously within the jurisdiction of the commission. Rate making is, of course, subject to the rule that the income and expense of unregulated and regulated activities should be segregated. But there is no suggestion in this case that in arriving at the net taxable income of [Pipe Line] the commission violated this rule. Nor did it in our view in determining the tax allowance. [Pipe Line] had not filed its own separate tax return. Instead it had joined with others in the filing of a consolidated return which resulted in the affiliated group paying a lower total tax than would have been due had the affiliates filed on a separate return basis. The question for the commission was what portion of the single consolidated tax liability belonged to [Pipe Line]. Other members of the group should not be required to pay any part of [Pipe Line's] tax, but neither should [Pipe Line] pay the tax of others. A proper allocation had to be made by the commission. In [the respondent's] view [Pipe Line] should never share in the tax savings inherent in a consolidated return, even if on a consolidated basis system losses exceed system gains and neither the affiliated group nor any member in it has any tax liability. This is an untenable position and we reject it. Rates fixed on this basis would give the pipeline company and its stockholders not only the fair return to which they are entitled but also the full amount of an expense never in fact incurred. In such circumstances, the commission could properly disallow the hypothetical tax expense and hold that rates based on such an unreal cost of service would not be just and reasonable.[49]

The Supreme Court upheld the right of the FPC to adjust the tax allowance of a utility realizing consolidated tax savings, even when those savings arose due to nonjurisdictional activities of the utility's affiliates. It held:

> We think that in the proper circumstances the commission has the power to reduce cost of service, and hence rates, based on the application of nonjurisdictional losses to jurisdictional income. Hence, the question becomes one of when and to what extent the tax

---

[49] Federal Power Commission v. United Gas Pipe Line Company et al., 68 PUR3d 321, p. 326.

> savings flowing from the filing of a consolidated return are to be shared by the regulated company. . . .
>
> Viewing the case in this light, we cannot say that the method the commission chose to allocate the tax liability among the group members was erroneous or contrary to its statutory authority.[50]

It should be noted, however, the Supreme Court did not rule any portion of a system's consolidated tax savings had to be allocated to the ratepayers of the utility member whenever that utility was party to the system's consolidated tax return; it merely held the Cities Service allocation method was just and reasonable given a portion of the system's consolidated tax savings was to be allocated to the ratepayers.

The Supreme Court affirmed the Commission on its Cities Service method but remanded the case back to the fifth circuit court of appeals with respect to the jurisdictional and nonjurisdictional income of Pipe Line. However, the court of appeals disagreed with the Supreme Court's interpretation. Therefore, the FPC petitioned the U.S. Supreme Court a second time to review the adverse decision of the court of appeals. The Supreme Court, in its second opinion,[51] "strongly indicated that tax losses from nonjurisdictional activities should first be allocated to reduce taxable income from other nonjurisdictional operations and that jurisdictional rates should be reduced only when there was a net tax loss from all nonjurisdictional operations."[52] The Supreme Court

---

[50]Ibid., p. 327.

[51]Federal Power Commission v. United Gas Pipe Line Company, 393 US 71, 89 S Ct 55, 79 PUR3d 257 (U.S. Sup. Ct. 1968) cited in Re National Rates for Natural Gas, 15 PUR4th 1, Opinion No. 749-C, Docket No. 478 (FPC July 19, 1976), p. 9.

[52]Re National Rates for Natural Gas, p. 9.

directed the court of appeals to remand the case to the Commission, where it was settled.

The FPC Reverses Its Cities Service Position

Despite its apparent victory, the FPC abandoned its Cities Service formula in a 1972 order involving Florida Gas Transmission Company (Florida Gas).[53] In the case of Florida Gas the FPC held the statutory tax rate, rather than an effective tax rate, should be used to compute the utility's tax allowance.

Florida Gas, a natural gas pipeline company, was wholly owned by Florida Gas Company. The parent company was a regulated retail distributor of gas in the state of Florida. Florida Gas Company also owned Florida Hydrocarbons Company, Florida Liquid Gas Company, and Coastal Production Company, which were all unregulated companies. Florida Gas joined with its parent and the three other subsidiaries in filing a consolidated tax return. For the test period, Florida Gas reported a taxable income of $11,828,205, and its parent reported a taxable loss of $1,706,645; the other three subsidiaries reported taxable income of $726,087.[54]

In computing the tax allowance of Florida Gas, both the FPC staff and Florida Gas approached the problem as one involving the question of "how the tax benefits achieved through the consolidated return ought to be shared, if at all, with the pipeline's customers and how such benefits, if any, should be translated into a reduced effective tax

---

[53] Re Florida Gas Transmission Company, 93 PUR3d 477, Opinion No. 611, Docket Nos. RP66-4, RP68-1 (FPC February 16, 1972).

[54] Ibid., p. 493.

rate."[55] Both applied the Cities Service formula to compute the tax allowance of Florida Gas. However, Florida Gas claimed that even when applying the Cities Service formula, the full statutory income tax rate should be used to compute its tax allowance:

> Florida Gas divided the taxable income of itself and its parent into regulated and unregulated categories, and put the income of the other subsidiaries entirely into the unregulated category. By its calculation there was no net loss in the unregulated category, and thus there was no unregulated loss to reduce the taxable income in the regulated category. Florida Gas contended, therefore, the statutory tax rate of 48 per cent should be applied to it.[56]

On the other hand, in computing Florida Gas' tax allowance the FPC staff:

> Considered Florida Gas entirely regulated and subtracted from its taxable income of $11,828,205, the regulated loss of the parent of $778,080 [computed after eliminating amortization of debt discount and expense in the amount of $867,826 which was being charged by the parent to Florida Gas] obtaining a net amount of $11,050,125, as the taxable income of the regulated companies. On the unregulated side the staff obtained a taxable income of $665,348. It thus reached an adjusted consolidated taxable income ($11,050,125 plus $665,348) amounting to $11,715,473, of which the regulated taxable income comprised 94.32 per cent. When this percentage was applied to the consolidated income tax ($5,616,927), there was derived a regulated tax of $5,297,885, all of which was deemed applicable to Florida Gas, because the parent company had a loss. Since the taxable income of Florida Gas was $11,828,205 for 1966, the effective tax rate was found to be 44.79 per cent.[57]

It should be noted the character of the tax loss in the Florida Gas case was different from that in either the Cities Service or the United Gas Pipe Line cases. In the Florida Gas case, the tax loss that

---

[55] Ibid.

[56] Ibid.

[57] Ibid., pp. 493-494.

created the consolidated tax savings arose from a regulated company as opposed to a nonregulated entity. In referring to this difference, the FPC noted the U.S. Supreme Court, in its second opinion concerning United Gas Pipe Line, clarified the mechanics of the Cities Service method by stating: "if a net taxable income remained in the nonregulated group (as here) the regulated companies would not share in the savings from the consolidated return and would be deemed to have paid a tax at the full rate."[58] Therefore, based on the court's interpretation, the FPC felt doubt was cast upon application of the Cities Service method in those situations where tax losses arose from regulated affiliates.

The FPC held in regard to the tax loss generated by Florida Gas Company that such loss should not be used to reduce the return of Florida Gas. It noted:

> [The parent] has a tax loss when considered part of the consolidated tax return, but viewed separately it is not a loss company as in the case of many producing affiliates that have large tax deductions arising from statutory depletion and intangible well-drilling costs.
>
> . . . To the extent the losses arose from a low return to its distribution investment Florida Gas should not be penalized because its parent failed to collect sufficient revenue from its retail customers in Florida. To the extent the losses arose from the parent's financing of its subsidiaries Florida Gas should not be penalized for financial services which contributed to the development of this pipeline system.[59]

Nonetheless, the primary reason the FPC reversed its Cities Service position and supported the stand-alone method in the Florida Gas case was because of its desire to encourage natural gas exploration and

---

[58] Ibid., p. 494.

[59] Ibid., pp. 495-496.

development at a time when gas supplies were decreasing. The FPC explained its position:

> Precedent cases are not decisive on the proper treatment to be accorded consolidated taxes . . .
>
> From whatever circumstances the principles of [Pipe Line] and Cities Service evolved at the time those cases were decided, the stringency of gas supply was not considered by the commission in reaching its determination. At the present time, we seek to avoid a determination that will tend to defeat efforts to acquire additional gas supplies or constitute a disincentive to exploration and development. Since 1968, all major industry data indicate that gas is being consumed at a greater rate than it is being discovered, and a number of pipelines have had to file plans for curtailment of service to their customers under our Order No. 431. Therefore, if a case were before us where an affiliated, regulated or nonregulated, producer of oil or gas showed a tax loss, and this loss company were joined in a consolidated return with a pipeline, the [Pipe Line] or Cities Service cases, in our opinion, would no longer be persuasive authority, for to reduce the rates of a regulated pipeline because of such affiliated exploration and development activities would be discouraging to the very enterprise we now want to encourage.[60]

In explaining its decision further and in line with the above reasoning, the FPC stated:

> There has been an increasing tendency for pipeline affiliates to diversify and to engage in activities completely unrelated to gas pipeline operations or the gas business at all, so that determining a tax allowance for the pipelines' jurisdictional business on the basis of the activities of a far-flung conglomerate bears less and less relationship to the operations in which we are properly interested. Of relevance is our determination that in computing rate of return there should be eliminated from a pipeline's common equity its investment in nonutility businesses, such as a textile company or a wire company.[61]

---

[60] Ibid., pp. 494-495.

[61] Ibid., p. 495.

The FPC concluded its Florida Gas order by stating:

> In our opinion as the pipeline business develops with numerous subsidiaries we should avoid regulating one company on the basis of the activities of others in the affiliated group. . . . In our opinion a utility should be regulated on the basis of its being an independent entity; that is a utility should be considered as nearly as possible on its own merits and not on those of its affiliates.[62]

After the Florida Gas Flip-Flop

The FPC continued to hold with its Florida Gas position in later cases dealing with natural gas pipelines. For instance, in 1973 in an order dealing with Natural Gas Pipeline Company of America the FPC held tax losses generated by the pipeline's affiliates were not to be used as a mechanism to reduce its rates.[63] It felt such treatment would probably discourage natural gas exploration and development.[64]

In 1976 in an order establishing national rates for the sale of natural gas from wells commenced prior to January 1, 1973, the FPC again held with its Florida Gas principle, stating "the federal income tax allowance should not be reduced to reflect 'tax losses' of affiliates not regulated by this commission."[65] Also in this order, the FPC addressed a new twist to the consolidated tax savings issue. Specically, it addressed the question of whether tax losses arising from the nonjurisdictional activities of a jurisdictional utility conducting

---

[62] Ibid., p. 496.

[63] Re Natural Gas Pipeline Company of America, 50 FPC 789 (FPC 1973) cited in Re National Rates for Natural Gas, p. 10.

[64] Re Natural Gas Pipeline Company of America, p. 790 cited in Re National Rates for Natural Gas, p. 10.

[65] Re National Rates for Natural Gas, p. 10.

natural gas operations should impact the utility's tax allowance. On this issue the FPC held:

> Just as 'tax losses' from affiliates should not be considered in prescribing the tax allowance for the regulated company, 'tax losses' from nonnatural gas sales activities of the same company should not be considered in determining the tax allowance for the regulated activities. In other words, the regulated activities are properly viewed as a separate corporate entity and the federal income tax allowance computed accordingly.[66]

The Southern California Edison Decision

The primary question left unanswered by the Florida Gas decision was whether the FPC was permanently abandoning its Cities Service method or whether it was merely barring use of the method in those cases involving natural gas pipeline companies. This issue was left open until 1977 when it was addressed by the FPC in a case dealing with Southern California Edison Company (Edison).[67]

Edison, an electric utility, participated in the filing of a consolidated tax return with its subsidiaries. Certain subsidiaries reported tax losses which resulted in "a tax liability of the consolidated group as a whole that was approximately $1 million less than if each affiliated company had filed separately with the Treasury."[68] The presiding judge found, from the record presented before him, that the principal tax losses were attributable to Edison's nonregulated exploratory and development subsidiary, Mono Power Company. The FPC

---

[66] Ibid.

[67] Re Southern California Edison Company, 23 PUR4th 44, Opinion No. 821, Docket No. E-8176 (FPC September 22, 1977).

[68] Ibid., p. 49.

found "no evidence that any regulable utility operation represented a tax loss for consolidated filing purposes."[69]

Intervening parties objecting to Edison's rate increase argued Edison's tax allowance should be offset by the tax losses realized by its nonjurisdictional affiliates. Relying on the Supreme Court's reasoning in its United Gas Pipe Line decision, the intervenors also argued for use of the Cities Service method to calculate Edison's tax allowance.

Edison argued, on the other hand, relying on the FPC's Florida Gas decision, that it should be regulated as an independent entity, and that the stand-alone method should be used to compute its tax allowance. The FPC concluded, however, that its Florida Gas principle could not "rationally be applied to Edison, an electric utility, even though its 'loss' [affiliate] may generally be classified as engaged in exploration and development of raw energy supplies."[70] The FPC held its Florida Gas principle could only be applied to the natural gas industry and thus could not be relied upon by Edison to justify use of the stand-alone method in its situation.

However, the FPC went on to explain Edison's use of the stand-alone method could be based upon the <u>new</u> policy the FPC had developed in its Florida Gas decision:

> . . . our Florida Gas decision signaled another significant change in prior rate-making approaches by this commission, a departure which bears upon all rate cases properly before this commission regardless of the particular industry involved. In the [Pipe Line] case the commission had proceeded on the thesis that

---

[69] Ibid., p. 49, n. 5.

[70] Ibid., p. 50.

> 'tax losses' from nonjurisdictional activities of a company are to be considered in fixing the income tax allowance for jurisdictional activities. This approach was subjected to reevaluation in Florida Gas, and, as an alternate ground for decision in that case, the commission determined that utilities should henceforth be considered as separate entities for the rate-making purposes of determining their costs of providing jurisdictional service. This approach has been consistently followed by the commission since Florida Gas and, in one instance, the hypothesis underlying the Cities Service formula was specifically rejected and overruled by this commission. . . . Consequently, [intervenors'] reliance upon Cities Service and [Pipe Line] is misplaced, the rationale underlying those decisions being no longer persuasive for rate-making purposes.[71]

The FPC was unable, however, to apply this new policy to the computation of Edison's tax allowance because it was unable, despite the earlier findings of the judge, to determine from the record before it the source of Edison's consolidated tax savings. Nonetheless, the important point to note from the FPC's conclusion in this decision is its finding that use of the stand-alone method is appropriate in those situations where the ratepayers of a utility are not paying the expenses that are generating the consolidated tax savings:

> Edison has the burden of substantiating the cost basis of its claimed allowance for income taxes. Edison argues that the tax component for providing the jurisdictional service is properly determined at the full statutory rate. Generally, we agree that the use of the statutory tax rate will be appropriate, but in each case this commission is bound by the evidentiary record. Normally, any tax savings resulting from the filing of a consolidated tax return will be attributable to business activities which are totally unrelated to the providing of electric utility service. The record in this case, however, will not support such a finding. No party has come forward with evidence showing the source of the tax savings which was admitted by Edison's own witness to have been achieved. We are, therefore, unable to conclude that the deductions which gave rise to the consolidated tax savings were unrelated to the

---

[71] Ibid.

> providing of jurisdictional electric utility service. The presiding judge found that the tax savings principally derived from the operations of Mono Power Company, a nonutility subsidiary. There is, however, no sufficiently detailed evidence in this record to support this general conclusion. Certainly, if this were the case, it would be difficult to justify the appropriation of any tax savings attributable to this subsidiary by the jurisdictional consumers when these same consumers did not pay the expenses which created the deductions for tax purposes.[72]

In short, the FPC held nonjurisdictional activities of a jurisdictional utility's affiliates are not to be reflected in the tax allowance of that utility; and, in the FPC's opinion, the stand-alone method accomplishes this.

Since this new policy departed from its Cities Service policy, the FPC also noted in its Edison ruling that it had the authority to make such a departure. It stated administrative policy determinations could be changed, "either with or without a change in circumstances, if a reasoned analysis supporting such a change is supplied. Our Florida Gas reassessment, inter alia, provides such reasoned analysis."[73] It should also be noted the FPC had such authority despite the U.S. Supreme Court's decision in the United Gas Pipe Line case. As may be recalled, in that decision the Supreme Court did not mandate allocation of the consolidated tax savings to the ratepayers of a utility that was a party to a consolidated tax return; it merely held that should the Commission ever decide to allocate some of the consolidated tax savings to the ratepayers of such a utility, the Cities Service method provided a fair and reasonable allocation of the tax savings.

---

[72]Ibid., pp. 50-51.

[73]Ibid., p. 50, n. 7

The Debate Over the Columbia Gulf Transmission Decision

Despite the FPC's new position on stand-alone, only two months before the Edison decision was issued, a presiding administrative law judge (ALJ) held, for purposes of determining the tax allowances of two natural gas pipeline companies, use of the stand-alone method created excessive tax allowances. As a result of this decision, the ALJ ordered refunds be made to the ratepayers of the two pipeline companies. The two natural gas pipeline companies involved in this decision were Columbia Gulf Transmission Company (Columbia Gulf) and Columbia Gas Transmission Corporation (Columbia Gas).[74]

In 1975, Columbia Gulf and Columbia Gas had both filed for rate increases. For ratemaking purposes both pipeline companies had used the stand-alone method to compute their respective tax allowances. However, the Federal Energy Regulatory Commission (FERC) suspended their proposed rate increases and allowed a number of parties to intervene in the case. One of the issues causing a debate was the method used to compute the pipelines' tax allowances. As a result, hearings on the matter were conducted before the administrative law judge in 1977.[75]

The ALJ's decision was issued on July 7, 1977. The pipelines filed a joint brief with the FERC excepting to his decision on August 8, 1977. Petitions to intervene were also filed by Natural Gas Pipeline Company of America and the Interstate Natural Gas Association

---

[74] Re Columbia Gulf Transmission Co., et al., CCH 1979 Utilities Law Reports-Federal par. 12,214, Opinion No. 47, Docket Nos. RP75-105 et. seq. (FERC July 2, 1979).

[75] City of Charlottesville, Virginia v. Federal Energy Regulatory Commission, 661 F2d 945 (D.C. Cir. August 7, 1981).

of America. Briefs opposing exceptions to the judge's decision were filed on August 29, 1977, by the City of Charlottesville, Virginia, and the Public Service Commission of the State of New York.[76] These petitions resulted in a review by the FERC of the judge's decision. The results of the FERC's review were released in its Opinion No. 47, issued July 2, 1979.[77]

Columbia Gulf and Columbia Gas were subsidiaries of Columbia Gas System, Inc., (Columbia). Columbia owned all of the stock and debt securities of the two pipeline companies. The pipeline companies had thirteen other affiliates: three of the affiliates were engaged in exploration for and development of natural gas supplies (Columbia Gas Development Corporation, Columbia Gas Development of Canada, Ltd., and Columbia Coal Gasification Corporation); seven were distributors selling gas to consumers in Kentucky, Maryland, New York, Ohio, Pennsylvania, Virginia and West Virginia; one was in the hydrocarbon business; one was in the liquified natural gas business; and one was a service company.[78]

The system had filed a consolidated tax return since 1947. Due to annual tax losses realized by some of the affiliates, consolidated tax savings had been consistently realized by the system since 1947.[79] During the test year, 1974, Columbia realized a tax loss. In addition,

---

[76] Re Columbia Gulf Transmission Co., et al., CCH 1979 Utilities Law Reports-Federal par. 12,214, p. 14,050.

[77] Ibid.

[78] City of Charlottesville, Virginia v. Federal Energy Regulatory Commission.

[79] Re Columbia Gulf Transmission Co., et al., CCH 1979 Utilities Law Reports-Federal par. 12,214, p. 14,051.

five other affiliates realized tax losses, four of which were "engaged in developing new gas supplies for the system, Columbia Gas Development, Columbia Gas Development of Canada, Columbia Coal Gasification, and Columbia LNG,"[80] and one of which distributed gas at retail, Columbia Gas of West Virginia.

One issue addressed in Opinion No. 47 was whether tax losses incurred by Columbia Gas of West Virginia should impact the pipelines' tax allowances. The ALJ treated the losses as a source of tax benefits to the system and allocated a portion of such benefits to the pipeline companies. The FERC, however, held the losses were nonrecurring, and that the West Virginia affiliate would not generate tax benefits during the period of time covered by the prospective rate order. The FERC reversed the ALJ's decision on this issue and held the losses, along with their associated tax benefits, were to be ignored in computing the pipelines' tax allowances. It stated:

> . . . we are unpersuaded that Columbia's stockholders should be deprived of the tax deduction associated with the non-recurring tax loss of one of Columbia's distribution subsidiaries during the test period for this Opinion. The tax loss was due to unique circumstances which have no relevance to the cost of serving the customers of the Columbia pipelines.[81]

Another issue addressed in Opinion No. 47 was whether tax losses attributable to the parent company were to affect the pipelines' tax allowances. These losses generated almost one-half of the system's consolidated tax benefits. They resulted from the parent company

---

[80] Re Columbia Gulf Transmission Company, 54 PUR4th 31, p. 34.

[81] Re Columbia Gulf Transmission Co., et al., CCH 1979 Utilities Law Reports-Federal par. 12,214, p. 14,054.

borrowing money at high rates from its creditors and lending it at low rates to its subsidiaries.[82] The ALJ, in his decision, had allocated a portion of these tax losses to the pipeline companies. The FERC, however, disallowed the allocation stating:

> Because the pipelines' rates are based on Columbia's capital structure, and also on Columbia's interest costs, the pipelines' customers already receive a proportionate share of the tax deductions related to Columbia's interest costs. . . . The approach adopted by the presiding judge would give pipeline customers the benefits of the same tax deductions twice.[83]

A third issue addressed in Opinion No. 47 was the effect the tax losses, realized by four affiliates that were engaged in gas exploration and development, were to have on the pipelines' tax allowances. The pipeline companies did not account for these losses in their respective tax allowances as they had used the stand-alone method to compute their tax allowances relying on the Commission's Florida Gas policy. The administrative judge, however, had refused to apply the Florida Gas policy. He did so for two reasons:

> First, he found that the policy, as he interprets it, would cause consumers 'to pay twice for (affiliated producers') exploration and development activities.' The judge reasoned that the customers of those pipelines which purchased the natural gas produced by the 'loss' E&D affiliates within the Columbia system would shoulder all actual exploration and development costs of these producers as well as an inflated cost for taxes paid by these producers and a healthy return. * * * These producer costs would be reflected in the operating expense of the consumers' pipeline supplier. To allow the pipeline suppliers to also channel monies to affiliated producers by charging a rate predicated upon the intra-Columbia allocation of tax liability

---

[82] City of Charlottesville, Virginia v. Federal Energy Regulatory Commission.

[83] Re Columbia Gulf Transmission Co., et al., CCH 1979 Utilities Law Reports-Federal par. 12,214, p. 14,054.

> was held to constitute a double recoupment by the affiliated E&D companies of their exploration and development expenses. . . .
>
> The second reason advanced for the presiding judge's failure to give effect to the Commission's Florida Gas policy is a failure of assurances that the Columbia pipelines' customers would concretely benefit from the so-called 'incentive' thereby provided. The presiding judge noted that one of the 'loss' E&D companies was engaged in exploration activities in Canada with no assurance that any eventual production by this affiliated company would be exported to the United States or sold to the Columbia pipelines. As to the other 'loss' E&D affiliates, the judge noted that there was no assurance that their activities would produce natural gas, rather than other hydrocarbon products. Nor was there adequate assurance, in the presiding judge's view, that these affiliates would ultimately sell all or any part of their natural gas production to intracorporate pipeline affilates.[84]

The ALJ, in computing the pipelines' respective tax allowances, had:

> . . . used a three-year average for the Columbia system for 1973-75 to determine an effective tax rate for the Columbia pipelines. He found that the 'actual tax liabilities' of the Columbia pipelines were $37.8 million less than the aggregate tax allowances claimed and sought to be recovered through the pipelines' rates. He fixed each pipeline's cost of service on the basis of a strict proportional allocation of the 'tax-savings' from consolidated income taxes among the profitable affiliates within the Columbia group.[85]

The FERC reversed the judge's decision regarding the pipelines' tax allowances. In so doing it stated:

> The presiding judge has erroneously assessed the practical effect of allowing 'loss' E&D affiliates to benefit currently from Columbia's use of the losses as offsets against the taxable income of the profitable affiliates. Thus, we must reject the judge's 'double recovery' theory. . . .
>
> The presiding judge's recommended diversion of the tax benefits from losses incurred by Columbia's

---

[84] Ibid., pp. 14,052-14,053.

[85] Ibid., p. 14,052.

> gas supply subsidiary would result in discriminatory treatment of the company when selling new supplies in interstate commerce at national rates. The nationwide rates (which are equally applicable to independent and pipeline-affiliated production) were established based upon the concept that pre-production tax benefits would be passed on to gas consumers. Thus, those tax benefits resulting from E&D operations in 1975 and 1976 (within which the locked-in period of the instant case falls) have already been factored into the pricing of new gas discovered. Not only would the judge's decision take away these tax benefits in the case of companies with both pipeline and E&D operations, but it would also place these affiliated E&D operations in a less profitable position relative to those carried out by independent producers. Although Columbia's exploration subsidiary receives the nationwide rate, it would receive a lower effective rate of return on its gas discoveries than independent producers, merely because the exploration subsidiary is owned by a company which also owns natural gas pipeline companies that are regulated by this Commission.
>
> . . . We see nothing that has happened since Florida Gas to suggest that the need to stimulate the search for new domestic energy supplies is less pressing in 1979 than it was in 1972. . . .
>
> In view of the Nation's critical energy needs, we will not adopt a policy that will eliminate the parity that has been created between pipeline affiliated producers and independent producers. To require Columbia to pay its pipeline customers the tax savings from losses incurred in the search for new gas supplies will operate as a disincentive to continued gas supply development activities by pipelines and other regulated utilities. Nor are we prepared to endorse a policy that would have a comparative disincentive effect on LNG and coal gasification ventures, which are two other 'loss' operations of Columbia. * * * As for Columbia Gas Development of Canada, another 'loss' subsidiary, we find nothing in the evidentiary record that suggests that the expenses which resulted in the tax losses of any other subsidiary were charged to pipeline customers.[86]

The FERC concluded its Opinion No. 47 by affirming the pipelines' use of stand-alone to compute their respective tax allowances. In so doing, the FERC relied on its Florida Gas reasoning:

---

[86]Ibid., pp. 14,053-14,054.

> What we have here is a clash between two fundamental public policies. The first is in the Natural Gas Act. It seeks 'to protect consumers against exploitation at the hands of natural gas companies' * * * and to give them the benefit of 'the lowest reasonable rates.' * * * The second is in the Internal Revenue Code. It seeks to stimulate the entrepreneur by:
>
> (a) Spurring the search for oil and gas with tax incentives, and
>
> (b) Enhancing the efficiency of those incentives by permitting the tax losses that they generate (as well as other kinds of entrepreneurial losses) to be applied against income produced by remunerative activities, thus providing so-called 'shelters' for income that would otherwise be taxable.
>
> Which of these two policies controls? Florida Gas held the entrepreneurial stimulus policy controlling. * * * Nothing brought to our attention invalidates its reasoning. * * * Hence we adhere to the rule there laid down. * * *[87]

The significance of the FERC's conclusion lies in the fact that its Florida Gas reasoning was relied upon to justify use of the stand-alone method, as opposed to reasoning developed in its Edison decision (i.e., nonjurisdictional activities should not impact the tax allowance of a jurisdictional utility). Thus the FERC reverted to its reasoning that stand-alone should be used so utilities would not be discouraged from pursuing natural gas exploration and development activities.

An Appellate Court Decision on the Columbia Gulf Transmission Order

In 1981, primarily because of this reasoning, the City of Charlottesville, Virginia, sought review of Opinion No. 47 by the U.S.

---

[87] Ibid., p. 14,054.

Court of Appeals for the District of Columbia Circuit.[88] The D.C. circuit felt that in order to uphold the Commission's order it would have to determine that the decision was premised on substantial evidence. In addition the court stated:

> As to that part of the rate order premised on the encouragement of exploration and development, we must determine whether there is evidentiary support for the proposition that a stand-alone tax cost in the rate base, with a resulting increase in rates, will directly result in such [natural gas] development.[89]

The FERC had offered three major justifications in its Opinion No. 47 for allowing use of the stand-alone method. In reviewing these three justifications the court stated:

> First, apparently recognizing that ratepayers should receive the consolidated tax benefits resulting from the Columbia parent's peculiar method of distributing capital to affiliates, the Commission maintains that its rate order will insure the ratepayers the benefits; however, the record is sketchy. Second, the one-time losses of the Columbia West Virginia affiliate which reduced tax liability for the test period should not be reflected in a prospective rate order according to FERC; the Commission's findings in this regard were based on substantial evidence. Finally, the Commission urges that the rate order will encourage exploration for the development of natural gas resources; here, the Commission is on weakest ground.[90]

In its findings on the FERC's first justification, that tax benefits flowing from the parent's tax losses were actually realized by the ratepayers, the court stated:

> This loss reduces Columbia's consolidated tax liability. There is no principled basis for giving Columbia, and denying the ratepayers, the benefit of

---

[88] City of Charlottesville, Virginia v. Federal Energy Regulatory Commission.

[89] Ibid.

[90] Ibid.

this tax savings. No policy of the Natural Gas Act would be furthered by allowing Columbia to keep the benefits of this bookkeeping device. FERC does not contest this point.

The Commission claims that the stand-alone tax liability reflects a reduction in the subsidiaries' taxable income resulting from the deduction of the parent's cost of capital, the 'real' cost, as an expense. Alternatively, the 'book' cost (calculated at the lower rate at which the parent 'lent' to the affiliate) could have been used as a deduction, which would have resulted in a larger stand-alone tax liability than that reflected in the rate order. FERC explains that the calculation of stand-alone tax liability passes through the benefits of the parent's capital distribution losses to the ratepayers. The Commission concluded that the reduction in stand-alone taxable income results in an income tax exactly equal to that calculated by using a higher taxable income (arrived at by deducting the affiliates' 'book' interest expense) and then subtracting the tax benefit of the losses attributable to the affiliates' use of the parent's capital.

The City of Charlottesville challenges the Commission's conclusion that ratepayers receive the tax benefit of this capital distribution plan. Petitioner alleges that the rate base of each affiliate is calculated using the parent's capital costs. Accordingly, with an increased rate base, there is an increase in income which must be recouped from ratepayers, which diminishes the prior adjustment to taxable income. Under this analysis, the tax benefit is passed-through to ratepayers in the tax cost component of the affiliates' rates but is concurrently recouped by the Company through higher affiliate rates premised on a rate base reflecting the parent's higher cost of capital.

An evaluation of [City's] claim requires an examination of the interaction between the tax calculation and other portions of the ratemaking formula not briefed to the Court. The record before the Court is incomplete on the relationship between the tax costs and capital costs included in the rate base. On remand, the Commission should consider whether the capital distribution tax benefits are in fact passed-through to ratepayers or whether the pass-through is vitiated by rates premised on a rate base which is inflated by the parent's cost of capital.[91]

Concerning its second justification, that tax benefits flowing from the losses incurred by the West Virginia affiliate should not be

---

[91] Ibid.

allowed to impact the pipelines' tax allowances, the court held the FERC had substantial evidence to support this conclusion.

Concerning the FERC's third justification, that use of the stand-alone method encouraged natural gas exploration and development, the court held:

> The Commission is not obligated to follow any particular formula for the apportionment of consolidated tax savings. The [Pipe Line] ruling allowed flow-through to ratepayers but did not mandate it. The Commission had authority to allow Columbia the benefits of consolidated tax savings as an incentive to exploration and development by adjusting the tax cost component of affiliates' rates. . . .
>
> The more traditional regulatory device to create incentives for investment is adjustment of the rate of return allowed a regulated utility. A higher rate of return will allow the regulated utility to attract capital for exploration and development. . . . In Columbia's case, a higher rate of return for the gas producers would have been the more direct incentive.
>
> . . . Adjustment of rates to encourage exploration for and development of natural gas is a proper Commission activity. . . . While the Commission has legal authority to do what it did in this case, it lacked factual support.
>
> . . . As justification for allowing the parent corporation to keep tax savings created by E&D companies by attributing stand-alone tax costs to the affiliates, the Commission suggests that retention will result in greater E&D. . . .
>
> The Commission's reliance on the incentive effect of retained tax benefits is not supported by evidence in the record. There is no indication that Columbia's E&D investments were any greater after FERC's change in tax cost policy than before the supposed incentive was created. And it appears that there was only a partial incentive to reinvest. The FERC ALJ found that only a portion of the tax savings were routed to E&D companies, with the remainder being used for general corporate purposes. . . .
>
> The ALJ found that for 1973-75, while Columbia saved approximately $60.9 million by filing consolidated returns, only about $20.7-$22.9 million of these savings went to the exploration and development companies. The remainder, approximately $38-$40.2 million went for general corporate purposes.
>
> The Commission was obviously aware of the conflict between the evidence of record and the Commission

> declaration on the incentive effect of retained tax savings. Commission counsel attempted to excuse the disparity between the savings retained and tax savings devoted to E&D. The Commission urged in its brief that tax savings not directly reinvested eventually find their way to the E&D companies since the parent company finances exploration and development. The Commission cites no evidence that tax savings 'trickel down' from the parent E&D affiliates. FERC asks this Court to take it on faith that such funneling of tax savings does occur.
>
> For this Court to uphold the Commission, we must determine that the rate order was premised on substantial evidence. We find evidence of the incentive effect offered as justification for corporate retention of tax savings insubstantial. Moreover, there is substantial evidence that retained tax savings go for general corporate purposes.[92]

The court remanded the case to the FERC noting that although the FERC treated the West Virginia losses correctly, meeting only one out of the three justifications was "insufficient to support a rate order of the magnitude that issued in this case."[93]

FERC Decisions Issued Between Opinion No. 47 and Opinion No. 173

The FERC's response to the Court of Appeals' ruling was not issued until June 22, 1983. Its response consisted of a new order concerning Columbia Gulf Transmission Company and Columbia Gas Transmission Corporation, referred to as Opinion No. 173.[94] Between the issuance of Opinion No. 47 and Opinion No. 173 the FERC continued to apply its stand-alone policy in wholesale rate cases and electric rate cases.

---

[92] Ibid.

[93] Ibid.

[94] Re Columbia Gulf Transmission Company, 54 PUR4th 31.

In an order dealing with the Indiana & Michigan Electric Company,[95] issued March 18, 1980, the FERC even referred to its Opinion No. 47 as a basis for allowing use of the stand-alone method:

> The judge ruled that I&M's income taxes for cost of service purposes must exclude I&M's share of any tax savings resulting from the filing by its parent, American Electric Power Company, Inc. of consolidated income tax returns.
>
> Subsequent to the judge's decision, this Commission on July 2, 1979, issued Opinion No. 47. In Opinion No. 47 the Commission held that in computing income taxes for ratemaking purposes it would utilize the prevailing statutory tax rate rather than the sometimes lower effective tax rate resulting from the filing of consolidated tax returns. The decision in Opinion No. 47 reaffirmed the FPC's policy established in Florida Gas Transmission Co., (1972).
>
> Opinion No. 47 represents a basic policy decision by the Commission. In accordance with the policy expressed in that opinion, the judge's decision herein must be reversed. I&M's income taxes shall be calculated at the prevailing statutory rate.[96]

In an electric rate order issued January 28, 1981, the FERC addressed the issue of whether tax losses arising from a utility's parent company were to affect the utility's tax allowance.[97] This order dealt with Louisiana Power & Light Company (Louisiana), a wholly-owned subsidiary of Middle South Utilities, Inc. (Middle South). Middle South was a holding company which also owned several other utility corporations. Louisiana, using the stand-alone method, computed a tax allowance which was "$600,000 greater than its allocable

---

[95] Re Indiana & Michigan Electric Company, Opinion No. 79, Docket No. ER76-716 (FERC March 18, 1980).

[96] Ibid., p. 7.

[97] Re Louisiana Power & Light Company, Opinion No. 110, Docket No. ER77-533 (Phase I) (FERC January 28, 1981).

share of the consolidated tax liability for accounting purposes."[98] The $600,000 difference resulted primarily from the tax loss realized by the parent corporation. Middle South's tax loss arose due to excess interest expense deductions it claimed on its short-term borrowings.

Intervenors in the case argued Louisiana should pass the realized tax savings on to its ratepayers by "using its allocable share of the consolidated tax for its tax allowance."[99] Although the intervenors agreed with the FERC's policy that affiliated utilities should be treated as separate entities for purposes of determining a utility's tax allowance, they argued Middle South's interest expense deductions were related to the providing of jurisdictional electric utility service, since Middle South used the borrowed funds to purchase the common stock of its subsidiaries. In their opinion, "Since the equity capital so provided enables the subsidiaries to engage in the construction of new generating facilities and other activities, . . . it is obvious that the interest expense on the borrowed funds is entirely related to the providing of jurisdictional electric service."[100] The intervenors argued since the tax savings resulted from these interest deductions, such tax savings should be passed on to the ratepayers.

The FERC held, however, that because Louisiana and its ratepayers did not pay the expenses which created the tax savings, they should accordingly not benefit from the tax savings. The Commission held:

> In Florida Gas Transmission Company the Commission considered whether the consolidated tax savings resulting

---

[98] Ibid., p. 25.

[99] Ibid.

[100] Ibid., p. 26.

from a parent's interest expense on borrowed funds used to provide its subsidiary with equity capital should be flowed through to the jurisdictional customers. In that case the Commission held that where the subsidiary has not paid the interest expense and has no obligation to declare dividends, the tax savings should not be flowed through to the customers. Since the expenses the parent incurred placed no burden on the subsidiary's customers, the Commission reasoned that the subsidiary 'should not be penalized for the financial services which contributed to the development of this system.'

Nothing in Southern California Edison modifies this holding. The Commission merely extended the holding of Florida Gas to electric utilities and formulated the facts of Florida Gas into a simple test for determining when consolidated tax savings should be flowed through to jurisdictional customers. That test is whether the expenses which created the deductions used to achieve the tax savings were paid by the jurisdictional customers.

The undisputed facts Louisiana has introduced clearly satisfy this test. Louisiana and its customers have not been charged for the interest expense. Nor is Louisiana obligated to declare dividends in order to pay Middle South for the financial services provided. In these circumstances it is proper to calculate Louisiana's tax allowance on the basis of revenue and expenses accruing to it alone. The jurisdictional customers will be charged no more than they would be if a consolidated tax return had not been filed. Accordingly, we find that Louisiana has met its burden of proof and reverse the initial decision on this issue.[101]

FERC Establishes the Stand-Alone Method as the Proper Method to Use to Compute the Tax Allowance of an Affiliated Utility

After Opinion No. 47 was returned to the FERC by the court of appeals for the District of Columbia circuit, the FERC directed that a hearing be held on the issues the court remanded to the Commission. As a result of that hearing and after reviewing the record of the case, the FERC issued Opinion No. 173. In Opinion No. 173, the Commission continued to adhere to its stand-alone policy, although it did so for

---

[101] Ibid., pp. 26-27.

"considerably different reasons"[102] than the ones it put forth in Opinion No. 47. As may be recalled, the primary reason given by the FERC in its Opinion No. 47 for allowing use of the stand-alone method was that stand-alone would not discourage utilities from exploring for and developing new natural gas supplies. By broadening its reasons in Opinion No. 173 the FERC noted its stand-alone policy could henceforth be applied to any of its jurisdictional utilities. In explaining its new reasoning the FERC stated:

> We place no reliance on what has come to be called the 'incentive rationale' that the commission relied on in [Opinion No. 47]. We do so because the policy the commission applied [in this Opinion] is broader and more fundamental than one needed to encourage gas supplies. The policy involves a basic decision about the proper way to set cost-based rates. As such, the policy applies not only when a pipeline joins with an exploration affiliate in filing a consolidated return but also when any jurisdictional company, be it a pipeline or an electric utility, joins with other businesses in filing a consolidated return.[103]

One of the major reasons the FERC was now rejecting its earlier policy concerns relating to stand-alone was due to the rapid increase in diversification activities by pipeline companies. The FERC was concerned a diversified utility might attempt to pass on to its ratepayers some of the costs incurred by the utility in its diversified activities. Therefore, the FERC felt stand-alone treatment was one method of ensuring ratepayers would not be assessed any costs incurred in activities unrelated to providing service to the ratepayers. The FERC explained this further:

---

[102] Re Columbia Gulf Transmission Company, 54 PUR4th 31, p. 36, n. 8.

[103] Ibid.

> Since the 1950s pipelines have diversified. They have integrated upstream into production and pipe and compressor manufacturing and downstream into chemicals, fertilizer, and appliances. More importantly, pipelines have moved into other businesses that have nothing to do with the gas business. Pipelines have become involved in such businesses as real estate, financing, packaging, wire manufacturing, textiles, shipbuilding, mining, and even vocational training and employment services.
>
> That diversification causes problems for our regulation is obvious. It may expose the pipeline's ratepayers to a variety of burdens. The diversified activities may incur losses or costs that the company may attempt to pass on to the pipeline's ratepayers. And the riskiness of the activities may impair the company's credit, thereby raising the cost of the capital. The universal response of regulators (at least at this commission) has been to try to isolate the ratepayers from these burdens. The commission's allocation methods, which are designed to segregate the costs of jurisdictional and nonjurisdictional businesses, solve many of the problems. But the commission has gone beyond that to require that the costs of different jurisdictional services, such as gas production, be segregated from the costs of providing transmission services. The commission has also attempted to limit the capitalization and cost of capital used in setting rates to the capitalization and cost associated with the pipeline business. In short, the response has been to try to regulate the pipeline as an 'independent entity' so that it is 'considered as nearly as possible on its own merits and not on those of its affiliates.'
>
> That too was the commission's ultimate response to the consolidated tax problem. . . .
>
> . . . Thus, the commission rejected methods of determining the tax allowance by allocating a pro rata share of the consolidated tax liability and then adjusting that amount by excluding the losses of certain affiliates. In place of these methods the commission installed the stand-alone method which determines the tax allowance on the basis of the pipeline's own revenue and expenses.[104]

This new "broader policy" related to stand-alone is a position the FERC had held in previous rate cases: those expenses currently included in a utility's cost of service should be the only expenses

---

[104]Ibid., p. 42 and p. 46.

currently treated as a tax deduction for purposes of computing the utility's tax allowance. In other words, when the ratepayers of a utility do not currently pay for an expense (by not including the expense in the utility's cost of service) the FERC held they likewise should not currently receive a tax savings from the expense (by not treating the expense as a tax deduction in computing the utility's tax allowance). The new justification set forth in Opinion No. 173 for allowing use of the stand-alone method was that stand-alone allowed only those expenses currently included in the utility's cost of service to be currently treated as tax deductions in computing the utility's tax allowance. "[Our stand-alone policy] requires the answer to only one question: Have the expenses that generated the tax deduction been included in the cost of service? That question can be answered readily by examining the cost of service."[105] In the opinion of the FERC, this concept of "matching" produced "just and reasonable" rates.

Charlottesville had argued the valid item that should be used to compute a utility's tax allowance was the <u>actual</u> tax liability paid by the utility to the federal government. The FERC noted, however, that to accomplish its "matching" objective the actual tax liability could not be used since the IRS' objective in computing a utility's tax liability is not necessarily one of ensuring only those expenses included in a utility's cost of service would be claimed as current tax deductions by the utility. In explaining this, and its "matching" concept further, the FERC stated:

> For us, a rate for a gas pipeline or an electric utility is 'just and reasonable' when it is cost

---

[105] Ibid., p. 50.

justified. That is, the rate should be set so as to allow the company the opportunity to recover the expenses it incurs in providing service and earn, after paying taxes, the allowed rate of return.

That is easy enough to say. But the cost-based standard is difficult to apply. Among the problems is simply the determination of the costs incurred in providing service.

The amounts the company records in its books for the year are the starting point. But they are a starting point only. These amounts often do not reflect the costs incurred in providing service during the test year. The amounts may reflect payments that will be performed later or that benefit other services separately regulated by us, by other regulatory commissions, or that are not regulated at all. And where the company is part of an affiliated group, the amounts recorded on the company's books may not reflect the expenses its siblings have incurred for the benefit of the ratepayers.

In all these cases the 'problem is to allocate to each class of the business (and to each time period and each company) its fair share of the costs.' We have developed a number of methods for doing that. . . .

Despite the profusion of allocation methods we employ, there is a common thread that ties them together. That thread is the concept of cost responsibility or cost incurrence. Each of the methods attempts to allocate costs to the group of ratepayers in question on the basis of a causal link between the service the company provides them and the expenses the company reports. That this is a fair method of allocation is self-evident. And it limits the allowance for expenses to the costs associated with the goods and services provided in the period.

Taxes are no different from other expenses included in the cost of service. So there should be no difference between the principles used to determine the tax allowance and the allowances for other expenses. And we make no distinction. In both cases we limit the allowance charged to ratepayers to an amount equal to the costs the company incurs in serving them. But the application of these principles is a little different in the case of taxes.

The need for a different application of the principles stems from the fact that the income tax is not simply a tax on income. It is a tax on profits, which is gross income less the expenses incurred in producing income. So the tax allowance should be equal to the tax on the profit the ratepayers will contribute to the company. In short, the tax allowance should be equal to the tax on the company's allowed return on equity. This is so because the allowed return on

equity is the amount of profit the company should receive for providing service to the ratepayers.

There are, however, vast differences between our assessment of the profit the company is due and the calculation of the amount by which the company is considered to have been enriched by the Internal Revenue Service. Some of these differences stem from the differences in the revenue that is used in calculating the company's profit on projections of revenue. The Internal Revenue Service uses, of course, the revenues the company either actually receives or accrues the right to receive during the tax year. There are even greater differences in the expenses that are recognized.

Because these differences are so vast, the commission has found that the taxes the company pays to the Internal Revenue Service is not a reliable guide, even as a starting point, for determining a company's tax allowance. Instead, the commission has always made its own assessment of the tax cost the company incurs in providing service.

We make that independent assessment by considering the two elements that go into the calculation of taxes--income and expenses--separately. We start by determining the income we expect the company to receive from the particular service in question. There is usually no problem with this. We then consider the deductions from income. This requires an allocation, for just as the expenses recorded in the company's books may be for services performed for different periods or different classes so also with the deductions reported on the tax return. Here again we allocate on the basis of the customer's responsibility for the deductions.

Because deductions are given for expenses incurred in producing income, the necessary causal link between the ratepayers and the deductions is the expenses the company incurs in providing service. Accordingly, the proper way to allocate deductions is to match the deductions with the expenses included in the cost of service. Thus, when an expense is included in the cost of service, the corresponding tax deduction is also allocated to the ratepayers. In this way any tax-reducing benefits, or savings, the company realizes in providing the service are recognized in calculating the tax allowance for the benefit of the ratepayers.

The corollary to this is that when an expense is not included in the cost of service (because the company did not incur that expense in providing service), the deduction created by that expense is not allocated to the ratepayers. To do otherwise would result in the tax savings the company realizes from

> expenses incurred in providing services to other groups and periods or for its own benefit being used to reduce rates for a particular group of ratepayers. The tax allowance would then be lower or higher than is warranted by the profit each group provides the company. Since the amount of profit to be provided is the measure of the tax cost the company will incur in providing service, none of the rates for the groups would be cost justified. Subsidization would inevitably result. One group would bear the burden, but another group would gain the benefit.[106]

In further explaining its stand-alone policy, the Commission noted stand-alone was not equivalent to a "separate tax return" policy. Some advocates, who argue against implementing stand-alone treatment, equate the stand-alone method with a utility filing a separate tax return. The Commission, therefore, felt it was important in this opinion to contrast the two methods:

> [The stand-alone method] may not look like an allocation of the consolidated tax liability. Indeed, it looks like a policy that willfully ignores the consolidated tax liability. At least, this is the way Charlottesville views our stand-alone policy. It says that our stand-alone policy is nothing but a policy that calculates the tax allowance on the false assumption that the pipelines file separate returns and thus ignores the tax savings the group realizes by filing a consolidated return. This is incorrect.
>
> A separate return policy assumes that the tax allowance should be equal to the tax the jurisdictional service would pay if it filed a separate return. Under a separate return policy the tax allowance would equal the tax the jurisdictional service would pay on its projected revenues less the deductions that would be shown on its return. A separate return policy thus ignores the consolidated tax return and reflects in the tax allowance none of the tax-reducing benefits the group realizes from filing a consolidated return.
>
> Our stand-alone method is different. It does not ignore the consolidated return or the tax-reducing benefits the group realizes by filing such a return. Unlike a separate return policy, our stand-alone policy in effect looks beneath the single consolidated tax liability and analyzes each of the deductions used to

---

[106] Ibid., pp. 35-37.

> reduce the group's tax liability to determine the deductions for which each service is responsible. It then allocates to the jurisdictional service those deductions which were generated by expenses incurred in providing that service. In making this allocation it is irrelevant on which member's return the deductions would be reported if the group filed separate returns. Instead, the test is whether the expenses that generate the deduction are used to determine the jurisdictional service's rates. Put more simply, the test is whether the expenses are included in the relevant cost of service. If they are, the associated deductions and their tax-reducing benefits will be taken into account in calculating the tax allowance for that cost of service. If the expenses are not, the deductions will not be taken into account. In this way the tax allowance will reflect the profit the ratepayers contribute to the group's consolidated taxable income.[107]

The FERC also noted that operationally it would be difficult for a commission to implement a separate return policy; primarily because an affiliated utility that participates in the filing of a consolidated tax return does not file, in reality, a separate tax return. As a result, it would be difficult for the Commission to compute "separate return" taxable income for such a utility; assumptions would need to be made as to the deductions the utility would report if it were to file a separate return. Such assumptions would be particularly difficult to make for those tax deductions subject to tax election procedures.[108] The FERC viewed such calculations as being more subjective and mechanically more involved than the computations under the stand-alone method. For these reasons as well as the fact that the "separate return" policy did not meet its "matching" objective, the FERC continued to hold in favor of the stand-alone method.

---

[107] Ibid., pp. 38-39.

[108] Ibid., pp. 38-39, n. 16

It should also be noted the FERC addressed the feasibility of using one of the tax allocation methods set forth in the Internal Revenue Code to compute the tax allowance of an affiliated utility. As explained in Chapter 3, the Internal Revenue Code and the regulations require, for purposes of computing each member's respective "earnings and profits," that the group's consolidated tax liability be allocated among the members of the group according to certain prescribed methods. One of these authorized methods was used by the Columbia group to allocate its consolidated tax liability among its members. The FERC held, however, it could not "treat the allocation used for tax purposes as the pipelines' actual tax costs for cost-of-service purposes."[109] It held this for two reasons:

> First, the code and regulations require an allocation of the consolidated tax liability to determine each member's 'earnings and profits.' This, in turn, is necessary to determine whether a distribution is a taxable dividend or a tax-free return of capital. So the allocation is required to administer the revenue laws. It does not determine what each member pays to the parent to help discharge the liability. Nor does the allocation attempt to ascertain the tax costs of a member for rate-making, or any other, purpose. Hence, we think the allocation a consolidated group reports for tax purposes is simply too far removed from the issues before us to warrant its adoption as the allocation to be used for cost-of-service purposes.
>
> Secondly, the allocation method used by the Columbia group is only one of many the code and regulations permit a group to use. The amounts allocated to the members under these various methods can be quite different. For example, one method allocates to the loss members the tax-reducing benefits attributable to the use of their losses on the consolidated return. Put differently, this method produces an allocation of the consolidated tax liability almost exactly opposite the one produced by the method Columbia uses.
>
> The important thing about these alternative methods of allocating the consolidated tax liability

---

[109] Ibid., p. 55.

> is that they are elective. A group can choose any one of them. Hence to treat the amounts allocated to members for tax purposes as the member's actual tax costs for rate-making purposes would mean the tax allowance of a regulated member of an affiliated group would be determined by the election of the group. Thus, the rates charged to ratepayers of different companies could vary considerably because of the way the members of groups have chosen to adjust their earnings and profits. As a policy matter, we think that is unacceptable. The differences in rates would not be based on differences in the cost of providing service. Accordingly, we see no alternative but to disregard the allocation the Columbia group uses for tax purposes and make our determination of the amount of the consolidated tax liability that should be allocated to the pipelines.[110]

In applying its new stand-alone reasoning to the Columbia Gulf case, the FERC addressed one of the issues raised by the court of appeals in its review of Opinion No. 47: whether the affiliates' tax losses should impact the pipelines' tax allowances. The FERC clarified this issue by asking: "Should we, as Charlottesville urges, adopt a method that automatically shares a portion of all the tax savings with the ratepayers? Or should we, as the pipelines urge, adopt a method that shares the tax savings with the ratepayers only when there has been a commensurate sharing of the burdens?"[111]

The FERC noted the four affiliates that had realized tax losses had undertaken projects to provide additional gas supplies for the Columbia system. It also noted the expenses incurred by those affiliates "were not incurred in providing transmission service."[112] The FERC held the ratepayers of the pipeline companies were not

---

[110] Ibid.

[111] Ibid., p. 35.

[112] Ibid., p. 40.

responsible for the expenses incurred by the gas development affiliates, and, thus, the pipelines' costs of service were not to include any of those expenses. In applying its "matching" objective, the FERC held the affiliates' expenses (losses) should, therefore, not impact the pipelines' tax allowances either. In holding in favor of stand-alone, it stated that under stand-alone the tax allowances would not be impacted by such expenses. The FERC noted that if such losses were allowed to impact the pipelines' tax allowances, the allowances would be less than the necessary amount "called for by the amount of profit the pipelines' ratepayers will contribute. [And] the rates would then not be cost justified or just and reasonable."[113]

The FERC also addressed in Opinion No. 173 the issue of whether the parent's tax loss should impact the pipelines' tax allowances. In addressing this issue the FERC stated it agreed with the City of Charlottesville that tax savings generated from the parent's tax loss should be shared with the ratepayers. However, the question raised by the court of appeals in its review of the FERC's earlier decision, was whether under the stand-alone method the pipelines' tax allowances were <u>in fact</u> reduced by the parent's tax loss. Specifically, "does the pipelines' method of calculating their tax allowances flow the tax savings created by the parent's loss through to ratepayers?"[114]

In responding to this question the FERC explained that the allowable rate of return for the pipeline companies was set by using the parent's capital structure, which included more debt than the

---

[113]Ibid.

[114]Ibid., p. 35.

subsidiaries' capital structures, and the parent's cost of capital. Then, because the rate of return calculation was based on the parent's interest expense, under the stand-alone method the tax savings created by the parent's excess interest deductions reduced the pipelines' tax allowances.[115] This was done by reducing each pipeline's respective tax base (rate base multiplied by overall rate of return) by the parent's interest expense not the pipelines' respective interest expense.

The City of Charlottesville argued that merely reducing the pipelines' tax bases by the parent's interest expense would not guarantee the tax savings were flowed-through to the ratepayers. However, the FERC disagreed:

> Charlottesville argues that the pipelines are wrong because by using the parent's interest expense as a deduction the pipelines have done nothing but follow the commission policy mandating interest synchronization, which is simply the fancy name for the idea that the interest expense taken as a deduction in calculating the tax allowance should be the same as the interest expense used in calculating the return. Charlottesville contends that interest synchronization does not flow the tax savings through to ratepayers. Charlottesville's reasoning here appears to be that because interest synchronization would be used even if there were no consolidated tax savings to be flowed through, the use of that policy has no effect on the tax savings.
>
> We agree with Charlottesville that all the pipelines have done is to follow our policy requiring interest synchronization. We also agree that interest synchronization would be used whether or not there is a tax savings to be shared with ratepayers. But to say this does not answer the question, which is, what is the effect of using interest synchronization here?
>
> That effect we think is obvious. As we have discussed previously, the task before us is to allocate deductions among members of the group. In this case the pipelines' ratepayers are charged with the

---

[115] Ibid., p. 56.

> responsibility of paying the parent's interest expense. Therefore, the parent's interest expense deduction should be allocated to the pipelines and used to reduce their tax allowances. This is just what the pipelines have done by deducting the same interest expense in calculating their tax allowances.
>
> There is another reason the pipelines are correct. The effect of using the parent's capital structure and costs in setting the return is to treat the pipelines and their parent as one business. Viewed in this way the pipelines and parent have income (what the pipelines receive from ratepayers) and an interest deduction (what the parent pays the bondholders). Their tax allowances should be based on those elements. And that is what the pipelines have done by deducting the parent's interest. The effect of filing a consolidated tax return is also to treat the pipelines and their parent as a 'single entity.' The consolidated tax liability is therefore based on this entity's dealings with outsiders--ratepayers and bondholders. So the tax allowance is based on the same elements as is the tax liability on the consolidated return. Accordingly, the tax allowance will equal the tax liability that would be produced on the consolidated return by deducting the parent's interest expense against the pipelines' income. Since the consolidated tax liability reflects the tax savings, the tax allowance will too.[116]

In computing their respective tax allowances, the pipelines multiplied their respective tax bases, as reduced by the parent's interest expense, by the statutory tax rate rather than an effective tax rate. Charlottesville argued that because the statutory tax rate was used rather than an effective tax rate the tax savings from the parent's tax loss were not flowed-through to the ratepayers. The pipeline companies contended, however, that by "using the parent's interest expense they have flowed the savings created by the parent's loss through to the ratepayers."[117] They also argued "using an effective tax rate would result in giving their ratepayers the tax savings

---

[116] Ibid., p. 57.

[117] Ibid., p. 56.

twice."[118] The FERC agreed with the position taken by the pipeline companies:

> Of course, the tax savings could be reflected in the tax allowance by using an effective tax. But if that were done, then [the subsidiary's] own interest expense, not the parent's would have to be used as the interest deduction in calculating the tax allowance. This is so because using an effective tax rate or the parent's interest expense reduces the tax allowance by the tax savings. But they do so in different parts of the formula. Hence the one thing that cannot be done is, as Charlottesville would have us do, to deduct the parent's interest expense and use an effective tax rate. To do that would be to flow the tax savings through to ratepayers twice. The company would then not recover its tax costs or earn its allowed return.[119]

In concluding this issue, the FERC held that under the stand-alone method the pipelines' tax allowances were actually reduced by the parent's tax loss and, as a result, the ratepayers did actually benefit from such tax savings.

In concluding Opinion No. 173 the FERC held the stand-alone method met its "just and reasonable" standards as set forth in the opinion. The FERC stated:

> How does the method the pipelines have used stack up against this standard?
>
> The short answer to these questions is that the method the pipelines have used stacks up very well. It produces an allocation of the consolidated tax liability that is cost justified and just and reasonable.
>
> The method the pipelines have used, and the method the commission has followed since 1972, is one in which 'a utility (is) considered as nearly as possible on its own merits and not on those of its affiliates.' This method is called the stand-alone method.[120]

---

[118] Ibid., p. 57.

[119] Ibid., p. 59.

[120] Ibid., pp. 37-38.

On June 22, 1983, in a case dealing with Potomac Edison Company, the FERC held the reasonings and conclusions set forth by the Commission in its Opinion No. 173 applied equally to electric utilities.[121] Thus use of the stand-alone method, based on the new reasoning developed in Opinion No. 173, may be expected to be upheld and used in the future by the FERC in both its jurisdictional natural gas rate cases and its jurisdictional electric rate cases.

---

[121] Re Potomac Edison Co., 23 FERC Para 61,398, Opinion No. 163-A, Docket No. ER81-141-001 (FERC June 22, 1983) cited in "Progress of Regulation," Public Utilities Fortnightly, August 18, 1983, p. 60.

CHAPTER 5

THE VARIOUS POSITIONS TAKEN BY THE STATE REGULATORY COMMISSIONS ON CONSOLIDATED TAX SAVINGS: A REVIEW OF ADMINISTRATIVE AND JUDICIAL RATE DECISIONS

Arguments Set Forth by State Commissions On Consolidated Tax Savings

A majority of the state regulatory commissions do not use the stand-alone method, currently used by the FERC, to compute the tax allowance of their jurisdictional affiliated utilities (see Table 2). These state commissions have instead developed a number of different methods to compute the tax allowance for an affiliated utility. Each method effectively allocates at least a portion of the consolidated tax savings realized by the affiliated utility to the ratepayers of the utility. In some states, use of a consolidated-entity method has either been upheld or demanded by the court system of the respective state (see Table 2).

Various arguments have been put forth by state commissions and state courts as to why a particular consolidated-entity method is preferred to the stand-alone method. A sampling of their arguments follows.

The Pennsylvania Public Utility Commission stated:

> The use of consolidated income tax returns should benefit ratepayers as well as the utility and its parent. . . . The proper tax expense passed on to ratepayers

TABLE 2

POSITION TAKEN BY STATE COMMISSIONS AND STATE COURTS ON CONSOLIDATED TAX SAVINGS

Commissions Using Consolidated-Entity Methods

Alabama	Montana
*Alaska	Nebraska
Arkansas	*New Jersey
Colorado	North Carolina
*Connecticut	North Dakota
District of Columbia	Oregon
*Florida	*Pennsylvania
Illinois	*Rhode Island
*Indiana	South Carolina
Iowa	South Dakota
*Kansas	*Tennessee
Kentucky	Texas
*Maine	Vermont
*Maryland	Washington
*Massachusetts	*West Virginia
Michigan	*Wisconsin
*Minnesota	Wyoming
*Mississippi	

Commissions Using the Stand-Alone Method

California	Missouri
*Delaware	New York
Hawaii	Ohio
*Louisiana	Oklahoma

Method Used By Commission is Unknown

Arizona	New Hampshire
Georgia	New Mexico
Idaho	Utah
Nevada	Virginia

*State court affirmed position taken by the state commission

Source: This table was derived from the decisions made by the various state commissions and state courts. The decisions are listed in Appendix A.

> is the proportionate share of the consolidated income tax liability that the utility incurs and actually pays.[1]

The Connecticut Public Utilities Commission and the Iowa State Commerce Commission set forth their reasoning in a more explanatory manner:

> When a corporation participates in the filing of a consolidated tax return, the companies participating become individually and severally liable for the tax liability; that is, the filing of a consolidated tax return does not produce any separate income tax liability on the taxable income, but instead, produces a tax liability for the whole group. Thus, it is obvious that corporations exercising the privilege of filing a consolidated income tax return make savings for the entire group, and it is only equitable that each company should realize some of the benefits from a consolidated filing.
>
> The commission has taken the position and has stated in several findings relating to rate applications of water utilities under its jurisdiction . . . that, 'We are of the opinion that the utility, like its affiliates, should share equitably in any tax savings and that utility customers should be required to pay the full amount but not more than the full amount of the utility's allocated share of the system's actual tax liability.'
>
> Although the company participates in the filing of a consolidated tax return, the pro forma federal income tax liability was calculated on a separate return basis. Under these circumstances, the company's proposal to reflect a pro forma tax liability on a separate return basis is in conflict with the established regulatory principle that since a utility's customer must reimburse it for all taxes paid, a utility cannot charge its customers more for taxes paid than the actual amount paid or more than its equitable share of the consolidated tax liability. Stated in another way, while the stockholder of an applicant company is entitled to a fair rate of return, and the income tax thereon is to be paid by the utility customers so that its return will not be reduced, it may not earn in excess of a fair rate of return by claiming a tax charge

---

[1]Pennsylvania Public Utility Commission v. Metropolitan Edison Company, 28 PUR4th 555, Docket No. 626, C-R0626001 et al. (Pennsylvania Public Utility Commission 1979), pp. 582-583.

that is larger than the actual liability.[2] (Connecticut Public Utilities Commission)

> Company in computing the claimed tax liability for federal income taxes did so on the assumption that company files a separate tax return. Company does not, however, file a separate tax return. It participates in a consolidated tax return which is filed by [parent]. By computing the tax liability on a separate return basis, company has calculated a hypothetical tax liability which it would not incur. The reason for this is that the consolidated tax return produces tax savings in which company shares. To compute the tax liability for purposes of this case on the separate return basis, which company does not follow in paying taxes, would result in the inclusion in operating expenses of an amount never in fact incurred. Company is certainly entitled to the inclusion in operating expenses, to be recovered from the ratepayers in rates, of its federal income tax liability that will result from the rates herein authorized, but it is not entitled to additional profits attributable to an allowance for hypothetical tax expense. Rates based on such a fictitious amount would not be just and reasonable. Therefore, in computing the federal income tax liability to be included in test-year operating expenses, we will follow the consolidated tax return basis.[3] (Iowa State Commerce Commission)

The New Jersey Board of Public Utility Commissioners noted:

> Petitioners propose that the proportionate amount of the tax benefit accruing to petitioners by virtue of participating in the consolidated tax return be eliminated, and in a sense flowed through to the stockholders. In short, they want to expense $3.4 million in taxes that they never incurred. This treatment would give an added return to stockholders equal to the tax expense, and unreasonably increase revenue requirements by $7.5 million. This inclusion of proposed test-year expense would be clearly inequitable.[4]

---

[2] Re The Connecticut Natural Gas Corporation, 11 PUR4th 66, Docket No. 11710 (Connecticut Public Utilities Commission 1975), p. 78.

[3] Re Davenport Water Company, 76 PUR3d 209, Docket U-138 (Iowa State Commerce Commission 1968), p. 242.

[4] Re Jersey Central Power & Light Co., 2 PUR4th 70, Docket No. 719-627 (New Jersey Board of Public Utility Commissioners 1973), p. 81.

The West Virginia Public Service Commission set forth a similar argument:

> If the consolidated income tax savings were given to the parent corporation entirely, as the respondent proposes, it would flow through to its stockholders in a way that the tax savings would be in addition to the fair return allowed the subsidiary and would thereby unreasonably increase the revenue contributions of the subsidiary by the amount of the tax savings.[5]

In two different decisions the Maine Public Utilities Commission argued:

> To compute the tax liability for purposes of this case on a separate return basis, which the company does not follow in paying taxes, would result in the inclusion in operating expense of an amount never in fact incurred. The company is entitled to include in operating expenses, to be recovered from the ratepayers in rates, its federal income tax liability that will be actually incurred, but it is not entitled to additional profits (for payment to its parent organization) for hypothetical tax expense. Rates based on such a fictitious amount would not be just and reasonable.[6]
>
> As a matter of principle the commission believes that no subsidiary company should be assessed an amount for federal income taxes by its parent organization in excess of the amount it would pay if it filed as an independent concern. Not only do the ratepayers not share in the benefits of a consolidated tax return in such instances, but they would be required to absorb a penalty charge for membership in the organization.
>
> Since our decision in Mechanic Falls, this commission has consistently applied a tax rate less than 40 per cent, in all instances in which the record supported the adjustment. . . . In each case, this commission reaffirmed its decision to share with the customers the benefits of the consolidated filing to the extent that these benefits flow solely from the fact that federal law provides to the [corporate] system tax savings that can only be realized through the consolidated return. . . .

---

[5] Re General Telephone Company of the Southeast, 21 PUR4th 513, Case No. 8532 (West Virginia Public Service Commission 1977), p. 519.

[6] Re Continental Telephone Company of Maine, 18 PUR4th 636, F.C. No. 2183, C. No. 440 (Maine Public Utilities Commission 1977), p. 646.

> . . . The tax liability reflected in the record before us clearly fits either of these descriptions, and we therefore find that an adjustment for rate-making purposes is necessary. Otherwise, [parent] will be free to take payments from Maine customers labeled as 'taxes' and then to convert well over 50 per cent of these 'tax' payments into dividends or other return at other places in the corporate system.
>
> It should be noted that even the payments to the tax loss companies may well become dividends, for a tax loss is in no way synonymous with an operating loss. A company with a tax loss and an operating profit that receives a payment equal to 48 per cent of its tax loss is free to pay that amount right back up to its stockholders as a dividend or to place it in retained earnings where it may be invested in rate base or paid up to the stockholders at a later date.[7]

Arguments Set Forth by State Courts on Consolidated Tax Savings

As noted, this issue has also been before various state courts. Some of the arguments set forth by the courts in affirming use of a consolidated-entity method follow.

The Supreme Court of Mississippi in ruling against the Mississippi Public Service Commission held:

> It seems the Commission, by adopting MP&L's projected test year which did not include the tax savings, gave no consideration to the benefits flowing from the consolidated return. MP&L's tax expense was thereby computed on the basis of a projected separately filed return which was in fact never actually filed. . . .
>
> It is our opinion the Commission erred in permitting a hypothetical tax expense to be included in the operating expenses of the utility when the evidence reveals MP&L's participation in the consolidated tax return inexorably reduced its income tax liability. Upon remand, we think the Commission should make some

---

[7] Re Mars Hill and Blaine Water Company, 19 PUR4th 380, F.C. Nos. 2184, 2185 (Maine Public Utilities Commission 1977), pp. 383-384, 386, n. 5.

> determination of such tax saving and proportionately reduce its operating expenses by this amount.[8]

The Indiana Court of Appeals, Second District, ruling against use of the stand-alone method by the Indiana Public Service Commission held:

> The evidence in the case before us is uncontroverted: Petitioner did not file a separate federal income tax return and did not compute its taxes at a rate of 48 per cent. Therefore, it was error for the commission to arbitrarily allow petitioner's tax expense to be computed on that basis. . . .
>
> . . . the commission cannot arbitrarily allow a tax expense computed on the basis of a separate tax return when such a return was not actually filed . . . .
>
> We feel that by automatically assuming a tax rate of 48 per cent, without any determination of the effective tax rate, and without any determination of the properly allowable income tax expense, the commission is allowing an additional, hidden return on capital to the shareholders at the expense of the ratepayers.[9]

On a similar note, the Indiana Court of Appeals, First District, also ruled against the Indiana Public Service Commission holding:

> It is our opinion that the Commission cannot arbitrarily allow a tax expense computed on the basis of a separate federal income tax return when such return was not actually filed. This does not mean that revenues or expenses of [the] subsidiaries must be attributed to Petitioner for ratemaking purposes. It does mean, however, that some 'reasonable,' 'just' determination must be made as to the tax savings accruing to Petitioner as a result of its participation in the filing of a consolidated federal income tax return. Thereby, a more accurate computation of Petitioner's actual federal income tax liability can be made. In fact, even if Petitioner filed its own federal income tax return, the Commission should make

---

[8]Allain v. Mississippi Public Service Commission, 435 So 2d 608 (Miss. Sup. Ct. 1983), pp. 616-617.

[9]City of Muncie v. Indiana Public Service Commission, 378 NE 2d 896, 26 PUR4th 588 (Ind. App. Ct., Sec. Dist. 1978), pp. 590-591.

a reasonable determination of taxes paid to better reflect actual expenses of the utility in the rate-making process.[10]

The Pennsylvania Superior Court set forth a slightly different argument:

> The rates of a utility are to be computed on the basis of providing a fair return on the fair value of its property used and useful in the public service after allowance for proper operating expenses, taxes, depreciation, and any other legitimate item. In computing the cost of operation and service, the commission considers evidence of the actual expense, properly adjusted when the evidence warrants; there is no legal or equitable reason for a supplemental return in the guise of allowances for taxes or other expenses which are not incurred.
>
> It is the contention of the utility, however, that it and the parent company should retain the benefits derived from the use of the consolidated return because the parent company contributed expenses in the amount of $2,957,556 to the 1954 consolidation; and that it would be inequitable to allow the utility's customers to benefit thereby. It is argued that the customers of the utility did not, either directly or indirectly, contribute toward the payment of these expenses; that they were borne solely by the stockholders of the parent company, Columbia. The nature of these expenses is not apparent from the record. . . . it is impossible on this record to determine in any reasonable manner whether or not there is any direct or indirect contribution toward these expenses by the customers of the utility.
>
> Our conclusion that the tax was properly computed on the basis of the actual tax liability does not rest solely upon this evidential ambiguity, but upon the more fundamental concept that hypothetical allowances are unwarranted. . . . The fact that the utility is wholly owned by Columbia cannot cause its customers to contribute toward the operating costs of Columbia in addition to providing the latter with a fair return on its investment in the utility. It appears that the income of Columbia is derived from its investments in its subsidiaries; consequently the customers of the utility in this respect do provide the funds for payment of Columbia's operating expenses. The return which the customers of the utility pay in

---

[10]Citizens Energy Coalition, Inc., v. Indiana & Michigan Electric Company, 396 NE 2d 441 (Ind. App. Ct., First Dist. 1979), p. 447.

addition to the proper expenses and allowances of the utility enures to the sole benefit of Columbia and its stockholders. The operating expenses of Columbia are matters of its own concern and are payable out of these profits. Any sum in excess of a fair return on the utility's fair value, which the customers of the utility were required to contribute toward the operating expenses of Columbia, would be without justification. This is true whether the operating expense of Columbia were directly assessed to customers of the utility or indirectly assessed, as contended here, in the form of an additional allowance for taxes which are not incurred. The use of a consolidated tax return, the same as the use of the holding system of investment, is of mutual benefit to the Columbia Gas System, Inc., and its subsidiaries. Advantages which result from this system should benefit the consuming public as well as the utility and the parent company.[11]

The Tennessee Chancery Court concluded:

> In summary, the allocation of a ratable amount of the parent's tax savings back to its operating subsidiaries, which is contested here, is not new to Tennessee regulatory law. . . . The commission's adjustment makes good economic sense; it reflects the economic realities of the tax arrangements [the utility] has made. Finally, the clear weight of authority in this country supports the adjustment.[12]

The Consolidated-Entity Methods

The Effective Tax Rate Methods

One approach some state commissions have used to allocate a portion of the consolidated tax savings to the ratepayers of a jurisdictional affiliated utility involves the use of an effective tax rate, as opposed to the statutory tax rate, in the computation of the utility's tax allowance. Effective tax rate methods have typically

---

[11]City of Pittsburgh v. Pennsylvania Public Utility Commission, 128 A2d 372, 17 PUR3d 249 (Penn. Sup. Ct. 1956), pp. 267-268.

[12]South Central Bell Telephone Company v. Tennessee Public Service Commission et al., 100 PUR3d 45 (Tenn. Ch. Ct. 1973), p. 55.

been used in situations when some of the companies participating in the consolidated tax return realized tax losses.

The Maine Supreme Judicial Court briefly explained the effective tax rate approach in its decision concerning the New England Telephone and Telegraph Company:

> An effective tax rate is generally determined by dividing the total consolidated tax liability, before credits, by the sum of the positive taxable incomes. Although various methods may be used to compute an effective tax rate the general purpose is to allocate to the utility in question its proportionate share of the tax liability on the consolidated return. The resulting percentage figure (usually expected to be below 48 per cent) is the rate which, if multiplied by the taxable incomes of the profit companies, would produce just enough money to meet the consolidated system's actual federal tax bill, and no more. This 'effective tax rate' is then used instead of the 48 per cent federal corporate tax figure to determine the utility's federal tax expense for ratemaking purposes.[13]

The above explanation provides a broad definition of the effective tax rate method. Spin-offs to this general approach have been developed and used by various state commissions. The FPC also used an effective tax rate method in its Cities Service Gas Company decision.[14] The Cities Service method was later approved by the U.S. Supreme Court in a decision dealing with the United Gas Pipe Line Company.[15] (See Chapter 4 for discussion of this method.) In the following section other effective tax rate methods which have been

---

[13]New England Telephone and Telegraph Company v. Maine Public Utilities Commission, 390 A2d 8, 27 PUR4th 1 (Maine Sup. Ct. 1978), p. 19.

[14]Re Cities Service Gas Company, 49 PUR3d 229, Opinion No. 396, Docket No. G-18799 (Federal Power Commission 1963).

[15]Federal Power Commission v. United Gas Pipe Line Company, 386 US 237, 87 S Ct 1003, 68 PUR3d 321 (U.S. Sup. Ct. 1967).

used by state commissions and which have been adequately explained in rate decisions will be examined.

The Mechanic Falls Water Company Method

The Maine Public Utilities Commission used an effective tax rate method to compute the tax allowances for six Maine subsidiaries of General Waterworks in its Mechanic Falls Water Company decision.[16] General Waterworks participated in the filing of a consolidated tax return with its parent company, I.U. International, and approximately 200 of I.U. International's subsidiaries.[17] All six Maine subsidiaries were "seeking a federal income tax expense equal to 48 per cent of their test-year income."[18] The Commission permitted an effective tax rate of only 28 per cent. In reaching this decision the Commission noted the following:

> It has been the practice of the I.U. system to collect from subsidiaries with positive taxable incomes an expense equal to 48 per cent of the positive taxable income and to pay to all subsidiaries with negative taxable incomes an amount equal to 48 per cent of the negative taxable income. In addition, all subsidiaries are given credit, dollar for dollar, for the value of tax credits which they contribute to the system.
>
> In 1974, I.U., through its tax collection and payment policy, collected a total of $25,645,163 'federal income taxes' from its subsidiaries. In that same year, the I.U. system paid only $4,604,578 of federal income taxes to the federal government. That payment satisfied the I.U. system's tax liability in toto. In that same year, I.U. paid its tax loss companies and companies with large tax credits $19,269,061.

---

[16] Re Mechanic Falls Water Company, 13 PUR4th 347, F.C. Nos. 2120 et al. (Maine Public Utilities Commission 1976).

[17] Ibid., p. 350.

[18] Ibid.

The rest of the 'taxes' collected went to pay certain tax carryovers and nonutilized tax credits . . .

All witnesses agreed that if I.U. collected from its tax profit companies only that amount necessary to satisfy its obligation to the federal government, it could collect that amount by charging its tax profit companies at a rate less than 48 per cent. The witnesses for the six Maine subsidiaries testified that I.U.'s policy of collecting at the 48 per cent rate from the tax profit companies and paying loss companies 48 per cent of their tax losses was discretionary with I.U. and was not required by any federal law, rule, or regulation.

The most basic issue before this commission is whether we should accept, for rate-making purposes, the I.U. policy of collecting 'taxes' to pay the loss and/or recovery companies. If we accept this policy, then 48 per cent is the proper rate to be used for rate-making purposes. If we reject the I.U. policy and conclude that Maine utilities should be able to collect only those amounts necessary to pay the federal government liability, then a tax rate substantially less than 48 per cent would be proper. A third possibility is to permit the collection of taxes necessary to pay the liability to the federal government and to pay some loss companies. This, in turn, would require some rationale for distinguishing among various types and sources of losses.

Mr. Green, the witness for the six Maine General Waterworks subsidiaries, contended that the I.U. tax collection policy of paying tax loss companies 48 per cent of the tax loss is reasonable because, as independent companies, the loss companies could use the loss under the carry-forward and carry-back provisions to reduce future or past income tax liabilities. Under consolidation, the loss is used immediately to reduce the system's taxable income and hence, so the argument goes, the individual company should receive consideration for the use of its loss.

. . . Mr. Green's theory is clearly inapplicable to some of the holding companies in the I.U. system. The uncontradicted testimony indicates that these holding companies (except I.U. and General Waterworks) derive their income almost exclusively from tax exempt dividends. Since these holding companies have expenses, they will be in chronic tax loss positions and would be unable to use their losses under the carry-forward or carry-back provisions if they filed independently. Accordingly, the carry-forward or carry-back possibility provides no basis for 'tax' payments to these chronic loss companies. Similarly, although I.U. International Corporation has had positive taxable income on an independent basis, it is

> unlikely that I.U. could, on an independent basis, use all of the foreign tax credits which are credited to it.[19]

The difference between a chronic tax loss and a nonchronic tax loss is an important factor in the computation of an effective tax rate under the Mechanic Falls method. The Commission explained how it would account for the differences:

> [Witness] testified that the whole system should benefit by the tax losses of chronic loss companies but that the tax savings resulting from the tax losses of other companies, particularly regulated companies, should probably accrue to the tax loss companies themselves (in the form of a 'tax' recovery from the system) if it could be shown that these companies were actually giving up a tax benefit by entering into the consolidated return. His effective tax rate . . . would, in effect, result in a collection of 'taxes' sufficient to pay both the federal government and nonchronic tax loss or recovery companies.
>
> For the purposes of this case, we will permit a tax rate sufficient to pay nonchronic tax loss companies at 48 per cent of their negative taxable income. We wish to go on record as noting, however, that we have reservations about permitting a rate enabling such recoveries. We do, however, emphatically agree with [witness] that the entire system should benefit from the reduction in taxes caused by the losses of the holding companies and their credits. Without the system's positive taxable income, no use could be made of the holding companies credits and losses. As [witness] said, 'Since in reality, nothing is being given up by these companies in entering into a consolidated return, the tax benefits due to consolidation properly belong to the whole system.' Accordingly, we will permit a tax rate which will reflect our belief that the holding companies should not be paid tax recoveries for their unusable credits and losses. We feel that even this approach may prove too generous to the utility.
>
> If a Maine utility filed independently and sustained a tax loss, that tax loss could reduce taxes paid to the federal government. Yet if a utility always is granted a 48 per cent federal income tax rate for rate-making purposes, even after it has sustained a loss, the benefits of the tax loss are never

---

[19] Ibid., pp. 350-351.

passed on to the ratepayers. Furthermore, under the present tax laws, where certain expenses, like accelerated depreciation, are used for income tax purposes but not for rate-making purposes, the possibility of sustaining a tax loss, even when a utility is healthy, is substantial. This commission, of course, will continue to try to insure that Maine utilities have an opportunity to earn a fair rate of return and will try to prevent real losses resulting from unreasonably low rates. Nevertheless, if such a tax loss does occur, and taxes in the future will be reduced as a result of such a loss, we must recognize the reality of such a reduction. If, for example, these tax losses reflect genuine financial problems, then these problems will be reflected in the cost of equity which we allow. If the cost of equity is higher because of genuine financial problems, then any benefits, such as reduced taxes, should be considered when setting rates. Therefore, the mere fact that a corporation filing on an independent basis could use its loss to reduce taxes is not necessarily a valid basis for contending that all tax profit companies should be charged a rate of 48 per cent. As we have noted, in some circumstances, not present in the record in this case, the reduction of taxes through the carry-forward and carry-back provisions might be an appropriate reason for permitting a rate at less than 48 per cent.

In reaching our conclusion that the statutory rate is not appropriate, we note that the decision to file a consolidated return was voluntarily made by I.U. for its own reasons. Likewise, the present corporate structure of I.U. is a product of its objectives. The allocation of tax liability in the I.U. system is likewise a choice made by I.U. to further its own corporate objectives. This consolidated return, corporate structure, and tax allocation system, all chosen by I.U., result in large tax recoveries being paid to the holding companies of the I.U. system. We find no reason to permit the Maine General Waterworks subsidiaries to be charged, for rate-making purposes, a tax rate which will take substantial amounts of money that will be paid neither to the federal government nor to sister companies which have foregone usable future tax benefits. Amounts allowed for federal income taxes in rates should, to the extent permitted by law, be based upon the realistic expectation of the taxes actually to be paid to the federal government. The uncontested facts are that for each year from 1970 through 1974, I.U. has collected from its profitable subsidiaries far more in 'taxes' than it has paid to the federal government. Furthermore, the larger of the tax recoveries are paid to the holding companies of the I.U. system. In 1974, for example, more 'taxes' were

> paid to the holding companies than to the federal government. In fact, the witnesses for the General Waterworks subsidiaries admitted that even if the liability to the federal government were zero, I.U. would still charge its subsidiaries 48 per cent of their positive taxable income . . . .
>
> In this case, we will permit an effective tax rate of 28 per cent to be used for rate-making purposes. This rate, if applied to all I.U. subsidiaries, would be sufficient to pay the federal government and all loss companies, except the clearly identifiable chronic loss of recovery holding companies, the recoveries permitted by the I.U. tax system. While this rate remains higher than it would be if some of the operating subsidiaries were found to be in chronic loss positions, we conclude that the use of this rate will reasonably allocate to the Maine General Waterworks subsidiaries their fair share of the true federal income tax liability of the I.U. system.[20]

In computing an effective tax rate of 28 per cent the Commission made the following assumptions:

> For example, in our computation, we have assumed that the only chronic loss of recovery companies are I.U. International, I.U. North America, I.U. Investment Corporation, General Waterworks Corporation, and I.U. Transportation Services, Inc. While we do not have enough resources to examine each one of I.U.'s nearly 200 other subsidiaries, this assumption is probably too generous. We have also assumed that each of the tax loss companies, on an independent basis, would be able to use all of its investment tax credits. Again, this assumption is probably generous. We have also assumed that all of the foreign tax credits (except those of the parent, I.U. International, in excess of its 1974 tax liability) would be usable on an independent basis.
>
> Finally, we have not adjusted for the fact that the I.U. tax collection system converts tax losses into immediate cash, rather than waiting (in the carry-forward situation) for future profits against which prior losses could be applied. As the record indicates, a given sum of money in hand is worth more even than the virtual certainty of the same sum at some point in the future. Thus, the 28 per cent effective tax rate does not deprive the system of tax benefits it might have realized by filing separate returns for

---

[20] Ibid., pp. 352-355.

> each of its subsidiaries. It serves only to share among the customers some of the benefits of the holding company arrangement.[21]

The Mechanic Falls method, also referred to as the "chronic loss" method, was used in a later decision by the Maine Public Utilities Commission to compute the tax allowance for the Mars Hill & Blaine Water Company.[22] However, in the Mars decision, the Commission found the effective tax rate could "fluctuate from year to year depending, in part, on the amount of losses suffered by the 'chronic loss' companies,"[23] so the Commission used an <u>average</u> effective tax rate. The Commission explained:

> Rather than project the effective tax rate for a single test year into rates for the future, this commission has found it preferable . . . to use an effective tax rate averaged over several years when data are available. In this case, the commission has before it sufficient data to compute an effective tax rate of 28 per cent for 1974 and 36.84 per cent for 1975. The average of the two years is 33 per cent. The commission has found that this rate, if applied to all I.U. subsidiaries, would be more than sufficient to pay the federal government and all loss companies, except the clearly identifable 'chronic loss' holding companies, the recoveries permitted by the I.U. tax system.[24]

The commission's method of averaging effective tax rates was held to be reasonable by the Supreme Judicial Court of Maine.[25]

---

[21] Ibid., p. 355.

[22] <u>Re</u> Mars Hill and Blaine Water Company, 19 PUR4th 380, F.C. Nos. 2184, 2185 (Maine Public Utilities Commission 1977).

[23] Ibid., p. 384.

[24] Ibid., pp. 384-385.

[25] Mars Hill & Blaine Water Company, et al., v. Maine Public Utilities Commission, Me., 397 A.2d 570 (Maine Sup. Ct. 1979), p. 577.

A detailed computation of the 1975 effective tax rate for Mars Hill & Blaine Water Company was presented in that decision. To understand the mechanics of the Mechanic Falls method the computation is set forth in Figure 6.

The Mechanic Falls method has been used by the New Jersey Board of Public Utilities ever since 1977 when the board was ordered by the New Jersey appellate court to "recognize by some reasonable formula based upon record evidence, the actual taxes paid via consolidated returns and attribute in a reasonable fashion such 'savings' to the ratepayers of a regulated utility subsidiary."[26] The decision by the court relied heavily on the Mechanic Falls decision since the same company, General Water Works Corporation, was at issue.[27] However, the board has also used the chronic loss method in recent decisions to compute the tax allowance for utilities which are not subsidiaries of General Water Works Corporation.[28]

In a recent departure from its past policy, the Maine Public Utilities Commission appears to have decided to abandon its use of the chronic loss method to compute an affiliated utility's effective tax

---

[26] Re Lambertville Water Company, 153 NJ Super 24 (NJ Super. Ct. 1977) and Re Toms River Water Company, 158 NJ Super 57 (NJ Super. Ct. 1977) as cited in Re Rockland Electric Company, 53 PUR4th 658, BPU Docket No. 827-612, OAL Docket No. PUC 7279-82 (New Jersey Board of Public Utilities 1983), p. 663.

[27] Re Rockland Electric Company, 53 PUR4th 658, BPU Docket No. 827-612, OAL Docket No. PUC 7279-82 (New Jersey Board of Public Utilities 1983), p. 663.

[28] Re Rockland Electric Company, 53 PUR4th 658, BPU Docket No. 827-612, OAL Docket No. PUC 7279-82 (New Jersey Board of Public Utilities 1983) and Re South Jersey Gas Company, BPU Docket No. 818-754, OAL Docket No. PUC 5784-81 (New Jersey Board of Public Utilities 1982).

Numerator

	Millions
Actual Tax Liability of I.U. and Subsidiaries	$ 10.88
Investment Tax Credit Carry-over	.92
Tax Recoveries by Tax Loss Subsidiaries	
Excluding: I.U. International	
I.U. North America	
I.U. Investment	
I.U. Transportation Service	
General Waterworks	7.72
Investment Tax Credits from Positive Tax Subsidiaries	2.67
Investment Tax Credit Recapture	(.71)
Tax on Capital Gains	(6.79)
Foreign Tax Credits of Subsidiaries Other than I.U. International	2.65
Usable Foreign Tax Credit of Parent	3.41
Total	$ 20.75

Denominator

Sum of Positive Taxable Income of Subsidiaries Not Receiving Tax Recoveries	$ 49.22
Taxable Income of I.U. International (Parent Only)	7.11
Total	$ 56.33

Effective Tax Rate $\frac{20.75}{56.33} = 36.84$

Source: Re Mars Hill & Blaine Water Company, 19 PUR4th 380, F.C. Nos. 2184, 2185 (Maine Public Utilities Commission 1977), p. 384, n. 3.

CALCULATION OF THE 1975 EFFECTIVE TAX RATE FOR MARS HILL & BLAINE WATER COMPANY

FIGURE 6

rate. In a decision dealing with another General Waterworks subsidiary, Caribou Water Works, the commission decided instead to include all actual tax losses, not merely chronic losses, in the calculation of the utility's effective tax rate.[29] In explaining its new position the commission stated:

> We now are not able to perceive any valid distinction between chronic tax losses and nonchronic tax losses. While it is true that a company with chronic tax losses could never use them and a company with an occasional tax loss might use it on a carry-forward or a carry-back basis if the company were independent of the consolidated group, in reality, neither kind of loss can be used by a company individually as long as it is part of an affiliated group which files a consolidated tax return.
>
> In Mechanic Falls Water Co. v. Maine Pub. Utilities Commission the law court stated that a then recent study showed that a plurality of state commissions permitted utilities to recover from ratepayers only their proportionate share of the actual consolidated tax paid without compensation to nonchronic tax loss companies. No argument has been presented to us which requires 'compensation' to a company for its tax losses which it cannot use as long as it is part of an affiliated group filing a consolidated tax return. It is only if a consolidated return were not advantageous to the group as a whole that an affiliated group would return to filing separate returns. In the light of the long history of I.U. International and General Waterworks Corporation's consolidated returns, such a possibility appears unlikely.
>
> Therefore, in this case, having delayed the implementation of treating each company as if it were not part of a controlled group, we will adopt the alternative position of the staff and apply an effective tax rate for General Waterworks Corporation which uses all of the tax losses.[30]

---

[29] Re Caribou Water Works, 57 PUR4th 136, Docket Nos. 83-29 et al. (Maine Public Utilities Commission 1983).

[30] Ibid., pp. 153-154.

The General Telephone Company of the Southeast Method

The West Virginia Public Service Commission used an effective tax rate method to compute the tax allowance for General Telephone Company of the Southeast based on a method set forth in the Treasury Department regulations on consolidated tax returns.[31] In selecting this method the Commission noted:

> Regulations of the Internal Revenue Service relating to consolidated tax savings prescribe several methods by which savings may be distributed. The staff for this commission contends that the average tax liability on a consolidated filing should be apportioned among the companies contributing to the tax obligation in the amount their taxable income bears to the total income of the consolidation, and that tax losses of subsidiaries should be excluded. . . .
>
> In computing tax savings the staff used savings of 11.97 per cent. . . .
>
> . . . we will accept the staff method of computation and reject the respondent's contention.[32]

The commission accepted the staff's method of computation.

The Newton Water Company Method

The Connecticut Public Utilities Commission used a method in a decision dealing with the Newton Water Company that appears to be similar to the method used in the General Telephone Company of the Southeast decision.[33] One difference between the methods, however, is that a five-year average effective tax rate is used in the Newton

---

[31] Re General Telephone Company of the Southeast, 21 PUR4th 513, Case No. 8532 (West Virginia Public Service Commission 1977).

[32] Ibid., p. 519.

[33] Re Newton Water Company, Docket No. 790911 (Connecticut Public Utilities Commission 1980).

method to compute the tax allowance for the utility.[34] The commission chose to average the effective tax rates over a five-year period "because of the fluctuations from year to year in the earned income of the several companies participating in the consolidated tax return."[35] It felt "that the average annual savings from consolidations over a representative period broad enough to offset the peaks and valleys of individual years should be used for determining an effective tax rate for pro forma purposes."[36]

To compute the annual effective tax rate the commission divided the system's actual consolidated tax liability by the total taxable income of those companies participating in the consolidated tax return which had taxable income.[37] The average of the five annual effective tax rates was then used to determine the utility's tax allowance for the current period.

The City Water Company of Chattanooga Method

The Tennessee Public Service Commission developed a different method to compute the effective consolidated tax rate for the City

---

[34]It should be noted that in a later decision by the West Virginia Public Service Commission a three-year weighted average effective tax rate was used to compute the utility's tax allowance. A five-year weighted average effective tax rate was calculated by the staff, however, for various reasons, the commission decided a three-year weighted average was more representative. See Re Appalachian Power Company, 42 PUR4th 620, Case No. 80-273-E-42T (West Virginia Public Service Commission 1981).

[35]Re Newton Water Company, Docket No. 790911 (Connecticut Public Utilities Commission 1980), p. 12.

[36]Ibid.

[37]Ibid.

Water Company of Chattanooga.[38] The commission rejected the method of computing the effective tax rate wherein the actual consolidated tax liability is related to the taxable income of all companies participating in the consolidated tax return. Instead it chose to reduce the utility's separate return tax rate by a particular percent of the consolidated tax savings realized "after allocation of the negative taxes to the contributing loss companies."[39] This method allows the loss companies to "derive the benefits of the tax savings resulting from their contribution of tax losses as they would if they had filed a separate tax return."[40]

Under this method the taxable income of companies participating in the consolidated tax return with taxable income is first determined. This taxable income figure is then reduced by both the tax losses of participating companies and any dividend received deduction; the resulting amount represents the system's consolidated taxable income. To compute the tax savings, the tax on this consolidated taxable income is compared to the tax computed on an individual basis. The resulting consolidated tax savings is then reduced by the "payment" of a "negative tax" to the loss companies. The percentage of the tax savings to the total taxes on an individual company basis is multiplied by the regular corporate tax rate; and the resulting percentage is subtracted from the regular corporate tax rate to produce

---

[38] Re City Water Company of Chattanooga, 84 PUR3d 264, Docket No. U-5232 (Tennessee Public Service Commission 1970).

[39] Ibid., p. 276.

[40] Ibid.

the utility's effective consolidated tax rate. This effective consolidated tax rate is used to compute the utility's tax allowance. Figure 7 contains an example of this method.

The United Telephone Company of Iowa Method

The Iowa State Commerce Commission used a method to compute the tax allowance for the United Telephone Company of Iowa which allocates only the tax loss realized by the parent company among the subsidiaries in the system.[41] Any tax losses realized by the subsidiaries in the group are not allocated among the members of the consolidated system under this method. In objecting to use of this method, the United Telephone Company argued the parent's tax loss should be offset by the taxable income of the non-regulated subsidiaries, with the remaining loss allocated among the subsidiaries. The commission disagreed, explaining:

> Company and Staff stipulated that an effective tax rate should be used in computing the proper tax allowance to be included in the cost of service. However, the method to be employed in this proceeding is in dispute.
>
> Staff used a consolidated federal income tax rate of 40 per cent which was derived from the 1978 calculation for the 1978 federal income tax payable and excluding the negative taxable income of the parent. Staff argues this method eliminates the tax losses of the subsidiaries in the group and leaves available to the individual subsidiary the available carry-over and carry-back provisions of the tax code to recognize those losses.
>
> The overall effect of this method is to apportion the parent's tax loss on a pro rata basis to all of the subsidiaries in the group. This is the methodology we have approved in prior cases.
>
> However, Company proposed a different methodology and recommended an effective tax rate of 43.33

---

[41] Re United Telephone Company of Iowa, Docket No. RPU-79-12 (Iowa State Commerce Commission 1981).

Taxable income of companies with taxable income	$10,000,000[a]
Loss of Company D with tax loss	3,000,000
	7,000,000
	2,000,000[b]
Consolidated taxable income	$ 5,000,000
Tax savings due to filing a consolidated tax return:	
Tax on individual basis	$ 4,725,000[c]
Tax on consolidated basis ($5,000,000 x 50%)	2,500,000
Tax savings	$ 2,225,000
Allocation of consolidated tax savings:	
Payment of negative tax to loss company	1,500,000[d]
Allocated to companies with taxable income as tax savings	$ 725,000
Percent of tax savings to total taxes on individual company basis, which percent is applied uniformly to reduce taxes of each company with taxable income	15.34%[e]
Percent tax savings applied to the corporate tax rate (15.34% x 50%)	7.67%
Effective consolidated tax rate (50.0% - 7.67%)	42.33%

[a]Taxable income of Companies A, B, and C:

Company A	$4,000,000
Company B	5,000,000
Company C	1,000,000

[b]Dividend received deductions:

Company A	$ 550,000
Company D	1,450,000

[c]Assumed corporate tax rate is 50%.
($10,000,000 - 550,000) x 50% = $4,725,000

[d]($3,000,000) x 50% = ($1,500,000)

[e]$\frac{\$\ 725,000}{4,725,000} = 15.34\%$

Source: Adapted from the effective tax rate calculation in Re City Water Company of Chattanooga, 84 PUR3d 264, Docket No. U-5232 (Tennessee Public Service Commission 1970), p. 275.

ILLUSTRATION OF THE CITY WATER COMPANY
OF CHATTANOOGA METHOD

FIGURE 7

> percent. In order to arrive at this figure, [witness] offset the parent's consolidated federal income tax loss by the taxable income of the non-regulated subsidiaries in the system and divided the remainder on a pro rata basis among the telephone operating subsidiaries [the regulated subsidiaries].
>
> We fail to see the equity of this methodology. It seems eminently fair and more equitable to share the benefits equally among all members of the group on a pro rata basis. Therefore, we will adopt the Staff's recommended effective tax rate of 40 percent.[42]

In a later decision in which this method was again used by the Iowa State Commerce Commission, the Davenport Water Company[43] objected to the offsetting of its tax allowance by a portion of its parent company's tax loss. The utility argued if any allocation was to be made at all, the dollar amount of the expenses incurred by the parent should be allocated to the utility. The arguments set forth in the decision follow:

> In the initial filing, company calculated its federal income tax expense by using an 'effective tax rate' of 36.8 per cent. The calculation was arrived at by allocating to those subsidiaries of American [parent] having taxable income the tax savings attributable to American's administrative and interest expenses. Staff agreed to use the proposed effective tax rate. In rebuttal, company proposed using a statutory tax rate, which company applied on a pro forma basis to taxable income as if company filed a separate income tax return.
>
> Company contends ratepayers should not be given the benefit of a tax deduction for expenses not charged to them. Staff responds that while the expense is not directly charged to the ratepayers, the expense arises because of the nature of the relationship between American and company; without dividends from operating companies, there would be no earnings against which to deduct administrative and interest expenses. Staff argues ratepayers are entitled to the allocated tax deduction thereby made available to American through the filing

---

[42] Ibid., p. 8.

[43] Re Davenport Water Company, 49 PUR4th 616, Docket No. RPU-81-54 (Iowa State Commerce Commission 1982).

> of a consolidated tax return because ratepayers provide the earnings.
>
> Company contends it earned no equity return and thus ratepayers do not contribute to the defrayal of American's administrative and interest expense, and are not entitled to share the tax benefits accruing to American. In the alternative, company argues the only way to accurately reflect the tax benefits of American's expense would be to allocate the dollar amount of those expenses to the subsidiaries and to apply the statutory rate to the incremental income, because the income is subject to taxation at the statutory and not the effective tax rate.[44]

Despite Davenport's arguments, the commission was not persuaded to abandon its use of the effective tax rate in calculating the utility's tax allowance.[45]

The Arkansas Louisiana Gas Company Method

It appears from the data presented in the Arkansas Louisiana decision that the Arkansas Public Service Commission used an effective tax rate to compute the utility's tax allowance that was computed by using the utility's provision for income taxes.[46] In explaining its calculation of the effective tax rate the commission stated:

> The record clearly reflects that Arkla arbitrarily computed a hypothetical amount for its income tax expense based upon the maximum amount set by law, 48 per cent federal, and 6 per cent state. Staff witness Nall also computed income taxes based upon the maximum amount set by law, but for reasons different from Arkla. Based on a thorough examination of the record before it, including the application and all exhibits introduced into evidence, it is apparent that the maximum 'actual' amount of tax paid by Arkla during the test year was 32 per cent, including both federal and state income tax and provisions for accumulated deferred

---

[44] Ibid., pp. 626-627.

[45] Ibid., p. 627.

[46] Re Arkansas Louisiana Gas Company, 4 PUR4th 265, Docket No. U-2464 (Arkansas Public Service Commission 1974).

> income tax. Therefore, for rate-making purposes, Arkla's income tax computation should be based on the 32 per cent rate, the maximum amount which Arkla could have paid during its test year, rather than the hypothetical tax expense used by Arkla.
>
> The 'maximum actual amount of tax paid' has been determined as follows:
>
> Arkansas Louisiana Gas Company Exhibit No. 7 . . . used the maximum rate of income taxes allowed by law in deriving the return and income taxes in the amount of $41,533,395 assigned to the Ark-La-Tex transmission system. However, the commission finds that the maximum tax that Arkla would have incurred during the 1972 test year would be 32 per cent, as found in the attachment to Arkla's application which is made a part of its application and which is entitled 'Arkansas Louisiana Gas Company and Subsidiary Pro Forma Statement of Consolidated Income Year Ended December 31, 1972,' giving effect to proposed increase in rate. See 'Provisions for Income Taxes' in the amount of $14,081,361 which, when divided by income before income taxes of $44,177,228, will equal 31.87 per cent. Therefore, the commission will use 32 per cent as the actual effective rate for computing income tax expense.[47]

Methods Which Offset the Tax Allowance By the Consolidated Tax Savings

Rather than computing a lower effective tax rate to account for an affiliated utility's share of the consolidated tax savings, some commissions have developed methods which offset the utility's tax allowance, computed on a stand-alone basis, by the utility's share of the tax savings. Some of these methods will be reviewed in this section.

The West Penn Power Company Method

This method is used by the Pennsylvania Public Utility Commission to account for the consolidated tax savings realized by its jurisdictional affiliated utilities. To determine the consolidated

---

[47] Ibid., p. 271.

tax savings realized by a corporate system, only "chronic" loss companies are considered. The commission defines a chronic loss company as one which has "expenses, but little, if any, taxable income; therefore, [it] produces[s] losses year after year."[48] Only tax savings attributable to chronic loss companies are allocated to the affiliates under this method. The commission noted:

> The permanent tax savings generated by the filing of a consolidated tax return are the result of offsetting the taxable profits of the profit companies against the unusable losses of the chronic loss companies. These losses of the chronic loss companies are unusable by them because the tax saving benefits of the losses would have been lost forever had each member in the consolidated group filed tax returns separately. The chronic loss companies, because of constant losses, cannot take advantage of the carry-back and carry-forward tax provisions of the Internal Revenue Code.[49]

In the West Penn decision the tax savings allocated to West Penn was first calculated by averaging the system's chronic tax losses for the past five-year period. (In computing the chronic tax loss for each company, intercompany interest expense was eliminated as a tax deduction.) The commission believed a five-year period was sufficiently large enough "to reduce the effect of abnormalities but not so large as to be nonrepresentative of a prospective level of tax savings."[50]

To compute the tax savings subject to allocation among the positive tax subsidiaries, the federal tax rate was applied to the average

---

[48]Pennsylvania Public Utility Commission v. West Penn Power Company, 32 PUR4th 245, R-78100685, C-R0685001 et al. (Pennsylvania Public Utility Commission 1979), p. 289.

[49]Ibid.

[50]Ibid., p. 291.

tax loss. The resulting consolidated tax savings was then allocated back to West Penn, as well as the other positive tax subsidiaries, on the basis of the ratio of the five-year average taxable income of the respective subsidiary to the five-year average taxable income of all the positive tax subsidiaries of the corporate system.[51] 64.42 percent of the tax savings was thus allocated to West Penn and was used to adjust West Penn's tax allowance, computed on a stand-alone basis, downward.

In a decision concerning Western Pennsylvania Water Company[52] the Pennsylvania Public Utility Commission used the West Penn method to compute the utility's tax allowance noting:

> According to the staff this recommended adjustment 'would allow [parent] to collect a sufficient amount from its positive tax subsidiaries to satisfy the consolidated tax liability to the federal government, repay the nonchronic loss companies for the use of their losses, and allocate the tax savings to the positive (paying) tax companies.'[53]

In recent decisions reached by the Pennsylvania Public Utility Commission[54] the tax allowance of an affiliated utility was <u>not</u> reduced

---

[51]Pennsylvania Public Utility Commission v. West Penn Power Company, R-80021082 et al. (Pennsylvania Public Utility Commission 1981).

[52]Pennsylvania Public Utility Commission v. Western Pennsylvania Water Company, 28 PUR4th 87, R-78050600 (Pennsylvania Public Utility Commission 1979).

[53]Ibid., p. 104.

[54]Pennsylvania Public Utility Commission et al. v. UGI Corporation, R-821899 (Pennsylvania Public Utility Commission 1982); Pennsylvania Public Utility Commission v. National Fuel Gas Distribution Corporation, 55 Pa PUC 665, R-811600 (Pennsylvania Public Utility Commission 1982); Pennsylvania Public Utility Commission v. Philadelphia Electric Company, 56 PUR4th 637, R-822291 (Pennsylvania Public Utility Commission 1983); and Pennsylvania Public Utility Commission v. Equitable Gas Company, 54 PUR4th 406, R-822133 (Pennsylvania Public Utility Commission 1983).

by an allocated portion of the corporate system's consolidated tax savings when the tax losses of the companies participating in the consolidated tax return were found to be nonchronic tax losses. The commission noted:

> The ALJ [administrative law judge] concluded that National Fuel Gas Company and Seneca are not chronic loss companies since the former has experienced taxable income in three of the last five years; and the 1981 tax loss occurred because of a financing transaction with Penn York, not a result of gas operations; and since Seneca can reasonably expect to be in a taxable position in the near-term future.
>
> Trial staff excepts, arguing that Seneca and National Fuel Gas Company are chronic loss companies, and that since the Penn York transaction is a volitional internal tax planning which creates tax loss status, the resulting tax loss should be passed on to respondent.
>
> We have reviewed the evidence and conclude, as did the ALJ, that Seneca and National Fuel Gas Company are not chronic loss companies.
>
> Although this commission has recognized a consolidated tax savings resulting from the operations of chronic loss companies, we have done so under circumstances when the evidence established that the chronic loss companies, because of constant losses, could not take advantage of the carry-back and carry-forward provisions of the Internal Revenue Code. . . . Respondent has presented evidence which supports the conclusion that Seneca and National Fuel Gas Company will be able to utilize the tax losses in the future and, we will not, therefore, adopt the adjustment recommended by trail staff.[55]

The Pennsylvania commonwealth court, however, overturned one of these recent decisions holding that the absence of chronic loss subsidiaries was <u>not</u> proper justification for the commission's use of the stand-alone method.[56] The court decided use of the stand-alone method

---

[55]Pennsylvania Public Utility Commission v. National Fuel Gas Distribution Corporation, 55 Pa PUC 665, R-811600 (Pennsylvania Public Utility Commission 1982), p. 686.

[56]Cohen v. Pennsylvania Public Utility Commission, 486 A2d 1143 (Penn. Commonwealth Ct. 1983).

"could not be justified where the parent company was liable for a much lesser amount due to the filing of a consolidated return."[57]

The Pennsylvania Public Utility Commission also denied a proposed reduction in a utility's tax allowance when it found the tax savings were not generated by operations that were properly allocable to the utility.[58] The commission explained:

> Certainly, there should be a sharing between a utility and related but nonregulated company, of the benefits of tax savings generated by losses of the nonregulated company, if the operations of the latter are properly allocable; that is, for the benefit of, the regulated company. We also agree, however, with the ALJ's conclusion that the savings in the instant case were generated by operations that are not properly allocable to [the utility].[59]

As a result, the commission did not require a reduction be made to the utility's tax allowance.

The Pacific Telephone & Telegraph Company Method

The Washington Public Service Commission calculated the consolidated tax savings realized by a corporate system based on the savings the system realized from the dividends received deduction.[60] It noted:

> Under consolidated income tax returns taxable income is based on the true net income of the single enterprise even though the business is operated through more than one corporation. Intercompany dividends such

---

[57]"Court Reviews Gas Load Loss Claims, Orders Tax Savings Pass-Through," Public Utilities Fortnightly, April 26, 1984, p. 68.

[58]Pennsylvania Public Utility Commission v. Dauphin Consolidated Water Supply Company, 55 Pa PUC 44, R-80061242 (Pennsylvania Public Utility Commission 1981).

[59]Ibid., p. 51.

[60]Washington Public Service Commission v. The Pacific Telephone and Telegraph Company, 25 PUR3d 18, Cause Nos. U-8971, U-9011 (Washington Public Service Commission 1958).

as paid by [utility] to [parent] are excluded from taxable net income, whereas under separate returns 15 per cent of such dividends on common and a slightly lesser percentage on preferred would be taxable to the [parent] company. The staff proposes an adjustment to give consideration to the tax savings upon consolidation arising from the elimination of income tax on the foregoing percentages of the intercompany dividends which would be taxable on a separate return basis.

. . . This data shows that the total tax calculated for the individual companies participating in the consolidated return was $823,373,892.42 whereas the total allocated tax liability on a consolidated basis was $781,534,564.92, or a savings of $41,839,327.50. The major contributing factor accounting for this saving is the intercompany dividend exclusion. No portion of this saving was or is realized by the [utility], as far as operations are concerned, even though Pacific and the other participating companies are severally liable for the consolidated tax liability. . . .

During 1957 [utility] paid to [parent] $66,962,673.75 in common dividends. The tax saving to [parent] from [utility's] participation in the consolidated return, measured on a common stock basis, exceeds 50 cents per share. [Parent], therefore, in effect, receives more dollars per share than the other holders of the same class of stock.

. . . Accordingly, on the facts of record, we conclude that the staff's position is sound in principle but we do not agree that the entire saving must be credited to [utility]. We believe [utility] should be credited, however, with no less than half of the saving.

The staff has used 1957 data and calculated the tax savings due to dividends paid to [parent] by [utility]. On Washington intrastate operations this would amount to $445,921. The commission being of the opinion that no less than one-half of this amount should inure to the benefit of the ratepayers of [utility] we, therefore, adopt an adjustment to reflect an increase in Washington intrastate net operating income by $222,961.[61]

The Narragansett Electric Company Method

The Rhode Island Public Utilities Commission computed the tax allowance for the Narragansett Electric Company by crediting the

---

[61] Ibid., pp. 46-47.

allowance, computed on a stand-alone basis, with a portion of the system's consolidated tax savings that arose primarily from interest deductions available to the holding company.[62] The tax savings attributable to these deductions were "allocated between the subsidiaries on the basis of their relative contribution to consolidated taxable income."[63] In this manner, Narragansett's tax allowance, computed on a stand-alone basis, was credited with $11,000 of the system's tax savings. For purposes of computing the system's tax savings, only one year of data was used.

The Iowa Public Service Company Method

The South Dakota Public Utilities Commission adjusted the tax allowance for Iowa Public Service Company downward by the company's allocated share of the system's average consolidated tax savings.[64] To compute the average consolidated tax savings the taxable losses experienced by each of the affiliates participating in the consolidated tax return were averaged over a five-year period.[65] The average consolidated tax savings did not take into account either capital gains, since it was felt they may be nonrecurring in nature, or investment tax credits, since it was felt the credits should remain

---

[62] Re The Narragansett Electric Company, 23 PUR4th 516, Docket No. 1288 (Rhode Island Public Utilities Commission 1978).

[63] Ibid., p. 538.

[64] Re Iowa Public Service Company, 21 PUR4th 339, F-3063 (South Dakota Public Utilities Commission 1977).

[65] It is unclear from the evidence presented in the published decision whether the commission considered all losses or only chronic losses in its calculation of the consolidated tax savings.

with the entity that generated the credit.[66] The average consolidated tax savings so computed was then allocated among the affiliates having positive taxable income.[67]

The Washington Gas Light Company Method

The District of Columbia Public Service Commission accepted an adjustment proposed by the Office of People's Counsel which reduced Washington Gas Light Company's tax allowance by a portion of the consolidated tax savings realized.[68] The consolidated tax savings arose due to tax losses realized by the utility's subsidiary. One-half of the subsidiary's tax loss was allocated to Washington Gas Light Company.[69] The commission accepted the proposed adjustment based on its "historical practice of sharing between stockholders and ratepayers the tax losses contributed during the test year by the subsidiary."[70] The practice of allocating one-half of the subsidiary's tax loss to

---

[66] Re Iowa Public Service Company, 21 PUR4th 339, F-3063 (South Dakota Public Utilities Commission 1977), p. 363.

[67] It is unclear from the evidence presented in the published decision how the average consolidated tax savings was allocated to Iowa Public Service Company. The details of the allocation formula were not presented in the published decision.

[68] Re Washington Gas Light Company, 52 PUR4th 1, Formal Case No. 787, Order No. 7749 (District of Columbia Public Service Commission 1983).

[69] The method used to allocate one-half of the subsidiary's tax losses to Washington Gas Light Company was not explained in the published decision.

[70] Re Washington Gas Light Company, 52 PUR4th 1, Formal Case No. 787, Order No. 7749 (District of Columbia Public Service Commission 1983), p. 36.

the utility was upheld by the D.C. court of appeals in a recent decision.[71]

The Imputed Interest Methods

Another approach used by some commissions to distribute a corporate system's consolidated tax savings to the ratepayers of a subsidiary utility entails allocating a portion of the parent corporation's interest expense to the utility. This interest expense is then used to compute the utility's tax allowance. The "imputed interest" approach is designed to allocate to the ratepayers only one particular item that contributed to the system's consolidated tax savings (i.e., the interest paid on debt issued by the parent company).[72] Commissions which have used a consolidated-entity method have typically used either an effective tax method or an imputed interest method to compute the tax allowance of their jurisdictional affiliated utilities. Generally the two approaches have not been used in conjunction with one another.

The Indiana Public Service Commission Controversy

The Indiana Public Service Commission and the Indiana appellate courts were in dispute for some time over how to account for an affiliated utility's share of the consolidated tax savings. To resolve the issue, the commission eventually decided upon use of an imputed interest method to compute the tax allowance of its

---

[71] Ibid.

[72] New England Telphone and Telegraph Company v. Maine Public Utilities Commission, 27 PUR4th 1, 390 A2d 8 (Me. Sup. Jud. Ct. 1978), p. 19

jurisdictional affiliated utilities. The history of their dispute provides some insights into this issue.

The commission originally used the stand-alone method to compute the tax allowance of its jurisdictional affiliated utilities. However, the commission's use of the stand-alone method was overturned by the Indiana Court of Appeals, Second District, in its decision dealing with Muncie Water Works Company, a subsidiary of American Water Works Company, Inc., (AWW).[73] The court decided in that decision that a consolidated-entity method should have been used to compute Muncie's tax allowance. As a result, it remanded the case to the commission "for further findings and proceedings to determine the effective federal income tax rate and resulting tax expense"[74] of Muncie Water Works. The court noted, however, it did not have proper authority "to suggest or order the proper tax rate to be used in determining [Muncie's] utility rates"[75] so it left such a determination to the discretion of the commission.

Despite the court's ruling, the commission decided in its remand decision on Muncie Water Works[76] to reject use of a consolidated effective tax rate. In explaining why use of an effective tax rate method would be improper the commission stated:

---

[73]City of Muncie v. Indiana Public Service Commission, 26 PUR4th 588, 378 NE2d 896 (Ind. Ct. of App., 2nd Dist. 1978).

[74]Ibid., p. 591.

[75]Ibid., p. 592.

[76]Re Muncie Water Works Company, 44 PUR4th 331, Cause No. 34571 (Indiana Public Service Commission 1981).

> . . . we have rejected use of AWW's consolidated 'effective tax rate' as being an improper method to compute petitioner's income tax for the following reasons:
>
> A. The filing of a consolidated return does not per se result in a tax 'savings.'
>
> B. The use of such rate would impute to petitioner the revenues, expenses and rate base requirements of other utilities in other jurisdictions.
>
> C. The use of such rate would negate our consideration of the generally accepted accounting practice of normalization.[77]

In addition, the commission held that use of a subsidiary's actual tax liability to compute Muncie's tax allowance was also improper. It held such treatment would eliminate the commission's consideration of normalization.[78]

Instead, the commission held that use of an imputed interest method was the proper way to account for Muncie's share of the consolidated tax savings. It explained:

> Accordingly, we now find that the proper method to reflect the tax benefits resulting from petitioner's participation in the filing of a consolidated return is one by which the tax benefits of that portion of AWW's interest expense which represents the extent of AWW's investment in petitioner supported by its debt is allocated to petitioner. Such method would not result in imputing to petitioners the operating results of other utilities and thus would not have an adverse effect upon the use of normalization accounting practices.[79]

---

[77] Ibid., p. 343.

[78] Ibid.

[79] Ibid.

The commission later used the imputed interest method it developed in the Muncie remand decision to compute the tax allowance of the Indiana & Michigan Electric Company.[80] Indiana & Michigan (Petitioner) and the public counsel (Public) had each suggested a different method of allocating the tax loss of the parent company, American Electric Power Company (AEP), to the utility:

> In making its computation, Petitioner allocated a share of all of AEP's deductible expenses to Petitioner; this amounted to $1,235,000.
>
> The Public made its computation by allocating the AEP tax loss to I&M, based on the ratio of I&M operating income to AEP [previous year] operating income; this amounted to $1,468,370. The adjustment which would arise from the Public's computation would be an additional reduction of net current income tax expense of $107,350.[81]

The commission however held, consistent with its Muncie remand decision, that only that portion of the parent's tax loss arising from interest expense on debt was required to be considered in the utility's cost of service. It stated:

> Neither Petitioner nor the Public used the 'Muncie Remand Method' (MRM) to compute the effect of filing a consolidated return with AEP on I&M's federal income tax expense. The record in this Cause is insufficient to make the computation using the 'Muncie Remand Method.' In determining Petitioner's revenue requirement in this Cause, the Commission will use the $1,235,000 allocation submitted by Petitioner, because it is in excess of the allocation that would result from the Muncie Remand Method and is therefore closer to that allocation which would be computed using the MRM than was the Public's.[82]

---

[80] Re Indiana & Michigan Electric Company, Cause No. 35251 (Indiana Public Service Commission 1982).

[81] Ibid., p. 5.

[82] Ibid.

Theory Underlying the Imputed Interest Approach

In using an imputed interest method to compute the tax allowance of the Chesapeake and Potomac Telephone Company[83] the District of Columbia Public Service Commission provided an explanation of the theory underlying the imputed interest approach in its decision:

> In reporting its federal income taxes, the Bell parent receives the entire benefit of the interest deduction on debt which it issues. The subsidiary operating companies take advantage of a deduction for interest only on debt which the subsidiaries themselves issue.
>
> Consistent with this approach, the company's actual reported taxes during the test year included an interest deduction based on the company's own debt ratio and cost of capital. The company argues that it is entitled to a tax allowance of $7,196,000--its actual reported taxes during the test year attributable to intrastate operations.
>
> The commission's staff, on the other hand, computed the company's tax allowance so that its interest deduction is based upon the debt ratio and cost of debt for the entire Bell System. . . . The staff's recommendation produces a tax allowance which is $1.7 million less than the tax allowance by the company.
>
> The staff position is based upon the premise that it is essential to compute the company's tax allowance on the basis of the debt structure and cost of debt for the Bell System as a whole in order to equitably distribute the tax burden among the operating companies and to avoid substantial tax bonuses to the Bell parent. The staff maintains that the company is not an independent entity and its capital structure is artificial except as considered as a part of the Bell System. Consequently, it is urged that the company's equity--which is held entirely by its Bell parent--is actually financed, at least in part, through debt issued by the parent and that tax benefits flowing from the issuance of that debt should be made available to reduce the allowable tax liability in fixing rates for the company. . . .
>
> After careful consideration of this matter, the commission finds that the company's tax allowance should be adjusted to reflect an interest deduction based on

---

[83] Re The Chesapeake and Potomac Telephone Company, 4 PUR4th 1, Formal Case No. 595, Order No. 5623 (District of Columbia Public Service Commission 1974).

> the Bell System cost of debt and debt ratio. The commission agrees with the staff that it is unrealistic to consider the company as an independent entity. A substantial portion of the company's equity is actually financed by debt issued by the Bell parent. This fact, is recognized in establishing the company's rate of return, and, consequently, the ratepayers in this jurisdiction pay--as they should--for the Bell System debt which is used to support the company's operations. The same ratepayers are surely entitled to receive the full benefit of the interest deduction on the debt which they paid for. Only by using the cost of debt and debt ratio for the entire Bell System can the benefits of the system's interest deduction be shared by the Bell parent company with its subsidiaries and their customers. We agree with the determination of the California commission that:
>
> 'The issue here is whether the capital structure of the parent corporation should be substituted for that of its subsidiary in the calculation of income taxes to be allowed for rate-making purposes. In view of the fact that applicant has obtained the bulk of its capital requirements from the parent corporation, and that the sources of such funds are not identifiable and must be considered as coming from the parent's general corporate funds, it appears reasonable to substitute the capital structure of the parent for the capital structure of the subsidiary in determining income tax expense for rate-making purposes. The benefits of income tax reductions which the parent derives from a representative capital structure will then be shared with applicant and its customers.' Re West Coast Teleph. Co. of California (1963) 48 PUR3d 89, 95.
>
> This commission is also of the opinion that the company's tax allowance should be consistent with the rate of return established in this case. Since the commission used the Bell System cost of debt and debt ratio as of December 31, 1973, in calculating the company's rate of return it will, accordingly, use the same figures in calculating the company's tax allowance. The use of December 31, 1973, figures is also consistent with the fact that the commission has made adjustments for all other known changes in test-year results which would occur during 1973.[84]

The West Virginia Public Service Commission compared the imputed interest approach to the other consolidated-entity methods in its decision dealing with the Chesapeake and Potomac Telephone Company of

---

[84]Ibid., pp. 37-39.

West Virginia (C&P).[85] The commission referred to the imputed interest approach as the "debt ratio adjustment":

> This commission believes that ratepayers should only pay the actual federal income tax (FIT) liability of a utility. This FIT liability includes an adjustment for the benefits of participation in a consolidated tax return if a consolidated return is filed.
>
> The debt ratio adjustment is an adjustment which this commission has used with only one utility under its jurisdiction, C&P. Since the Bell system consolidated capitalization contains more debt, and thus a higher proportion of deductible interest expense than does C&P's capitalization, this adjustment assigns a share of the Bell system interest expense to C&P for use in the calculation of C&P's FIT liability. The adjustment which is made with all utilities other than C&P is an adjustment for consolidated tax savings. In addition to interest expense, the consolidated tax savings adjustment considers the other elements of savings which benefit utilities that participate in a consolidated return. Both types of adjustments are directed at the same goal which is a determination of what the regulated utility's share of the actual FIT liability of a utility system will be in the future.[86]

The Southwestern Bell Telephone Company Method

Although some commissions and courts have been in agreement on the necessity of allocating at least a portion of a parent company's interest expense to its utility subsidiaries, different methods have been used to accomplish the imputation. One method utilizes the cost of debt and the debt ratio of the utility's parent or consolidated system to calculate the utility's imputed interest expense. Under this method, the only amount allowed as an interest deduction in computing the utility's tax allowance is the imputed interest amount.

---

[85] Re Chesapeake and Potomac Telephone Company of West Virginia, 28 PUR4th 120, Case No. 9358 (West Virginia Public Service Commission 1978).

[86] Ibid., p. 124.

This method was used by the Kansas State Corporation Commission to compute the tax allowance for the Southwestern Bell Telephone Company.[87] Rather than using the actual debt ratio of the utility, which was approximately 80 percent equity and 20 percent debt, the commission applied the actual system-wide debt ratio of 34.29 percent to "the total capital employed in the state of Kansas" to compute the amount of system-wide debt allocable to the utility's jurisdictional property.[88] The system-wide debt cost was then applied to the utility's allocable share of the system-wide debt to compute the utility's allowable imputed interest expense. The commission's use of this method was later upheld by the Kansas Supreme Court.[89]

The Southwestern Bell Telephone Company method was used by the Nebraska Public Service Commission to compute the tax allowance for the United Telephone Company of the West.[90] Since this was an issue of first impression before the Nebraska commission, the commission relied upon the decision reached by the Kansas Supreme Court in its decision on Southwestern Bell Telephone Company.[91]

---

[87] Re Southwestern Bell Telephone Company, 34 PUR3d 257, Docket No. 60,800-U (Kansas State Corporation Commission 1960).

[88] Southwestern Bell Telephone Company v. Kansas State Corporation Commission et al., 51 PUR3d 113, 386 P2d 515 (Kansas Sup. Ct. 1963), p. 143.

[89] Ibid., p. 145.

[90] Re United Telephone Company of the West, 12 PUR4th 462, Application No. 31018 (Nebraska Public Service Commission 1975).

[91] Ibid., p. 467.

The South Central Bell Telephone Company Method

The Tennessee Public Service Commission used a method similar to the Southwestern Bell method to compute the tax allowance of the South Central Bell Telephone Company.[92] The commission computed the utility's imputed interest expense by multiplying the utility's jurisdictional rate base by the system-wide debt ratio and the system-wide debt cost. The result of this product was then compared with the utility's test-year interest expense. The difference between the two amounts, after being multiplied by the statutory tax rate, constituted a reduction in the utility's tax allowance, thereby lowering the utility's revenue requirement. The commission noted "this adjustment is based on the regulatory principle that the consolidated interest cost rather than the interest recorded on the books of South Central Bell should be used in calculating federal income tax."[93]

The United Telephone Company of Florida Method

The Florida Public Service Commission also used a method similar to the Southwestern Bell method to compute the tax allowance of the United Telephone Company of Florida.[94] The commission stated:

> The most reasonable basis by which to allocate the tax effect of parent company interest expense related to investment in United is to (1) multiply the debt ratio of the parent times the debt cost of the

---

[92] Re South Central Bell Telephone Company, 22 PUR4th 257, Docket No. U-6402 (Tennessee Public Service Commission 1977) and Re South Central Bell Telephone Company, Docket No. U-6936 (Tennessee Public Service Commission 1980).

[93] Ibid., p. 268.

[94] Re United Telephone Company of Florida, 34 PUR4th 421, Docket No. 780777-TP(CR), Order No. 9208 (Florida Public Service Commission 1980).

> parent times the equity ratio of United times the 46 per cent statutory tax rate; (2) multiply that factor by United's jurisdictional rate base; and (3) adjust the tax lag due to the decrease in tax expense. The mathematical derivative of the first two steps then produces the appropriate NOI [net operating income] adjustment.
>
> . . . The net effect of allocating such interest expense to United of Florida is to reduce income tax liability thereby increasing NOI by $528,337.
>
> This amount differs from public counsel's amount because we have limited our calculation to consideration of parent company debt only rather than UTI and all subsidiaries.[95]

It is interesting to note that in this decision the commission considered using an effective tax rate rather than the statutory tax rate in step 1. However, the commission decided due to the complex issues involved in such a determination it would defer any decision on the issue until a comprehensive review of the problem could be completed.[96]

The New England Telephone and Telegraph Company Method

The imputed interest method used by the Maine Public Utilities Commission to compute the tax allowance of the New England Telephone and Telegraph Company was held to be reasonable by the Maine Supreme Judicial Court:[97]

> The commission reasoned that because New England's ratepayers paid part of the interest on American Telephone and Telegraph's issued debt, they should be entitled to have those interest payments deducted from New England's taxable income, thereby reducing its federal income tax expense for rate-making purposes. . . .

---

[95] Ibid., p. 436, n. 12, n. 13.

[96] Ibid., p. 436-437.

[97] New England Telephone and Telegraph Company v. Maine Public Utilities Commission, 27 PUR4th 1, 390 A2d 8 (Me. Sup. Jud. Ct. 1978).

> New England challenges the commission's allocation of interest expense on American Telephone and Telegraph's issued debt on a number of grounds. We deny its appeal on this issue holding that the commission's actions constituted reasonable rate-making practice and were generally supported by substantial evidence in the record.[98]

The imputed interest method developed by the commission is similar to the United Telephone Company of Florida method. It incorporates the actual interest paid on the utility's own debt issues and adds to that amount the utility's imputed interest expense. The imputed interest expense is calculated by using both the parent's debt ratio and debt cost. The court explained the mechanics of the method in its decision:

> The commission's interest expense allocation basically follows the theory behind its double leveraging adjustment, but is not necessarily dependent upon our approval thereof. American Telephone and Telegraph owns 86 per cent of New England's common equity, which compromises 55 per cent of New England's capital structure and, therefore, its rate base is financed by American Telephone and Telegraph capital. Because 25 per cent of American Telephone and Telegraph's own capital structure consists of long-term debt, with an interest cost of 6.5 per cent, the commission determined that 11.8 per cent (25 per cent x 47.3 per cent) of New England's capital structure is financed by debt issued by American Telephone and Telegraph. The commission reasons that when New England's ratepayers supply revenues which are used to provide American Telephone and Telegraph with a return on its equity investment in New England, 25 per cent of that return is being used by American Telephone and Telegraph to pay the interest on its own debt. The commission maintains that New England's ratepayers are entitled to an interest deduction on that portion of American Telephone and Telegraph debt which they indirectly finance.
>
> The commission calculated that 11.8 per cent of New England's $214,615,000 rate base of $25,324,570 was attributable to American Telephone and Telegraph debt on which New England's ratepayers were paying interest at a rate of 6.5 per cent. Therefore New

---

[98] Ibid., pp. 19-20.

> England's ratepayers paid approximately $1,650,000 in interest on American Telephone and Telegraph debt during the test year. The commission then added this allocated interest expense to the interest expense on debt issued by New England itself to determine New England's total interest expense for rate-making purposes. Thus, the commission reduced New England's federal income tax expense to reflect the contribution made by its ratepayers to interest payments on American Telephone and Telegraph issued debt.[99]

To summarize, the utility's imputed interest expense was calculated by using the following formula:

$$\text{Imputed interest expense} = \left[\begin{array}{c}\text{Parent's \% ownership in sub's common equity}\end{array}\right] \times \left[\begin{array}{c}\text{\% of common equity in sub's capital structure}\end{array}\right] \times \left[\begin{array}{c}\text{\% of LT debt in parent's capital structure}\end{array}\right]$$

$$\times \text{ [Sub's rate base] } \times \text{ [Parent's LT debt cost]}$$

To calculate the utility's <u>total</u> allowable interest expense used in the computation of the utility's tax allowance, the commission added the utility's imputed interest expense, as calculated above, to the amount of actual interest expense the utility incurred on its own debt issues.

The court did note it would not have approved "the commission's 'tracing' of debt expense through two corporate structures if New England had not filed a consolidated return with American Telephone and Telegraph."[100] The court held the imputed interest allocation was "a reasonable method to distribute tax savings occasioned by the filing of a consolidated federal income tax return."[101] It noted the

---

[99] Ibid.

[100] Ibid., p. 20, n. 14.

[101] Ibid.

allocation was not an "outgrowth of the commission's double leveraging adjustment."[102] It also noted:

> If New England and American Telephone and Telegraph had filed separate returns the commission could not reduce New England's federal income tax expense by allocating American Telephone and Telegraph's debt expense, because New England would be entitled to recover all legitimate federal taxes which it must pay. But where the companies filed a consolidated return, we have no such concern because they have chosen to be treated as a single entity for tax purposes, including consolidation of taxable incomes and allocation of tax savings.[103]

The Muncie Remand Method

The Indiana Public Service Commission developed and used an imputed interest method that is similar to the New England Telephone and Telegraph (NET&T) method in its Muncie remand decision.[104] The method was used to compute the tax allowance for Muncie Water Works Company, a subsidiary of the American Water Works Company, Inc. As discussed earlier, this method was developed in response to the Indiana appellate court decision which ordered Muncie's tax allowance be recomputed by the commission using a consolidated-entity method.

The Muncie remand method differs from the NET&T method in one major component. Under the NET&T method the parent's debt ratio and debt cost are multiplied by the subsidiary's rate base as well as by the percentage of common equity in the subsidiary's capital structure. Under the Muncie remand method the parent's debt ratio and average

---

[102] Ibid.

[103] Ibid.

[104] Re Muncie Water Works Company, 44 PUR4th 331, Cause No. 34571 (Indiana Public Service Commission 1981).

debt cost are multiplied only by the subsidiary's equity account figure.

The Muncie remand method computes the utility's imputed interest expense as follows:

$$\text{Imputed interest expense} = \left[\begin{array}{c}\text{\% of LT debt in parent's entire capital structure}\end{array}\right] \times \left[\begin{array}{c}\text{Sub's entire equity account}\end{array}\right] \times \left[\begin{array}{c}\text{Parent's average LT debt cost}\end{array}\right]$$

Muncie Water Works Company was owned 100 percent by its parent. Therefore, the importance of the component in the NET&T formula consisting of the parent's percentage ownership in the subsidiary's common equity was not addressed in the Muncie decision. It would appear to have no effect on the results obtained under the Muncie remand method for Muncie Water Works.

Under the Muncie remand method the debt ratio of the parent is computed by "dividing its outstanding long-term debt by its entire capital structure, including the retained earnings of its subsidiaries."[105] The commission defined the capital structure of an entity as consisting of the entity's equity capital, preferred capital, and debt capital.[106] It defined equity capital as including: "(1) stated or par value of common stock, (2) amounts received in excess of the stated or par value of common stock, and (3) retained earnings, which represent the net result of all past operations that

---

[105] Ibid., p. 344.

[106] Ibid.

were not paid out in dividends to the common stockholders."[107] Preferred capital is defined as consisting of "stock that has some preference over common stock with regard to dividend payments and/or distribution of assets on liquidation."[108] Debt capital consists of "the outstanding long-term obligations of the entity."[109] The commission computed the average net cost of the parent's long-term debt by "dividing its annualized interest expense on said debt by its total outstanding long-term debt."[110]

The commission defined the parent's entire capital structure as including the subsidiaries' retained earnings. It felt that without such an inclusion the true debt ratio of the parent would not be reflected. Likewise the commission defined the utility's equity account as including its own retained earnings. The commission explained:

> The computation of AWW's debt ratio on any capital structure other than its own entire capital structure would result in a hypothetical ratio on a capital structure that does not exist. Likewise to apply the debt ratio of AWW to [utility's] 'equity account' minus retained earnings would produce a hypothetical result based on an 'equity account' that does not exist.[111]

Technically the Muncie remand method goes one step beyond the NET&T method by computing the tax benefits of the imputed interest

---

[107] Ibid.

[108] Ibid.

[109] Ibid.

[110] Ibid.

[111] Ibid., p. 345.

expense. The imputed interest expense is multiplied by the statutory tax rate under the Muncie remand method, resulting in the amount of "interest expense tax benefits" that arose from that portion of the parent's debt supporting the parent's investment in the utility.[112] The utility's tax allowance, as computed under the stand-alone method, is then reduced by the amount of "interest expense tax benefits."

It should be noted that under the stand-alone method any actual interest expense incurred by the utility on its own debt issues is accounted for in obtaining the utility's "stand-alone" tax allowance. Therefore, for purposes of computing the utility's tax allowance, the NET&T method and the Muncie remand method both account for the utility's actual interest expense as well as the utility's imputed interest expense.

The Alaska Public Utilities Commission used a method equivalent to the Muncie remand method to compute the tax allowance of RCA Alaska Communications, Inc., (Alascom), a subsidiary of RCA Corporation (RCA).[113] The commission computed Alascom's imputed interest expense by multiplying Alascom's equity capital by the product of the parent's debt ratio and the parent's debt cost. Consistent with the position taken by the Indiana Public Service Commission, the commission held the parent's capital structure properly included the retained earnings of its subsidiaries.[114] Likewise it held the utility's equity account properly included its retained earnings

---

[112] Ibid., p. 346.

[113] Re RCA Alaska Communications, Inc., Docket No. U-78-4, Order No. 33 (Alaska Public Utilities Commission 1981).

[114] Ibid., p. 146.

"because RCA [had] elected to maintain those earnings in the subsidiary."[115]

The Alaska Public Utilities Commission found that adoption of this method, for purposes of determining the consolidated interest expense and the income tax benefits applicable to Alascom, provided "a reasonable balance between the interests of the shareholder and the ratepayers."[116] However, it also noted its decision was "not intended to foreclose the Commission from considering other allocation methods in subsequent proceedings."[117]

The Brockton Edison Company Method

Brockton Edison Company along with two other retail distributors of electricity were subsidiaries of Eastern Utilities Associates (EUA). All three retail subsidiaries purchased their power from the system's generating subsidiary, Montaup Electric Company. Brockton owned 90 percent of Montaup and functioned "as the sole source of capital for Montaup, borrowing money both for its own operations and for Montaup."[118] During the test year, Brockton paid out $6,930,183 in deductible interest. The Massachusetts Department of Public Utilities was responsible for determining the tax allowance of Brockton. The issue before the commission was how much, if any, of the $6,930,183 in interest expense was to be attributed to Montaup,

---

[115] Ibid., p. 142.

[116] Ibid., p. 148.

[117] Ibid.

[118] Brockton Edison Company v. Department of Public Utilities, Mass., 400 N.E.2d 838 (Sup. Jud. Ct. of Mass. 1980), p. 839.

thereby being excluded from the calculation of Brockton's tax allowance. Brockton urged the commission to allocate to it an amount equal to the product of its embedded cost percentage for long-term debt times its rate base.[119] The commission, on the other hand, "allocated Brockton's long-term interest expense on the basis of the ratio of Brockton's pre-tax income to that of Brockton and Montaup taken together."[120]

In arguing its position before the Supreme Judicial Court of Massachusetts, the commission stated that "use of the income ratio rather than the rate base allocation has some tendency to compensate retail ratepayers for the higher cost of debt which results from borrowing to fill Montaup's capital needs in a time of inflation of interest rates."[121] The court held that the rate base allocation method and the income ratio allocation method were both "respectable methods of allocation"[122] and that the choice of either method was within the regulatory discretion of the commission. Use of the income ratio allocation method by the commission to compute Brockton's tax allowance was therefore upheld by the court.

The Oregon Water Corporation Method

The Oregon Public Utility Commissioner used a method similar to the Brockton Edison method to compute the tax allowance of the Oregon

---

[119] Ibid.

[120] Ibid., p. 840.

[121] Ibid.

[122] Ibid.

Water Corporation.[123] Oregon Water Corporation was a subsidiary of Boise Water Corporation; Boise Water Corporation was a subsidiary of General Waterworks Corporation. Like the Montaup Electric Company, Oregon's capital was supplied totally by Boise. Therefore, the commissioner held that the capital structure of Boise should be used to compute Oregon's imputed interest expense.[124] The commissioner noted "the control that General Waterworks Corporation has over the capital structure of Oregon Water Corporation justifies the substituted use of the financial structure of Boise Water Corporation to determine a representative interest cost for income tax deduction purposes."[125]

Like the Massachusetts Department of Public Utilities, the commissioner ruled that a share of Boise Water Corporation's actual interest expense should be allocated to Oregon Water Corporation. However, unlike under the Brockton Edison method, the commissioner held that the interest costs to Boise were to be allocated to Oregon "on the basis of the proportion of the total plant and construction work in progress of Oregon Water Corporation compared to similar items for Boise Water Corporation and its subsidiaries."[126]

---

[123] Re Oregon Water Corporation, 83 PUR3d 288, UF 2765, Order No. 70-316 (Oregon Public Utility Commissioner 1970).

[124] Ibid., p. 296.

[125] Ibid.

[126] Ibid.

Use of an Effective Tax Rate Method With an Imputed Interest Method

The Continental Telephone Company of Maine Method

In a decision dealing with the Continental Telephone Company of Maine, a wholly owned subsidiary of the Continental Telephone Corporation, the Maine Public Utility Commission used an imputed interest method to compute the utility's allowable interest expense and an effective tax rate method to compute the utility's tax allowance.[127]

In explaining why an imputed interest method was used to compute the utility's allowable interest expense, the commission stated:

> . . . the commission has determined the company's cost of capital with reference to the consolidated capital structure and cost rate of the parent, including debt (6.999 per cent).
>
> Because Maine ratepayers must pay for higher debt costs through the rate of return, the tax benefits derived from the resulting higher interest expense of the parent's debt should be reflected in the tax expense included in Continental of Maine's intrastate operating income, and shared with the Maine ratepayers. This is further supported by the fact the taxes paid by the company are paid to Continental Telephone Corporation which in turn files a consolidated return. Maine ratepayers should only be responsible for their fair share of the consolidated tax expense and are entitled to receive their share of the tax benefit of the interest deduction on the debt which they pay for. We will, therefore, adjust federal income tax allowance to reflect an interest deduction based on the Continental system cost of debt and debt ratio. . . . We point out that this adjustment relates to the proper taxable income to use in computing federal income taxes, and not the appropriate tax rate to use when the company files on a consolidated basis resulting in tax savings. We deal with the appropriate tax rate in the next section.[128]

---

[127] Re Continental Telephone Company of Maine, 18 PUR4th 636, F.C. No. 2183, C. No. 440 (Maine Public Utilities Commission 1977).

[128] Ibid., p. 645.

The commission used an effective tax rate of 31.4 percent in place of the statutory tax rate to "recognize the actual tax saving impact of a private election to file consolidated returns."[129] The commission noted in its decision that it had, in several cases in the past, applied a tax rate lower than the statutory rate. (For example, see the earlier discussion in this chapter on the Mechanic Falls Water Company decision.) The commission held:

> The 31.4 per cent rate is conservative and gives much of the benefit of the consolidated return to the company. This rate permits the collection of taxes necessary to pay the actual tax liability to the federal government, but gives full recognition to the tax losses of all 'nonchronic' loss companies. Losses of these companies are not used to compute the effective tax rate and therefore are given the benefit of their available loss carry-back or carry-forward.
>
> This tax rate also gives the company the benefit, dollar for dollar, of the $6,786,864 investment tax credit utilized by the company in its consolidated returns.
>
> While this 31.4 per cent rate remains much higher than it would be if we were to allow only an amount sufficient to pay the actual tax liability, and therefore remains generous in the company's favor, we conclude that this rate will reasonably allocate to the Maine subsidiary its fair share of the federal tax liability.[130]

The 31.4 percent effective tax rate was computed on a basis similar to that used by the commission in other recent cases. The computation of the effective tax rate is illustrated in Figure 8.

---

[129] Ibid., p. 646.

[130] Ibid., p. 648.

Numerator	
Actual consolidated tax liability per return before investment tax credit	$ 7,162,917
Tax effect of nonchronic loss companies (48% x $12,369,332)	5,937,279
Adjusted tax liability	$13,100,196
Denominator	
Taxable consolidated income per return	$14,950,869
Nonchronic losses	12,369,332
Chronic loss (parent company)	15,729,793
Less: capital gain	(1,340,614)
Adjusted taxable income	$41,709,380

Effective tax rate $\frac{\$13,100,196}{\$41,709,380} = 31.4$

Source: Re Continental Telephone Company of Maine, 18 PUR4th 636, F.C. No. 2183, C. No. 440 (Maine Public Utilities Commission 1977), pp. 647-648, n. 7.

CALCULATION OF THE 1975 EFFECTIVE TAX RATE FOR CONTINENTAL TELEPHONE COMPANY OF MAINE

FIGURE 8

CHAPTER 6

RESEARCH METHODOLOGY

The research methodology of this study consisted of two sections. In the first section, Part I, the following was identified: (1) the extent to which various regulatory methods produce different federal income tax allowances for ratemaking purposes, and (2) the extent to which such differences are dependent upon particular attributes. In Part II of the study the economic implications such differences have on the ratepayers and the shareholders of an affiliated utility were addressed. A brief outline of the research methodology is provided in Table 3.

Identification of the Methods

Part I of the methodology consisted of three subparts. In the first subpart, Part A, those methods used to compute the federal income tax allowance for an affiliated utility by the Federal Energy Regulatory Commission (FERC) or by any state regulatory commission were described. To identify these methods the Annual Indexes of Public Utilities Reports for the years 1970 through 1983, and the Volume Indexes for the 1984 volumes of Public Utilities Reports were searched. All rate cases and court decisions cited under the following index topics were reviewed:

1. Expenses: Section 112. - Corporation or Franchise Tax

TABLE 3

BRIEF OUTLINE OF RESEARCH METHODOLOGY

Part I: Identified the extent to which various regulatory methods produce different federal income tax allowances. Identified the extent to which such differences were dependent upon the particular attributes of selected methods.

A. Subpart A: Described the regulatory methods that have been used by the FERC and the state commissions.

B. Subpart B: Identified the attributes of selected methods.

C. Subpart C: Computed the federal income tax allowance for various hypothetical affiliated utilities under selected methods. Used sensitivity analysis to analyze the effect various attributes had on the amount of tax allowance computed.

Part II: Addressed the economic implications any differences in the methods and/or the attributes had on the ratepayers and the shareholders.

A. Subpart A: Computed under each of the selected methods: (1) the amount of rates paid by the ratepayers of each utility, and (2) the amount of dividend income earned by the shareholders of each utility. These computations were made for each utility developed in Part I-C and for each variation in attribute analyzed in Part I-C.

B. Subpart B: Analyzed the results obtained in Subpart A by comparing the amount of rates paid by the ratepayers and the amount of income earned by the shareholders of each utility under each method to the amount of rates paid by the ratepayers and the amount of income earned by the shareholders of a utility required to use the stand-alone method. The results obtained in this analysis were used to address the research questions.

2. Expenses: Section 114. - Income and Excess Profits Taxes

3. Expenses: Section 117. - Taxes of Underlying Companies

Any cases which were cited in this original group of decisions were also reviewed. Those cases found to be pertinent to the study have been set forth in Chapter 4 (FERC decisions) and Chapter 5 (state regulatory commission decisions).

Identification of the Attributes

In subpart B of Part I of the methodology those attributes that impact the amount of federal income tax allowance allowed under the various methods were identified. The methods used in this section of the research were obtained from those cases identified in Subpart A in which enough information had been provided by either the commission or the court to discern the mechanics of the particular method. Those cases consisted of:

1. Re Cities Service Gas Company[1]
2. Re United Gas Pipe Line Company[2]
3. Re Mechanic Falls Water Company[3]
4. Re Caribou Water Works[4]

---

[1] Re Cities Service Gas Company, 49 PUR3d 229, Opinion No. 396, Docket No. G-18799 (Federal Power Commission 1963).

[2] Re United Gas Pipe Line Company, 31 FPC 1180, 54 PUR3d 285 (Federal Power Commission 1964).

[3] Re Mechanic Falls Water Company, 13 PUR4th 347, F.C. Nos. 2120 et al. (Maine Public Utilities Commission 1976).

[4] Re Caribou Water Works, 57 PUR4th 136, Docket Nos. 83-29 et al. (Maine Public Utilities Commission 1983).

5. Re Newton Water Company[5]

6. Pennsylvania Public Utility Commission v. West Penn Power Company[6]

7. Pennsylvania Public Utility Commission v. Dauphin Consolidated Water Supply Company[7]

8. Re Iowa Public Service[8]

9. Re The Narragansett Electric Company[9]

10. Southwestern Bell Telephone Company v. Kansas State Corporation Commission et al.[10]

11. Re United Telephone Company of Florida[11]

12. New England Telephone and Telegraph Company v. Maine Public Utilities Commission[12]

13. Re Muncie Water Works Company[13]

---

[5]Re Newton Water Company, Docket No. 790911 (Connecticut Public Utilities Commission 1980).

[6]Pennsylvania Public Utility Commission v. West Penn Power Company, 32 PUR4th 245, R-78100685, C-R0685001 et al. (Pennsylvania Public Utility Commission 1979).

[7]Pennsylvania Public Utility Commission v. Dauphin Consolidated Water Supply Company, 55 Pa PUC 44, R-80061242 (Pennsylvania Public Utility Commission 1981).

[8]Re Iowa Public Service, 21 PUR4th 339, F-3063 (South Dakota Public Utilities Commission 1977).

[9]Re The Narragansett Electric Company, 23 PUR4th 516, Docket No. 1288 (Rhode Island Public Utilities Commission 1978).

[10]Southwestern Bell Telephone Company v. Kansas State Corporation Commission et al., 51 PUR3d 113, 386 P2d 515 (Kansas Sup. Ct. 1963).

[11]Re United Telephone Company of Florida, 34 PUR4th 421, Docket No. 780777-TP(CR), Order No. 9208 (Florida Public Service Commission 1980).

[12]New England Telephone and Telegraph Company v. Maine Public Utilities Commission, 27 PUR4th 1, 390 A2d 8 (Maine Sup. Jud. Ct. 1978).

[13]Re Muncie Water Works Company, 44 PUR4th 331, Cause No. 34571 (Indiana Public Service Commission 1981).

14. Brockton Edison Company v. Department of Public Utilities[14]

15. Re Continental Telephone Company of Maine[15]

16. Re City Water Company of Chattanooga[16]

17. Re Oregon Water Corporation[17]

18. Re South Central Bell Telephone Company[18]

The FERC decision, Re Columbia Gulf Transmission Company,[19] was also used in this section of the study because the particular mechanics of the stand-alone method were set forth in it.

In the process of identifying the various attributes it was found that the South Central Bell Telephone Company method and the Southwestern Bell Telephone Company method were identical. Therefore, the South Central Bell Telephone Company was eliminated from further analysis in the study.

---

[14]Brockton Edison Company v. Department of Public Utilities, Mass., 400 N.E.2d 838 (Sup. Jud. Ct. of Mass. 1980).

[15]Re Continental Telephone Company of Maine, 18 PUR4th 636, F.C. No. 2183, C. No. 440 (Maine Public Utilities Commission 1977).

[16]Re City Water Company of Chattanooga, 84 PUR3d 264, Docket No. U-5232 (Tennessee Public Service Commission 1970).

[17]Re Oregon Water Corporation, 83 PUR3d 288, UF 2765, Order No. 70-316 (Oregon Public Utility Commissioner 1970).

[18]Re South Central Bell Telephone Company, 22 PUR4th 257, Docket No. U-6402 (Tennessee Public Service Commission 1977), and Re South Central Bell Telephone Company, Docket No. U-6936 (Tennessee Public Service Commission 1980).

[19]Re Columbia Gulf Transmission Company, 54 PUR4th 31, Opinion No. 173, Docket Nos. RP75-105-002, RP75-106-006 (Federal Energy Regulatory Commission 1983).

Those attributes found to create differences in the amount of tax allowance computed under the aforementioned methods consisted of the following:

1. Attributes related to the utility:
    a. Allowed rate of return based on the utility's capital structure and the utility's cost of capital
    b. Percentage of long-term debt in the utility's capital structure
    c. Book value of the utility's long-term debt
    d. Interest expense on the utility's long-term debt
    e. Percentage of common equity in the utility's capital structure
    f. Amount of the utility's common equity account
    g. Percentage of preferred equity in the utility's capital structure
    h. Utility's taxable income for the:
        1. Previous year
        2. Second previous year
        3. Third previous year
        4. Fourth previous year
2. Attributes related to the parent company:
    a. Allowed rate of return based on the parent's capital structure and the parent's cost of capital
    b. Percentage of long-term debt in the parent's capital structure
    c. Book value of the parent's long-term debt
    d. Interest expense on the parent's long-term debt
    e. Percentage of long-term debt in the parent's total capitalization (i.e., includes the retained earnings of the parent's subsidiaries)

f. Percentage of the parent's ownership in the utility's common equity

3. Attributes related to the consolidated system of corporations:

   a. Percentage of long-term debt in the system's capital structure

   b. Book value of the system's long-term debt

   c. Interest expense on the system's long-term debt

4. Other attributes:

   a. Status of the affiliates: regulated or non-regulated

   b. Positive taxable income of the affiliates for the:

      1. Current year
      2. Previous year
      3. Second previous year
      4. Third previous year
      5. Fourth previous year

   c. Tax losses of the affiliates for the:

      1. Current year
      2. Previous year
      3. Second previous year
      4. Third previous year
      5. Fourth previous year

   d. Status of the tax losses: chronic or nonchronic

   e. Percentage of chronic loss arising from affiliates having operations related to the operations of the utility

   f. Actual net consolidated tax liability of the system for the:

      1. Current year
      2. Previous year
      3. Second previous year
      4. Third previous year
      5. Fourth previous year

g. Actual tax credits earned by the affiliates for the:

   1. Current year
   2. Previous year
   3. Second previous year
   4. Third previous year
   5. Fourth previous year

h. Actual dividend-received deduction for the current year for the:

   1. Utility
   2. Other affiliates

i. Amount of the Plant and Construction Work in Progress account for the current year for the:

   1. Utility
   2. Other affiliates

Table 4 summarizes the findings of the research performed in Subpart B by setting forth the attributes present in each of the aforementioned methods. Table 4 can be referred to in determining: (1) how the methods differ, (2) which attributes are similar across methods, and (3) which attributes are unique to a particular method.

Computation of the Federal Income Tax Allowance Under Selected Methods

In the third subpart of Part I of the methodology, Part C, the effect the attributes identified in Subpart B have on the amount of federal income tax allowance allowed under selected methods was examined. The amount of the federal income tax allowance was computed for a number of hypothetical utilities under each of the selected methods. These amounts were then compared for each utility to the amount of tax allowance that an affiliated utility, which was required to use the stand-alone method, would be allowed.

TABLE 4

ATTRIBUTES OF METHODS STUDIED

Attributes/Method	Stand-Alone (Utility's Interest expense used)	Stand-Alone (Parent's Interest Expense Used)	Cities Service Gas Co.	United Gas Pipe Line Co.	Mechanic Falls Water Co.	Caribou Water Works	Newton Water Co.	West Penn Power Co.
UTILITY'S ATTRIBUTES:								
Rate base	X	X	X	X	X	X	X	X
Rate of return - (utility's capital structure/ utility's cost of capital)	X		X	X	X	X	X	X
% of long-term debt in capital structure	X		X	X	X	X	X	X
Interest expense on long-term debt	X		X	X	X	X	X	X
Book value of long-term debt	X		X	X	X	X	X	X
Permanent tax differences	X		X	X	X	X	X	X
Taxable income:								
Previous year			X	X	X	X	X	X
2nd previous year			X	X		X	X	X
3rd previous year				X		X	X	X
4th previous year				X			X	X
% of common equity in capital structure								
% of preferred equity in capital structure								
Equity account								
PARENT'S ATTRIBUTES:								
Rate of return - (parent's capital structure/ parent's cost of capital)		X						
% of long-term debt in capital structure		X						
Interest expense on long-term debt		X						
Book value of long-term debt		X						
% of parent's ownership in utility's common equity								
% of long-term debt in total capitalization (includes retained earnings of its subsidiaries)								
OTHER ATTRIBUTES:								
Status of affiliates - regulated or nonregulated			X	X				
Taxable income of affiliates:								
Current year			X	X	X	X	X	X
Prior year			X	X	X	X	X	X
2nd previous year			X	X		X	X	X
3rd previous year				X		X	X	X
4th previous year				X			X	X
Status of losses - chronic/nonchronic					X			X
% of affiliates incurring chronic losses related to utility operations								
Tax losses of affiliates:								
Current year			X	X	X			X
Prior year			X	X	X			X
2nd previous year			X	X				X
3rd previous year				X				X
4th previous year				X				X
Actual net consolidated tax liability								
Current year			X	X	X	X	X	
Prior year			X	X	X	X	X	
2nd previous year			X	X		X	X	
3rd previous year				X		X	X	
4th previous year				X			X	
Tax Credits								
Current year					X	X		
Prior year					X	X		
2nd previous year						X		
3rd previous year						X		
System-wide attributes:								
% of long-term debt in capital structure								
Interest expense on long-term debt								
Book value of long-term debt								
Dividend-Received Deduction:								
Utility - Current year								
Other affiliates - Current year								
Plant & Construction Work in Progress								
Utility - Current year								
Other affiliates - Current year								

TABLE 4--Continued

Attributes/Method	Dauphin Consol. Water Supply Co.	Iowa Public Service	Narragansett Electric Co.	Southwestern Bell Telephone Co.	United Telephone Co. of Florida	New England Tele. & Telegraph Co.	Muncie Water Works Co.	Brockton Edison Co.
UTILITY'S ATTRIBUTES:								
Rate base	X	X	X	X	X	X	X	X
Rate of return - (utility's capital structure/ utility's cost of capital)	X	X	X	X	X	X	X	X
% of long-term debt in capital structure	X	X	X		X	X	X	X
Interest expense on long-term debt	X	X	X		X	X	X	X
Book value of long-term debt	X	X	X		X	X	X	X
Permanent tax differences	X	X	X	X	X	X	X	X
Taxable income:								
Previous year	X	X						
2nd previous year	X	X						
3rd previous year	X	X						
4th previous year	X	X						
% of common equity in capital structure					X	X		
% of preferred equity in capital structure					X			
Equity account							X	
PARENT'S ATTRIBUTES:								
Rate of return - (parent's capital structure/ parent's cost of capital)								
% of long-term debt in capital structure					X	X		
Interest expense on long-term debt			X		X	X	X	X
Book value of long-term debt					X	X	X	
% of parent's ownership in utility's common equity						X		
% of long-term debt in total capitalization (includes retained earnings of its subsidiaries)							X	
OTHER ATTRIBUTES:								
Status of affiliates - regulated or nonregulated								
Taxable income of affiliates:								
Current year	X	X	X					X
Prior year	X	X						
2nd previous year	X	X						
3rd previous year	X	X						
4th previous year	X	X						
Status of losses - chronic/nonchronic	X							
% of affiliates incurring chronic losses related to utility operations	X							
Tax losses of affiliates:								
Current year	X	X						
Prior year	X	X						
2nd previous year	X	X						
3rd previous year	X	X						
4th previous year	X	X						
Actual net consolidated tax liability								
Current year								
Prior year								
2nd previous year								
3rd previous year								
4th previous year								
Tax Credits								
Current year								
Prior year								
2nd previous year								
3rd previous year								
System-wide attributes:								
% of long-term debt in capital structure				X				
Interest expense on long-term debt				X				
Book value of long-term debt				X				
Dividend-Received Deduction:								
Utility - Current year								
Other affiliates - Current year								
Plant & Construction Work in Progress								
Utility - Current year								
Other affiliates - Current year								

TABLE 4--Continued

Attributes/Method	Continental Tele. of Maine	City Water Co. of Chattanooga	Oregon Water Corp.
UTILITY'S ATTRIBUTES:			
Rate base	X	X	X
Rate of return - (utility's capital structure/ utility's cost of capital)		X	X
% of long-term debt in capital structure	X	X	X
Interest expense on long-term debt	X	X	X
Book value of long-term debt	X	X	X
Permanent tax differences	X	X	X
Taxable income:			
Previous year	X		
2nd previous year			
3rd previous year			
4th previous year			
% of common equity in capital structure			
% of preferred equity in capital structure			
Equity account			
PARENT'S ATTRIBUTES:			
Rate of return - (parent's capital structure/ parent's cost of capital)	X		
% of long-term debt in capital structure			
Interest expense on long-term debt			X
Book value of long-term debt			
% of parent's ownership in utility's common equity			
% of long-term debt in total capitalization (includes retained earnings of its subsidiaries)			
OTHER ATTRIBUTES:			
Status of affiliates - regulated or nonregulated			
Taxable income of affiliates:			
Current year	X	X	
Prior year	X		
2nd previous year			
3rd previous year			
4th previous year			
Status of losses - chronic/nonchronic	X		
% of affiliates incurring chronic losses related to utility operations			
Tax losses of affiliates:			
Current year	X	X	
Prior year	X		
2nd previous year			
3rd previous year			
4th previous year			
Actual net consolidated tax liability			
Current year	X		
Prior year	X		
2nd previous year			
3rd previous year			
4th previous year			
Tax Credits			
Current year	X		
Prior year	X		
2nd previous year			
3rd previous year			
System-wide attributes:			
% of long-term debt in capital structure	X		
Interest expense on long-term debt	X		
Book value of long-term debt	X		
Dividend-Received Deduction:			
Utility - Current year		X	
Other affiliates - Current year		X	
Plant & Construction Work in Progress			
Utility - Current year			X
Other affiliates - Current year			X

The methods analyzed in Subpart C were the same methods analyzed in Subpart B except for the City Water Company of Chattanooga[20] method and the Oregon Water Corporation[21] method. To compute an affiliated utility's tax allowance under the City Water Company of Chattanooga method, detailed information concerning the utility's dividend-received deduction and the dividend-received deductions of all the utility's affiliates is needed. Likewise, under the Oregon Water Corporation method, detailed information concerning the Plant & Construction Work in Progress account for the utility and for all the utility's affiliates is needed. Because this required information was difficult to either obtain or hypothesize, and because such information was not required under any of the other methods, both methods were eliminated from further analysis.

Formulas Underlying the Methods Analyzed

A total of fifteen methods, in addition to the stand-alone method, were analyzed in Subpart C of the research. To perform this analysis, the formulas underlying the selected methods were first determined from the information provided in the applicable rate cases and court decisions. (A description of these methods has been provided in Chapter 4 and Chapter 5 of this study.) An affiliated utility's tax allowance as computed under the stand-alone method served as a basis of comparison in this study. Because of this, a description of the mechanics of the stand-alone method, as set forth by the FERC, is provided here as well as in Chapter 4. This explanation by the FERC

---

[20] Re City Water Company of Chattanooga.

[21] Re Oregon Water Corporation.

also sets forth which components, in general, are used in computing a utility's tax allowance; it thus served as a basis for determining the formulas underlying the other methods:

> 'A stand-alone income tax allowance is one that takes into account the revenues and costs entering into the regulated cost of service without increase or decrease for tax gains or losses related to other activities.' The stand-alone method results in the tax allowance being equal to the tax the utility would pay on the basis of its projected revenues less deductions for all operating, maintenance, and interest expenses included in the cost of service. In short, it results in a tax allowance equal to the tax on the allowed return on equity.
>
> The mechanics of calculating a stand-alone tax allowance are as follows: From the total return allowed on rate base are deducted interest expenses (computed by multiplying the rate base by the weighted cost of long-term debt used in determining the rate of return), permanent tax differences, and the effect of the surtax exemption to arrive at the tax base. The tax base is then multiplied by the factor of 48 per cent over 52 per cent (now 46 per cent over 54 per cent) to produce the tax allowance, which includes recognition of the fact that the tax allowance itself is subject to tax when received by the utility and is not deductible. The amount so calculated is the tax allowance.
>
> That the mechanics of calculating a stand-alone tax allowance do not take into account the revenue received and deductions for operating and maintenance expenses is not important. In calculating the tax allowance our policy is that a legitimate expense for cost-of-service purposes is to be considered to be a legitimate deductible expense in calculating a company's cost-of-service tax allowance. Accordingly, we can safely ignore the utility's operating and maintenance expenses and the revenues needed to recover those expenses. The only area for concern is the return on rate base.[22]

Two forms of the stand-alone method were used in this study. Under the first form, the utility's tax allowance was computed by subtracting the utility's interest expense. In this instance, the utility's capital structure and the utility's cost of capital were

---

[22] Re Columbia Gulf Transmission Company, p. 38.

used to compute the utility's allowed rate of return and deductible interest expense. Under the second form, the utility's tax allowance was computed by subtracting the parent's interest expense. In this case, the utility's allowed rate of return was computed based on the parent's capital structure and the parent's cost of capital. Because the rate of return was based on the parent's interest expense, not the utility's, the parent's interest expense was deducted in computing the utility's tax allowance.[23] It should be noted that this latter form of the stand-alone method is in reality an imputed interest method, since the interest expense used to calculate the utility's tax allowance is computed based on the attributes of the utility's parent corporation.

Appendix B contains the formulas for the two forms of the stand-alone method as well as the formulas for the other fifteen methods analyzed in this study.

To examine the differences in the amount of federal income tax allowance allowed under each of the selected methods, the formulas underlying the methods were input into a LOTUS 123 spreadsheet. The amount of federal income tax allowance allowed under each of the methods was then computed for each utility given various selected financial data. To compute the tax allowance amounts under each of the selected methods, the following assumptions were made for each utility:

1. There were no permanent tax differences: $PTD_u = 0$
2. The effect of the surtax exemption was zero: $SE_u = 0$

---

[23] Ibid., p. 56.

3. The statutory tax rate was 46 percent

Because PTD_u would be the same given amount for a particular utility under each of the selected methods, PTD_u would have no differential effect on the amount of tax allowance computed across methods. Therefore, PTD_u was assumed to be zero in the study. For similar reasons, SE_u was also assumed to be zero under all calculations.

In addition to the above three assumptions, it was assumed that the factor n remained constant across all five years of data. This factor represents the percentage of chronic loss arising from affiliates having operations related to the operations of the utility. The factor n was present in only one of the selected methods, the Dauphin Consolidated Water Supply Company method. Therefore, varying n between years would have only affected the amount of tax allowance computed under this method. The assumption concerning n was thus made: (1) to simplify the simulation in the study, and (2) to rid the data analysis of a minor extraneous variable.

Selection of the Utilities and Their Financial Attributes

Calculations of the federal income tax allowances in this study were made for three different hypothetical utilities. Hypothetical utilities were used because actual financial and tax data necessary for this analysis were not available. Furthermore, because the purpose of this section of the study was to provide a series of illustrative examples showing: (1) the effect the various methods have on the amount of tax allowance a utility is allowed for ratemaking purposes, and (2) the effect the various attributes have on the amount of tax allowance computed under the various methods, it was decided

hypothetical utilities would more easily accomplish this purpose as well as enable more control over the sensitivity analysis used in the study.

Specificiations of the Hypothetical Utilities

Each hypothetical utility examined in this study was specified as to:

1. Rate base
2. Capital structure consisting of:
   a. Long-term debt
   b. Preferred equity
   c. Common equity
3. Allowed rate of return on:
   a. Long-term debt
   b. Preferred equity
   c. Common equity

Selection of the Rate Base for the Utilities Studied

The specifications of the three utilities examined in this study were developed from actual financial specifications of three domestic electric utilities. The three domestic utilities were selected from a field of ninety-six utilities, consisting of those utilities listed on either: (1) Compustat's list of electric utilities, or (2) the Environmental Action Foundation's list of the 100 largest U.S. Electric Companies.[24]

The three domestic electric utilities were selected based on their net utility plant value. Net utility plant value consists of a utility's total plant account less accumulated depreciation and

---

[24]Environmental Action Foundation, "Phantom Taxes Update," Washington D.C., 1980.

amortization. This value is representative of the utility's rate base. The net utility plant value for each of the ninety-six utilities was obtained from Moody's Public Utility Manual for the year 1981, and were arranged in order from the highest value, $9,793,108,000 to the lowest value, $52,673,000. The three utilities that were used to specify the hypothetical utilities in this study were then selected from this list as follows: (1) one utility having a high net utility value of $6,334,142,000 (5th on the list), (2) one utility having an average net utility value of $2,010,107,000 (33rd on the list), and (3) one utility having a low net utility value of $726,514,000 (65th on the list).

The actual net utility value of the three utilities selected above was used as the respective 19X1 rate base amount for the three hypothetical utilities examined in this study. A five percent constant growth factor was assumed in the study so the rate base amounts (RB) for the utilities, for the five years studied, were developed as follows:

1. RB_{19X1} = Actual 1981 Net Utility Value for selected utility
2. $RB_{19X2} = 1.05 \times RB_{19X1}$
3. $RB_{19X3} = 1.05 \times RB_{19X2}$
4. $RB_{19X4} = 1.05 \times RB_{19X3}$
5. $RB_{19X5} = 1.05 \times RB_{19X4}$

Selection of the Capital Structure for the Utilities Studied

The actual long-term debt ratio, preferred equity ratio, and common equity ratio of the three selected domestic utilities were obtained from Moody's Public Utility Manual for the year 1981. These

actual ratios were used as the respective 19X1 capital structure ratios of the three hypothetical utilities examined in this study. These initial capital structure ratios were assumed to remain constant over the five year period studied.

The total capitalization amount for each of the three utilities studied was assumed to be equal to the utility's respective rate base. Thus it was assumed each utility's dollar value of miscellaneous assets was equal to its current liabilities. This assumption was consistent with the actual financial data of the three domestic utilities selected. It should be noted that although the capital structure ratios of the utilities studied were assumed to remain constant over the five years, the total capitalization amount increased each year by 5 percent because the rate base amount was assumed to increase each year by 5 percent.

Selection of the Allowed Rates of Return for the Utilities Studied

The allowed rate of return on long-term debt for each of the three hypothetical utilities was assumed to be 9 percent. This amount appeared to be reasonable based on recent corporate long-term debt rates.

The allowed rate of return on preferred equity for each of the three hypothetical utilities was assumed to be 10 percent. This amount appeared to be reasonable based on the long-term debt rate which was used in the study.

The allowed rate of return on common equity for each of the three hypothetical utilities was assumed to be 15.5 percent. This amount was based on the results of a survey done by Public Utilities

Fortnightly.[25] The survey showed actual rates of return on common equity allowed in electric rate bases decided between July 1, 1982, and June 30, 1983. The authorized rates of return ranged from a low of 13 percent to a high of 17.75 percent, with the majority lying in the range of 14.5 to 16 percent. The 15.5 percent used in this study was selected because it represented one of the average rates of return recently authorized.

Specifications of the Hypothetical Parent Corporations

The hypothetical parent of each utility was specified as to:

1. Capital structure consisting of:
    a. Long-term debt
    b. Preferred equity
    c. Common equity
2. Allowed rate of return on:
    a. Long-term debt
    b. Preferred equity
    c. Common equity

Financial data for each of the three parent corporations was necessary only for the year 19X5. The long-term debt ratio of each parent corporation was assumed to be 20 percent greater than the 19X5 long-term debt ratio of its respective subsidiary utility. This assumption was based on the fact that most parent corporations carry more debt than their subsidiaries. The 20 percent figure appeared to be reasonable.

The allowed rate of return on the long-term debt of each parent corporation was assumed to be 20 percent lower than the allowed

---

[25]"Rates of Return on Common Equity: A Survey of Electric Rate Cases," Public Utilities Fortnightly, September 1, 1983, p. 54.

rate of return on the long-term debt of its respective subsidiary utility. This assumption was based on the fact that most parent corporations are able to float debt at a lower cost than their subsidiaries.

Each parent corporation's preferred equity ratio was assumed to be equal to the preferred equity ratio of its respective subsidiary utility. Each parent's allowed rate of return on its preferred equity was also assumed to be equal to the allowed rate of return on the preferred equity of its respective subsidiary utility. The allowed rate of return on the common equity of each parent corporation was assumed to be equal to the allowed rate of return on the common equity of its respective subsidiary utility. These assumptions were made to simplify the calculations and appeared reasonable.

Specifications of the Hypothetical Corporate Systems

The hypothetical system of corporations each utility was affiliated with was specified as to:

1. Long-term debt ratio
2. Allowed rate of return on the long-term debt

Financial data for each of the three corporate systems was also only necessary for the year 19X5. The long-term debt ratio of each of the systems, which included a utility, a parent corporation, and its respective affiliates, was assumed to be 10 percent greater than the long-term debt ratio of its respective subsidiary utility. This assumption was based on the fact that a system's long-term debt ratio, being an average of its parent corporation's long-term debt ratio and its affiliates' long-term debt ratio, generally would be greater than

its utility's long-term debt ratio, but would be somewhat lower than its parent's long-term debt ratio.

The allowed rate of return on the long-term debt of each of the systems was assumed to be 10 percent lower than the 19X5 allowed rate of return on the long-term debt of its respective subsidiary utility. This assumption was based on the fact that the cost of debt to a system, being an average across affiliates, would generally be greater than its parent corporation's cost of debt but lower than its utility's cost of debt.

Variations Made in the Attributes

Sensitivity analysis was used to analyze how, given one particular utility, changes in a particular attribute affected:

1. The amount of the utility's tax allowance computed under each of the methods
2. The amount of rates a ratepayer of the utility would be charged under each of the methods
3. The amount of dividend income a shareholder of the utility would receive under each of the methods

Because this research represented an initial study of the attributes, the purpose of it was to observe which attributes alone caused significant changes in a utility's tax allowance. Therefore, only one attribute at a time was studied. To do this, changes in the amount of one attribute were made while the given amount of other attributes remained constant. The same variations in the attributes were applied to each utility to determine if a particular attribute change affected all three utilities in the same manner.

Changing the amount of two or more attributes simultaneously could result in interaction effects between the attributes. After

determining from this initial study which attributes do significantly affect a utility's tax allowance, interaction effects could be studied between those attributes found to be significant. This would be an area for future research.

Variations in the Size of the Utility

The relative size of a utility in relationship to its affiliates may have an effect on the amount of a utility's tax allowance. For example, whether a utility accounts for one-fourth of its corporate system's taxable income versus accounting for three-fourths of its system's income may affect the amount of tax allowance it is allowed under some of the methods. To vary the relative significance of the utility in its corporate system, three relationships were studied:

1. Utility's taxable income = 20% of the total positive taxable income of the system
2. Utility's taxable income = 40% of the total positive taxable income of the system
3. Utility's taxable income = 60% of the total positive taxable income of the system

Therefore, for each of the three utilities in the study, three "subset" utilities were developed and studied; thus making a total of nine subjects in the study.

Variations in the following thirteen attributes were made:

1. Amount of net operating loss in the corporate system
2. Type of net operating loss: chronic or nonchronic
3. Type of affiliate earning the net operating loss: regulated or nonregulated
4. Percentage of chronic loss arising from affiliates having operations related to the operations of the utility

5. Allowed rate of return on the long-term debt of the utility

6. Allowed rate of return on the common equity of the utility

7. Long-term debt ratio of the parent

8. Allowed rate of return on the long-term debt of the parent

9. Long-term debt ratio of the corporate system

10. Allowed rate of return on the long-term debt of the system

11. Book value of the long-term debt of the parent

12. Percentage of the parent's ownership in the common equity of the utility

13. Long-term debt ratio of the parent using its entire capital structure

Analysis of Attributes Relating to the Net Operating Loss

Sensitivity analysis was performed on the attributes. The analysis was broken down into the following two major sections:

1. Analysis of the attributes related to the net operating loss in the system

2. Analysis of the attributes related to the respective capital structure and respective allowed rates of return of the utility, the parent corporation, and the system

For purposes of analyzing the net operating loss (NOL) attributes, the attributes related to the capital structure and the allowed rates of return of the utility, parent corporation, and the system were held constant. Table 5 contains the assumptions made for these attributes in this part of the study.

The following NOL attributes, each thought to affect the amount of tax allowance computed under certain methods, were studied:

TABLE 5

ASSUMPTIONS MADE FOR ANALYZING THE NOL ATTRIBUTES

The following assumptions were made for purposes of analyzing the net operating loss attributes:

1. The long-term debt ratio of each parent corporation was 20 percent greater than the long-term debt ratio of its respective subsidiary utility.

2. The book value of the long-term debt of each parent corporation was 50 percent greater than the book value of the long-term debt of its respective subsidiary utility.

3. The allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility.

4. The long-term debt ratio of each parent corporation when using its entire capital structure was 25 percent lower than its regular long-term debt ratio.

5. Each parent corporation owned 100 percent of the common equity of its respective subsidiary utility.

6. The long-term debt ratio of each corporate system was 10 percent greater than the long-term debt ratio of its respective subsidiary utility.

7. The allowed rate of return on the long-term debt of each corporate system was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility.

1. Amount of NOL in the corporate system
2. Type of NOL: chronic or nonchronic
3. Type of affiliate earning the NOL: regulated or nonregulated
4. Percentage of chronic loss arising from affiliates having operations related to the operations of the utility

Amount of the Net Operating Loss

The amount of the net operating loss was specified in terms of the total positive taxable income (PTI) of the corporate system. Thus the variations studied were expressed as a percentage: total NOL = X % of total PTI. Total NOL consists of any chronic NOL and any nonchronic NOL. The variations studied in this attribute, expressed as a percentage of total PTI, consisted of the following:

1. 0% (no NOL)
2. 15% of PTI
3. 30% of PTI
4. 50% of PTI

Type of the Net Operating Loss

The type of the NOL was specified in terms of the amount of the total NOL. If the amount of chronic loss was specified to be 30 percent of the total NOL, for example, the amount of nonchronic loss would automatically be 70 percent of the total NOL. The variations studied in this attribute, expressed as a percentage of the total NOL and expressed in terms of the amount of chronic loss, consisted of the following:

1. 0% (i.e., 0% of chronic loss, 100% nonchronic loss)

2. 25% chronic loss

3. 50% chronic loss

4. 75% chronic loss

5. 100% chronic loss

Type of Affiliate Incurring the Net Operating Loss

This attribute had two levels: regulated and nonregulated. It was assumed in this study that the breakdown between regulated and nonregulated was the same percentage for the following three items:

1. Positive taxable income of the system, excluding the utility's taxable income

2. Chronic loss of the system

3. Nonchronic loss of the system

In other words, if a 30 percent rate was used for this attribute, it meant: (1) 30 percent of the other positive taxable income in the system was generated by regulated affiliates, (2) 30 percent of the chronic loss in the system was generated by regulated affiliates, and (3) 30 percent of the nonchronic loss of the system was generated by regulated affiliates.

Variations studied in this attribute were as follows:

1. 30% (i.e, 30% generated by regulated affiliates, 70% generated by nonregulated affiliates)

2. 50% regulated

3. 75% regulated

Percentage of Chronic Loss Arising from Affiliates having Operations Related to the Operations of the Utility

This attribute was specified in terms of the amount of chronic loss and was expressed as a percentage:

% of chronic loss arising from operations related to the utility's operations	=	X % of total chronic loss

The following variations in this attribute were studied:

1. 30% of total chronic loss
2. 60% of total chronic loss

Analysis of Attributes Relating to Capital Structures and Rates of Return

For purposes of analyzing the capital structure and the rates of return (CS/RR) attributes, the attributes related to the net operating loss of the system were held constant at specified levels. Table 6 sets forth the assumptions used for the NOL attributes in this part of the study.

After reviewing the various methods, it was determined that the following attributes related to the respective capital structure and the respective allowed rates of return of the utility, the parent, and the system, could impact the amount of tax allowance computed under certain methods:

1. Allowed rate of return on the long-term debt of the utility
2. Allowed rate of return on the common equity of the utility
3. Long-term debt ratio of the parent
4. Allowed rate of return on the long-term debt of the parent
5. Long-term debt ratio of the corporate system
6. Allowed rate of return on the long-term debt of the system
7. Book value of the long-term debt of the parent

TABLE 6

ASSUMPTIONS MADE FOR ANALYZING THE CS/RR ATTRIBUTES

The following assumptions were made for purposes of analyzing the capital structure/rates of return attributes:

1. The percentage of regulated affiliates in each corporate system was 50 percent.

2. The amount of net operating loss in each corporate system was equal to 30 percent of the total positive taxable income of the respective system.

3. 50 percent of each net operating loss was a chronic loss.

4. 50 percent of each chronic loss arose from affiliates in each corporate system whose operations were related to the operations of the respective subsidiary utility.

5. The long-term debt ratio of each parent corporation was 20 percent greater than the long-term debt ratio of its respective subsidiary utility.

6. The book value of the long-term debt of each parent corporation was 50 percent greater than the book value of the long-term debt of its respective subsidiary utility.

7. The long-term debt ratio of each parent corporation when using its entire capital structure was 25 percent lower than its regular long-term debt ratio.

8. Each parent corporation owned 100 percent of the common equity of its respective subsidiary utility.

9. The long-term debt ratio of each corporate system was 10 percent greater than the long-term debt ratio of its respective subsidiary utility.

8. Percentage of the parent's ownership in the common equity of the utility

9. Long-term debt ratio of the parent using its entire capital structure.

Allowed Rate of Return on the Long-Term Debt of the Utility

The variations in this attribute that were studied were as follows:

1. 7% allowed rate of return on the long-term debt of the utility

2. 9% allowed rate of return on the long-term debt of the utility

3. 11% allowed rate of return on the long-term debt of the utility

The above rates were assumed for 19X1 in the study and were held constant for the five years of analysis

Allowed Rate of Return on the Common Equity of the Utility

The variations in this attribute that were studied were as follows:

1. 14% allowed rate of return on the common equity of the utility

2. 15.5% allowed rate of return on the common equity of the utility

3. 17% allowed rate of return on the common equity of the utility

The above rates were assumed for 19X1 in the study and were held constant for the five years of analysis. The rates of returns were selected from the range of rates found to be allowed in recent electric rate cases as set forth in the Public Utilities Fortnightly survey.[26]

---

[26] Ibid.

Long-Term Debt Ratio of the Parent and the System

These two attributes were varied simultaneously. This was done to avoid the complexity of interaction effects among these two attributes in this initial analysis. Future research could be performed in which these two attributes were not assumed to vary simultaneously.

In determining the level of these two attributes it was assumed that the long-term debt ratio of the parent was greater than the long-term debt ratio of the utility. This assumption was based on the fact that in most cases subsidiaries have a higher equity ratio than their parent, and thus a lower debt ratio. In addition, it was assumed that the long-term debt ratio of the system was lower than the long-term debt ratio of the parent, but higher than the long-term debt ratio of the utility. The system's long-term debt ratio represents an average of the long-term debt ratios of all the affiliates in the system. It was assumed the average long-term debt ratio was midway between the long-term debt ratio of the parent and the long-term debt ratio of the utility.

These two attributes were specified in terms of the long-term debt (LTD) ratio of the utility as follows:

1. Parent's LTD ratio is X% greater than utility's LTD ratio

2. System's LTD ratio is X% greater than utility's LTD ratio

These two attributes were required only for the year 19X5 in the study.

The variations in these two attributes that were studied were as follows:

1. Parent's LTD ratio is 10% greater than the utility's LTD ratio; system's LTD ratio is 5% greater than the utility's LTD ratio

2. Parent's LTD ratio is 20% greater than the utility's LTD ratio; system's LTD ratio is 10% greater than the utility's LTD ratio

3. Parent's LTD ratio is 40% greater than the utility's LTD ratio; system's LTD ratio is 20% greater than the utility's LTD ratio

Although the above variations were arbitrarily selected, they appeared to be reasonable selections for an initial investigation into the effects of these attributes on a utility's tax allowance.

Allowed Rate of Return on the Long-Term Debt of the Parent and the System

These two attributes were also varied simultaneously for the same reasons as noted above. In determining the level of these two attributes it was assumed that the allowed rate of return on the long-term debt of the parent was less than the allowed rate of return on the long-term debt of the utility. This was because in most situations the parent is able to issue debt at a lower interest rate than the subsidiary. The allowed rate of return on the long-term debt of the system represents the average allowed rate of return for the affiliates. Therefore, it was assumed it would be greater than the allowed rate of return on the long-term debt of the parent, but less than the allowed rate of return on the long-term debt of the utility. Again, as above, the average was assumed to be midway between the utility's rate of return and the parent's rate of return.

These two attributes were specified in terms of the allowed rate of return (RR) for the utility as follows:

1. Parent's RR on LTD is X% less than the utility's RR on LTD

2. System's RR on LTD is X% less than the utility's RR on LTD

These two attributes were only necessary for the year 19X5 in the study.

The variations in these two attributes were as follows:

1. Parent's RR on LTD is 10% less than the utility's RR on LTD; system's RR on LTD is 5% less than the utility's RR on LTD

2. Parent's RR on LTD is 20% less than the utility's RR on LTD; system's RR on LTD is 10% less than the utility's RR on LTD

3. Parent's RR on LTD is 40% less than the utility's RR on LTD; system's RR on LTD is 20% less than the utility's RR on LTD

As for the above attributes, the variations in these two attributes were selected arbitrarily. However, it was determined their selection was reasonable for an initial investigation into the effects of the attributes.

Book Value of the Long-Term Debt of the Parent

The interest expense of the parent corporation was the actual attribute necessary to calculate the tax allowance under certain methods. To compute the interest expense of the parent the following equation was used:

$$\text{Interest Expense of the Parent} = [\text{Book Value of Parent's LTD}] \times [\text{Allowed Rate of Return on Parent's LTD}]$$

By varying the book value of the long-term debt of the parent, the interest expense of the parent was automatically varied. It should be noted that variations in this attribute allowed for the recognition of various "sized" parent companies.

Variations in this attribute were specified in terms of the book value of the long-term debt of the utility as follows: book value of the parent's LTD is X% greater than the book value of the utility's LTD.

The book value of the utility's LTD was defined as follows:

Book Value of Utility's LTD = [Rate Base] x [LTD Ratio]

The variations studied in this attribute were as follows:

1. Book value of the parent's LTD is 25% greater than the book value of the utility's LTD
2. Book value of the parent's LTD is 50% greater than the book value of the utility's LTD
3. Book value of the parent's LTD is 75% greater than the book value of the utility's LTD

Percentage of Parent's Ownership in the Utility's Common Equity

This attribute was necessary only for the year 19X5. Variations made in the attribute were as follows:

1. Parent owns 25% of the utility's common equity
2. Parent owns 50% of the utility's common equity
3. Parent owns 75% of the utility's common equity
4. Parent owns 100% of the utility's comon equity

The above variations were arbitrary, but appeared reasonable for an initial analysis into the effects this attribute would have on the amount of tax allowance.

Long-Term Debt Ratio of the Parent Using the Entire Capital Structure of the Parent

This attribute is present in only one of the methods, the Muncie Remand method and was needed for only one year of the study, 19X5.

The definition of "entire capital structure" was set forth in the explanation of this method in Chapter 5.

The attribute was specified in terms of the regular long-term debt ratio of the parent as follows: parent's LTD ratio using its entire capital structure is X% less than its regular LTD ratio.

The variations made in this attribute were as follows:

1. Parent's LTD ratio using its entire capital structure is 10% less than its regular LTD ratio
2. Parent's LTD ratio using its entire capital structure is 25% less than its regular LTD ratio
3. Parent's LTD ratio using its entire capital structure is 40% less than its regular LTD ratio

Again, the above variations were arbitrarily selected, however, for an initial analysis into the effects of this attribute, the variations appeared reasonable.

Identification of the Economic Implications to the Ratepayers

In Part II of the study the economic implications to the ratepayers of a utility of any differences in the amount of tax allowance allowed under the various methods was addressed. To analyze these effects, the amount of rates a ratepayer of the utility would pay was computed for each of the nine subjects, under each of the methods for each of the attribute variations. An analysis was then made for each utility comparing:

1. The amount of rates assessed the ratepayers of the utility under each regulatory method
2. The amount of rates assessed the ratepayers of the utility under the stand-alone method as compared to the amount of rates assessed the ratepayers under the other regulatory methods

The amount of rates a utility is allowed to assess its customers is dependent upon its annual revenue requirement. Therefore economic implications to the ratepayers were measured in terms of changes in each utility's annual revenue requirement. The revenue requirement formula for a utility is as follows:

$$RR = [r \times [RB_u]] + D^s + C + T_a + [z \times [D^a - D^s]]$$

where: RR = allowed or required revenue (revenue requirement)

r = allowed rate of return

RB_u = net value of jurisdictional utility plant

D^s = total amount of straight line depreciation taken on books

C = operating costs (except interest and income taxes)

T_a = federal income tax allowance granted the utility under a particular method (computed in Subpart C of Part I of the study)

z = statutory tax rate

D^a = total amount of accelerated depreciation taken on tax return

Given the above formula it can be seen that the revenue requirement for a particular utility, computed under one method, as compared to the revenue requirement computed under another method will differ for that utility by only the tax allowance amounts, T_a. Therefore, to analyze the economic implications to a ratepayer of two different methods, the difference between the two tax allowance amounts must be compared:

$$\Delta RR = RR_{(\text{Method 1})} - RR_{(\text{Method 2})}$$

$$= \left[[r \times RB_u] + D^s + C + T_{a1} + [z \times [D^a - D^s]]\right] -$$

$$\left[[r \times RB_u] + D^s + C + T_{a2} + [z \times [D^a - D^s]]\right]$$

$$= T_{a1} - T_{a2}$$

where: T_{a1} = federal income tax allowance granted the utility under method #1

T_{a2} = federal income tax allowance granted the utility under method #2

The economic implications to a ratepayer of one method versus another was measured in the study in terms of the amount of tax allowance computed under each of the methods.

The economic implications of a particular method to a ratepayer was further specified in terms of per-kilowatt-hour. To obtain a per-kilowatt-hour rate the actual amount of kilowatt hours generated was obtained from Moody's Public Utility Manual for each of the three domestic electric utilities. These amounts were used as the respective amount of kilowatt hours generated for the three hypothetical utilities. Thus the economic implication of a particular method to a ratepayer was computed as follows:

$$\text{Economic implication to ratepayer under Method \#1} = \frac{\text{Tax allowance under Method \#1}}{\text{Total KWH generated by utility}}$$

$$= \text{Per-KWH effect of Method \#1 on ratepayer}$$

To analyze the economic implications to a ratepayer of one method versus another, the per-KWH effect of each method was compared. The comparison sets forth the amount of increase or decrease in rates a

ratepayer would realize on a per-KWH basis because one regulatory method was used by the utility as compared to another method.

Identification of the Economic Implications to the Shareholders

Calculation of the Utility's Cash Flow

In Part II of the study the economic implications to the shareholders of a utility, of any differences in the amount of tax allowance allowed under the various methods, was also addressed. To analyze these effects, the amount of income a shareholder of the utility would earn was computed for each of the nine subjects under each of the methods for each of the attribute variations. An analysis was then made for each utility comparing:

1. The amount of income earned by the shareholders of the utility under each method
2. The amount of income earned by the shareholders of a utility if the stand-alone method was used to compute the utility's tax allowance as compared to the amount of income the shareholders of the utility would earn if one of the other methods was used

A shareholder is concerned with the amount of dividend income and capital gains he/she can earn on his/her investment. Both of these forms of shareholder income have been shown to be dependent upon the cash flow of the corporation. Therefore, in this study, economic implications to a shareholder were measured in terms of changes in the utility's annual cash flow. The cash flow formula for a utility is as follows:

$$CF = RR - C - i - T_{paid}$$

where: CF = cash flow

RR = allowed or required revenue (revenue requirement)

C = operating costs (except interest and income taxes)

i = interest expense

T_{paid} = amount of actual federal income tax paid during the year (i.e., the utility's tax liability)

The above cash flow formula would appear as follows if RR was replaced with the previously noted revenue requirement formula:

$$CF = \left[[r \times RB_u] + D^s + C + T_a + [z \times [D^a - D^s]] - C - i - T_{paid}\right]$$

$$= \left[[r \times RB_u] + D^s + T_a + [z \times [D^a - D^s]] - i - T_{paid}\right]$$

Assuming the utility pays out 100 percent of its excess net cash flow to its shareholders in the form of dividends, to analyze the economic implications to a shareholder of one regulatory method versus another, only the respective tax allowance amounts and the respective tax paid amounts are needed:

$$EE_s = CF_{(Method\ 1)} - CF_{(Method\ 2)}$$

$$= \left[[r \times RB_u] + D^s + T_{a1} + [z \times [D^a - D^s]] - i - T_{paid1}\right]$$

$$- \left[[r \times RB_u] + D^s + T_{a2} + [z \times [D^a - D^s]] - i - T_{paid2}\right]$$

$$= [T_{a1} - T_{paid1}] - [T_{a2} - T_{paid2}]$$

where: EE_s = economic effect to shareholder

T_{a1} = federal income tax allowance granted the utility under method #1

T_{paid1} = federal income tax paid by the utility under method #1

T_{a2} = federal income tax allowance granted the utility under method #2

T_{paid2} = federal income tax paid by the utility under method #2

Calculation of the Amount of Tax Paid by the Utility

To compute the utility's allocated share of the consolidated tax liability, T_{paid}, the separate return liability method and a discretionary allocation method, as set forth in the consolidated tax return regulations, were used. The Treasury regulations set forth four different methods that may be used to allocate a system's consolidated tax liability among its affiliates, for purposes of computing the earnings and profits of each of the affiliates. Explanation of these four methods is set forth in Chapter 3. The four methods are:

1. Taxable income method
2. Separate return liability method
3. Tax increase method
4. Discretionary allocation method

The "taxes paid" amount used in this study was computed under two different methods: (1) the separate return liability method, and (2) a discretionary allocation method. The two different methods were used to satisfy two different assumptions:

1. First assumption: the affiliates agreed to only allocate the actual consolidated tax liability among the affiliates
2. Second assumption: the affiliates agreed to allocate the actual consolidated tax liability among the affiliates and to make compensating tax payments to those affiliates that realized tax losses

The separate return liability method was used to compute the "taxes paid" amount under assumption 1. The allocation of the consolidated tax liability to a utility under this method would be as follows:

$$TL_u = TI_u \times t$$

$$TL_{pa} = [PTI_s \times t] - TC_s$$

$$TE_u = \frac{TL_u}{TL_{pa}} \times CTL$$

$$T_{paid} = TE_u$$

where: TL_u = separate return tax liability of the utility

TI_u = taxable income of the utility

t = statutory tax rate

TL_{pa} = total separate return tax liability of the positive income affiliates

PTI_s = positive taxable income of the system including the taxable income of the utility

TC = tax credits generated by the positive income affiliates

TE_u = tax expense of the utility

CTL = actual consolidated tax liability of the system

It was assumed in the study that all tax credits in the system were earned by affiliates other than the utility.

Some affiliated corporations provide for compensating payments to be made to those affiliates that realize tax losses. Compensating payments are made to those affiliates by the affiliates that realize tax profits. The profit affiliates, therefore, pay their allocated share of the actual consolidated tax liability in addition to paying their share of the compensating payments. Compensating payments are allowed under the discretionary allocation method. A discretionary allocation method was used to compute the "taxes paid" amount under

assumption 2. For the discretionary allocation method used in this study it was assumed that:

1. The affiliates agreed to allocate the consolidated tax liability under the separate return liability method
2. The compensating tax payments were made by those members whose allocated share of the consolidated tax liability was less than their hypothetical separate return tax liability
3. The compensating tax payments were made to those members whose losses or credits generated such tax reductions
4. All tax payments and tax compensating payments were made to the common parent, which disbursed such payments in accordance with the agreement

The portion of the consolidated tax liability allocated to the utility and the utility's share of any compensating tax payments were calculated as follows:

$$TE_u = \frac{TL_u}{TL_{pa}} \times CTL$$

$$TR_s = [NCL_s + CL_s] \times t$$

$$CTP_u = [TR_s + TC_s] \times \frac{TL_u}{TL_{pa}}$$

$$T_{paid} = TE_u + CTP_u$$

where: TE_u = tax expense of the utility

TL_u = separate return liability of the utility

TL_{pa} = total separate return liability of the positive income affiliates

CTL = consolidated tax liability of the system

TR_s = tax recoveries of the system

NCL_s = nonchronic tax losses of the system

CL_s = chronic tax losses of the system

t = statutory tax rate

TC_s = tax credits earned by the system

CTP_u = compensating tax payment made by the utility

Under the discretionary allocation method T_{paid} is not allowed to be greater than the utility's separate return tax liability.

Calculation of the Dividend Income to the Shareholder

As noted above, the net cash flow to a shareholder under a particular regulatory method was computed by subtracting the amount of taxes paid by the utility from the amount of tax allowance earned by the utility under that particular method:

$$CF = T_a - T_{paid}$$

To compute the amount of dividend income that would be available to a shareholder it was assumed:

1. All net cash available to the utility was paid out to its shareholders
2. Each utility had 1,000 shareholders each holding an equal number of shares in the utility

Therefore, the amount of dividend income available to a shareholder of a utility under a particular method was computed by dividing the amount of cash generated under that method by 1,000:

$$D = \frac{CF}{1,000}$$

It should be noted that because two different methods were used to compute the "taxes paid" amount, two different dividend income amounts

were calculated for each of the nine subjects under each of the regulatory methods for each of the attribute variations.

To analyze the economic implications to a shareholder of one method versus another, the amount of dividend income earned by the shareholder under each of the methods was compared. The comparison sets forth the amount of increase or decrease in dividend income a shareholder would realize because one regulatory method was used by the utility as compared to another method.

Volume 2

CHAPTER 7

ANALYSIS OF RESULTS

This chapter presents the results of the study and evaluates the results in terms of the stated research objectives. The first section provides an indepth analysis of the results of the tests performed on the attributes relating to the net operating loss. The second section provides an indepth analysis of the results of the tests performed on the attributes relating to capital structures and rates of return. The analyses are presented in terms of the amount of rates a ratepayer of the utility would be charged and in terms of the amount of dividend income a shareholder of the utility would receive under each of the methods.

Analysis of the Attributes Relating to the Net Operating Loss

This section of the chapter provides an analysis of the results obtained for the ratepayer and the shareholder when the attributes relating to the net operating loss were varied under the different methods. The purpose of studying these attributes was to identify the effect they had, if any, on the tax allowances computed under the effective tax rate methods. Effective tax rate methods have been used by commissions to compute a jurisdictional utility's tax allowance in those situations where a portion of the consolidated tax savings arose from tax losses realized by the utility's affiliates.

It was found in this section of the data analysis that the ratepayers and shareholders were affected by changes in the NOL attributes when each utility's tax allowance was computed under the following effective tax rate methods:

1. Cities Service Gas Company
2. United Gas Pipe Line Company
3. Mechanic Falls Water Company
4. Caribou Water Works
5. Newton Water Company
6. West Penn Power Company
7. Dauphin Consolidated Water Supply Company
8. Iowa Public Service

The tax allowance computed under the Continental Telephone Company of Maine method was also found to be affected by changes in some of the NOL attributes. It should be noted that the Continental Telephone Company of Maine method is the only method studied that uses an imputed interest method along with an effective tax rate method to compute a utility's tax allowance. Therefore, the results obtained under this method are not completely consistent with either the results obtained under the effective tax rate methods or the results obtained under the imputed interest methods.

In three of the NOL analyses, under every method except the Narragansett Electric Company method and the Brockton Edison Company method, the relative size of a utility in relationship to its affiliates was not found to have an effect on either the amount of rates a ratepayer would be charged or on the amount of dividend income a shareholder would receive (see Chapter 6 for a discussion of this

attribute). As a result, for these three NOL analyses, under every method except the Narragansett Electric Company method and the Brockton Edison Company method, the amount of rates charged a ratepayer and the amount of dividend income earned by a shareholder were found to be the same whether the utility's taxable income represented 20 percent, 40 percent, or 60 percent of the total positive taxable income of the system. The results obtained under the following three analyses are therefore set forth in the data analysis tables in terms of three separate utilities, as opposed to setting forth the results in terms of nine different utilities (see Chapter 6):

1. Analysis of the amount of net operating loss
2. Analysis of the type of net operating loss
3. Analysis of the percentage of chronic loss arising from affiliates having operations related to the operations of the utility

The data listed in the tables for these three analyses was that obtained when each utility's taxable income represented 20 percent of the total positive taxable income of its respective system. The results experienced under the Naragansett Electric Company method and the Brockton Edison Company method when the utility's taxable income represented either 40 percent or 60 percent of the total positive taxable income of its respective system are set forth in footnotes to the applicable tables.

For the NOL analysis that dealt with varying the percentage of regulated affiliates, the relative size of a utility in relationship to its affiliates was found to have an effect on both the amount of rates charged a ratepayer and on the amount of dividend income earned by a shareholder. Therefore, for that analysis, the results are set

forth in the data analysis tables in terms of the relative size of the utility (i.e., 20%, 40%, 60%).

In all four of the NOL analyses the results obtained under the Narragansett Electric Company method were found to be identical to the results obtained under the Brockton Edison Company method. Therefore, in the data analysis tables the results obtained under both of these methods are set forth only under the Narragansett Electric Company method.

Analysis of the Amount of Net Operating Loss

In performing this analysis the only additional assumption made, beyond the assumptions set forth in Table 5 in Chapter 6, was that the NOL was a nonchronic tax loss. Variations in the size of the chronic loss were made in a following analysis.

This analysis was performed using both 30 percent and 75 percent for the regulated percentage. The results obtained using the 30 percent factor were identical to the results obtained using the 75 percent factor. Variations in the regulated percentage were made in a following analysis.

Effect on the Ratepayer

Table 7 sets forth the percentage the amount of rates charged per KWH under each respective method either exceeded (+) or fell below (-) the amount of rates charged per KWH under the stand-alone method, when none of the utilities' affiliates realized a net operating loss (i.e., NOL = 0). From the results listed in this table it can be seen that the amount of rates charged under the effective tax rate methods was either equivalent to, or up to 19 percent below, the

TABLE 7

ANALYSIS OF THE EFFECT THE AMOUNT OF NOL HAS ON THE RATEPAYER

Method	Utility #1	Utility #2	Utility #3	Mean
Stand-alone (utility's interest)	.0079[a]	.0080[a]	.0122[a]	
Stand-alone (parent's interest)	-21%[b]	-27%[b]	-18%[b]	-22%
Cities Service Gas Co.	-15%	-15%	-15%	-15%
United Gas Pipe Line Co.	-19%	-19%	-19%	-19%
Mechanic Falls Water Co.	--	--	--	--
Caribou Water Works	--	--	--	--
Newton Water Co.	-18%	-18%	-18%	-18%
West Penn Power Co.	--	--	--	--
Dauphin Consolidated Water Supply Co.	--	--	--	--
Iowa Public Service	--	--	--	--
Narragansett Electric Co.	-14%[c]	-20%[c]	-12%[c]	-15%
Southwestern Bell	--	--	--	--
United Telephone Co. of Florida	-30%	-33%	-27%	-30%
New England Telephone & Telegraph Co.	-22%	-27%	-18%	-22%
Muncie Remand	-17%	-21%	-14%	-17%
Continental Telephone Co. of Maine	-81%	-113%	-69%	-78%

[a]Effect on the ratepayer: the rate per KWH amount charged the ratepayer.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, as compared to the rate per KWH amount charged the ratepayer under the stand-alone method.

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-28%	-42%
Utility #2:	-39%	-59%
Utility #3:	-24%	-36%

amount of rates charged under the stand-alone method. On the other hand, it can be seen that the amounts charged under the imputed interest methods were either equivalent to, or up to 33 percent below, the amount of rates charged under the stand-alone method. Therefore, the rates charged under the effective tax rate methods were somewhat higher than the rates charged under the imputed interest methods when no NOL existed.

Among the imputed interest methods, the lowest rates were charged under the United Telephone Company of Florida method, and rates equivalent to those charged under the stand-alone method were charged under the Southwestern Bell method. By ranking the imputed interest methods in terms of the amount of rates charged under them, the following order occurred, with the method that charged the lowest rates being listed first, followed in increasing order by the methods that charged a higher amount:

1. United Telephone Company of Florida
2. New England Telephone & Telegraph Company
3. Muncie Remand
4. Narragansett Electric Company
5. Southwestern Bell

The above ranking was also found for all of the following NOL analyses (see Tables 12 and 22). In addition, it should be noted that the amount of rates charged under the imputed interest methods never varied either as changes were made in the NOL attributes.

Table 8 sets forth a comparison of how the amount of rates charged under each respective method was affected as the size of the NOL increased. The amount of rates charged under those methods listed

TABLE 8

ANALYSIS OF THE EFFECT VARYING THE AMOUNT OF NOL HAS ON THE RATEPAYER

Method	Size of NOL 15% Mean	30% Mean	50% Mean
Cities Service Gas Co.[a]	-2%[b]	-5%[c]	-12%[d]
United Gas Pipe Line Co.[a]	-2%	-6%	-12%
Caribou Water Works[a]	-25%	-44%	-65%
Newton Water Co.[a]	-26%	-46%	-69%
Iowa Public Service[a]	-14%	-27%	-45%

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the NOL was 15 percent, as compared to the rate per KWH amount charged the ratepayer when there was no NOL realized in the system.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the NOL was 30 percent, as compared to the rate per KWH amount charged the ratepayer when there was no NOL realized in the system.

[d]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the NOL was 50 percent, as compared to the rate per KWH amount charged the ratepayer when there was no NOL realized in the system.

in Table 8 was found to be impacted by an increase in the size of the NOL. On the other hand, the amount of rates charged under those methods not listed in Table 8 was not found to differ, as the size of the NOL increased, from the amount of rates charged when no NOL existed.

In reviewing the attributes of the methods (see Table 4 in Chapter 6) the tax allowances computed under the following methods were expected to be affected by either the existence of a NOL or by the size of the NOL:

1. Cities Service Gas Company
2. United Gas Pipe Line Company
3. Mechanic Falls Water Company
4. West Penn Power Company
5. Dauphin Consolidated Water Supply Company
6. Iowa Public Service
7. Continental Telephone Company of Maine

In this analysis, however, it was found that the ratepayers of each utility were affected by an increase in the size of the NOL only under the following methods:

1. Cities Service Gas Company
2. United Gas Pipe Line Company
3. Caribou Water Works
4. Newton Water Company
5. Iowa Public Service

Under both the Cities Service Gas Company method and the United Gas Pipe Line Company method, the amount of rates charged was only minimally impacted by an increase in the size of the NOL. However, it

should be noted that initially, when the NOL did not exist, the amount of rates charged under these two methods was approximately 15 to 20 percent below the amount of rates charged under the stand-alone method, whereas the amount of rates charged under the other three methods was initially equivalent to the stand-alone rate.

Under the Iowa Public Service method the rates declined simultaneously with the increase in the size of the NOL. In other words, when the size of the NOL increased to 15 percent, the amount of rates charged under this method declined by approximately 15 percent. Similar effects were noted when the size of the NOL was 30 percent and 50 percent.

The amount of rates charged under the Caribou Water Works method and the Newton Water Company method were not expected to be impacted by the existence of a NOL. However, it was found that increasing the size of the NOL had the greatest effect on the amount of rates charged under these two methods. In fact, the rates declined more than the relative increase in the size of the NOL. Although the size of the NOL is not a factor in the formulas underlying either the Caribou Water Works method or the Newton Water Company method, the actual net consolidated tax liability of the system affects the amount of tax allowance computed under both of these methods. Apparently because the size of the NOL would affect the size of the consolidated tax liability, the existence of the NOL was found to impact the amount of rates charged under these two methods.

Although it was expected that the amount of rates charged under the following methods would be affected by an increase in the size of the NOL, no variation in rates was so noted in this analysis:

1. Mechanic Falls Water Company
2. West Penn Power Company
3. Dauphin Consolidated Water Supply Company
4. Continental Telephone Company of Maine

It appears the amount of rates charged was not affected by this attribute change because the critical factor under these methods is the existence of a chronic tax loss in the system. In this analysis the loss was assumed to be entirely nonchronic. However, it was found in the next analysis that when the loss in the system was assumed to be a chronic loss the amount of rates charged under these methods did vary as the size of the NOL increased.

Effect on the Shareholder

Table 9 sets forth the percentage the amount of dividend income earned per shareholder either exceeded (+) or fell below (-) the amount of dividend income earned per shareholder under the stand-alone method when none of the utilities' affiliates realized a NOL. It should be noted that the results obtained with compensating tax agreements were identical to the results obtained without tax compensating agreements. Since compensating tax agreements effectively reimburse loss affiliates for the tax loss they incurred, compensating tax payments are only made when a NOL is realized. Therefore, since a NOL was not realized in this situation, the amount of tax paid by each utility was the same whether or not compensating tax agreements were in force. On the other hand, when a NOL was realized by the utilities' affiliates, the amount of dividend income earned per shareholder with compensating tax agreements differed from the amount of

TABLE 9

ANALYSIS OF THE EFFECT THE AMOUNT OF
NOL HAS ON THE SHAREHOLDER
(With and Without CTA)
(NOL = -0-)

Method	Utility #1	Utility #2	Utility #3	Mean
Stand-Alone (utility's interest)	211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-33%	-33%	-33%	-33%
United Gas Pipe Line Co.	-41%	-42%	-41%	-41%
Mechanic Falls Water Co.	--	--	--	--
Caribou Water Works	--	--	--	--
Newton Water Co.	-40%	-40%	-41%	-40%
West Penn Power Co.	--	--	--	--
Dauphin Consolidated Water Supply Co.	--	--	--	--
Iowa Public Service	--	--	--	--
Narragansett Electric Co.	-31%[c]	-43%[c]	-26%[c]	-33%
Southwestern Bell	--	--	--	--
United Telephone Co. of Florida	-64%	-73%	-59%	-65%
New England Telephone & Telegraph Co.	-48%	-60%	-41%	-50%
Muncie Remand	-36%	-45%	-30%	-37%
Continental Telephone Co. of Maine	-176%	-243%	-148%	-189%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-62%	-92%
Utility #2:	-87%	-128%
Utility #3:	-52%	-78%

dividend income earned without compensating tax agreements (see Tables 15, 16, 17, 18, 19, 20, 21, 24, 25, and 26).

In reviewing Table 7 and Table 9 it can be seen that when the NOL did not exist, the decline in the amount of dividend income earned per shareholder under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method, was approximately twice the amount of decline in the amount of rates charged under the respective method for each of the following methods:

1. Stand-alone (parent's interest)
2. Cities Service Gas Company
3. United Gas Pipe Line Company
4. Newton Water Company
5. Narragansett Electric Company
6. United Telephone Company of Florida
7. New England Telephone & Telegraph Company
8. Muncie Remand
9. Continental Telephone Company of Maine

For example, under the Cities Service Gas Company method, the amount of rates charged a ratepayer of Utility 1 was 15 percent less than the amount of rates the ratepayer would be charged under the stand-alone method given no NOL existed. However, a shareholder of Utility 1 would receive 33 percent less dividend income under the Cities Service method as compared to the amount of dividend income he would receive if the stand-alone method was used. Thus, in this analysis a reduction in the amount of rates charged under one method, as compared to the amount of rates charged under the stand-alone method, produced a

reduction twice as large in the amount of dividend income a shareholder would receive under the respective method, as compared to the amount of dividend income the shareholder would receive under the stand-alone method.

Table 10 sets forth a comparison of how the amount of dividend income a shareholder would earn under the various methods was affected as the size of the NOL increased, given the amount of tax paid by the utility was computed without compensating tax agreements.

Under the following methods the amount of dividend income increased as the size of the NOL increased:

1. Stand-alone (utility's interest)
2. Stand-alone (parent's interest)
3. Cities Service Gas Company
4. United Gas Pipe Line Company
5. Mechanic Falls Water Company
6. West Penn Power Company
7. Dauphin Consolidated Water Supply Company
8. Narragansett Electric Company
9. Southwestern Bell
10. United Telephone Company of Florida
11. New England Telephone & Telegraph Company
12. Muncie Remand
13. Continental Telephone Company of Maine

Under the following methods, the amount of increase in dividend income was identical to the amount of increase in dividend income generated under the stand-alone method; this increase was

TABLE 10

ANALYSIS OF THE EFFECT VARYING THE AMOUNT OF NOL HAS ON THE SHAREHOLDER
(Without CTA)

Method	Size of NOL: 15% Utility	15% Mean	30% Utility	30% Mean	50% Utility	50% Mean
Stand-Alone (utility's interest)[a]		+19%[b]		+39%[c]		+66%[d]
Stand-Alone (parent's interest)						
Utility #1	+37%		+73%		+122%	
Utility #2	+50%		+100%		+163%	
Utility #3	+29%		+59%		+100%	
Mean		+39%		+77%		+128%
Cities Service Gas Co.						
Utility #1	+23%		+44%		+78%	
Utility #2	+25%		+45%		+65%	
Utility #3	+22%		+44%		+67%	
Mean		+23%		+44%		+70%
United Gas Pipe Line Co.						
Utility #1	+27%		+52%		+75%	
Utility #2	+29%		+51%		+77%	
Utility #3	+25%		+50%		+44%	
Mean		+27%		+51%		+65%
Mechanic Falls Water Co.[a]		+19%		+39%		+66%
Caribou Water Works[a]		-34%		-57%		-75%
Newton Water Co.[a]		-43%		-71%		-93%
West Penn Power Co.[a]		+19%		+39%		+66%
Dauphin Consolidated Water Supply Co.[a]		+19%		+39%		+66%
Iowa Public Service[a]		-10%		-20%		-33%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the NOL was 15 percent as compared to the amount of dividend income earned per shareholder when there was no NOL realized in the system.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the NOL was 30 percent as compared to the amount of dividend income earned per shareholder when there was no NOL realized in the system.

[d]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the NOL was 50 percent as compared to the amount of dividend income earned per shareholder when there was no NOL realized in the system.

TABLE 10--Continued

Method	Size of NOL: 15% Utility	15% Mean	30% Utility	30% Mean	50% Utility	50% Mean
Narragansett Electric Co.						
Utility #1	+29%[e]		+57%[f]		+95%[g]	
Utility #2	+35%[e]		+71%[f]		+115%[g]	
Utility #3	+25%[e]		+55%[f]		+90%[g]	
Mean		+30%		+61%		+100%
Southwestern Bell[a]		+19%		+39%		+65%
United Telephone Co. of Florida						
Utility #1	+56%		+111%		+185%	
Utility #2	+75%		+144%		+244%	
Utility #3	+45%		+50%		+164%	
Mean		+59%		+102%		+198%
New England Telephone & Telegraph Co.						
Utility #1	+30%		+34%		+128%	
Utility #2	+50%		+100%		+163%	
Utility #3	+38%		+69%		+113%	
Mean		+42%		+69%		+135%
Muncie Remand						
Utility #1	+30%		+61%		+102%	
Utility #2	+36%		+70%		+118%	
Utility #3	+26%		+58%		+95%	
Mean		+31%		+63%		+105%
Continental Telephone Co. of Maine						
Utility #1	+25%		+52%		+115%	
Utility #2	+13%		+27%		+45%	
Utility #3	+38%		+77%		+131%	
Mean		+25%		+52%		+97%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	+52%	+241%
Utility #2:	+150%	+71%
Utility #3:	+38%	+83%

[f]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	+104%	+488%
Utility #2:	+300%	+135%
Utility #3:	+85%	+183%

[g]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three uitlities:

	40%	60%
Utility #1:	+172%	+818%
Utility #2:	+500%	+229%
Utility #3:	+139%	+300%

approximately one-third greater than the relative increase in the size of the NOL:

1. Mechanic Falls Water Company
2. West Penn Power Company
3. Dauphin Consolidated Water Supply Company
4. Southwestern Bell

Under the following methods, the percentage increase in the amount of dividend income was approximately double the percentage increase in the size of the NOL:

1. Narragansett Electric Company
2. Muncie Remand
3. Continental Telephone Company of Maine

The amount of dividend income increased significantly more than the percentage increase in the size of the NOL under the following methods:

1. Stand-alone (parent's interest)
2. United Telephone Company of Florida
3. New England Telephone & Telegraph Company

The exact amount of increase in dividend income varied among the three utilities under these three methods, therefore, the specific results experienced under these methods must be dependent upon the specific financial characteristics of each utility.

The amount of dividend income declined as the size of the NOL increased only under the following methods:

1. Caribou Water Works
2. Newton Water Company
3. Iowa Public Service

The percentage decline was the largest under the Newton Water Company method, and was the least under the Iowa Public Service method. In comparing the results listed in Table 8 with the results listed in Table 10, it is noted that as the NOL increased, under the Newton Water Company method the decline in the amount of dividend income earned per shareholder was approximately 160 percent greater than the decline in the amount of rates charged under this method. Under the Caribou Water Works method the decline in the amount of dividend income earned per shareholder was approximately 133 percent greater than the decline in the amount of rates charged. On the other hand, under the Iowa Public Service method the decline in the amount of rates charged was greater than the relative decline in the amount of dividend income earned per shareholder. Therefore, under these three methods, given the tax paid amount was computed without compensating tax agreements, the consolidated tax savings realized by each utility was passed through to the ratepayers in the form of lower rates. Only under these three methods did the shareholders experience declines in their dividend income as the size of the NOL increased.

It is interesting to note that for all methods other than the preceeding three, the amount of dividend income earned per shareholder increased as the size of the NOL increased, when the amount of tax paid by the utility was computed without compensating tax agreements. Thus, without compensating tax agreements, the consolidated tax savings realized by each utility when an affiliate reported a tax loss primarily flowed through to the shareholder under all the methods studied in this analysis except for the Caribou Water Works method, the Newton Water Company method, and the Iowa Public Service method.

For these three methods, the consolidated tax savings flowed through to the ratepayers in the form of lower rates.

Table 11 sets forth a comparison of how the amount of dividend income earned per shareholder was affected under the various methods as the size of the NOL increased, given the amount of tax paid by the utility was computed using compensating tax agreements. The tax allowances computed under the methods not listed in Table 11 were not affected by an increase in the size of the NOL. For those methods, as the size of the NOL increased, the amount of dividend income earned per shareholder did not vary from the amount of dividend income earned when no NOL existed.

The same methods under which the ratepayers of each utility were found to be affected by an increase in the size of the NOL (see Table 8) appear in Table 11. However, as the NOL increased, the decline in the amount of dividend income earned was much greater than the decline in the amount of rates charged under each respective method. For the following methods, as the size of the NOL increased, the decline experienced in the amount of dividend income earned per shareholder was approximately twice as great as the decline experienced in the amount of rates charged:

1. Caribou Water Works
2. Iowa Public Service

For the following methods, as the size of the NOL increased, the decline experienced in the amount of dividend income earned was approximately three times as great as the decline experienced in the amount of rates charged:

1. Cities Service Gas Company

TABLE 11

ANALYSIS OF THE EFFECT VARYING THE AMOUNT OF NOL HAS ON THE SHAREHOLDER (With CTA)

Method	Size of NOL 15% Mean	30% Mean	50% Mean
Cities Service Gas Co.[a]	-6%[b]	-14%[c]	-33%[d]
United Gas Pipe Line Co.[a]	-6%	-16%	-37%
Caribou Water Works[a]	-53%	-96%	-141%
Newton Water Co.[a]	-75%	-137%	-202%
Iowa Public Service[a]	-30%	-59%	-99%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease(-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the NOL was 15 percent as compared to the amount of dividend income earned per shareholder when there was no NOL realized in the system.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the NOL was 30 percent as compared to the amount of dividend income earned per shareholder when there was no NOL realized in the system.

[d]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the NOL was 50 percent as compared to the amount of dividend income earned per shareholder when there was no NOL realized in the system.

2. United Gas Pipe Line Company

3. Newton Water Company

Therefore, under these five methods, with compensating tax agreements, the consolidated tax savings realized by each utility were passed through to the ratepayers in the form of lower rates. Under these methods, the shareholders experienced declines in their dividend income as the size of the NOL increased because: (1) the consolidated tax savings did not flow through to them, and (2) the amount of income earned by the utility declined due to lower rates being charged to the ratepayers.

The decline in dividend income earned by the shareholders was greater with compensating tax agreements than without them. In fact, without compensating tax agreements the shareholders experienced an increase in their dividend income under most of the methods as the size of the NOL increased (see Table 10). With compensating tax agreements the amount of dividend income earned per shareholder did not increase under any of the methods as the size of the NOL increased. In fact, under the methods listed in Table 11, with compensating tax agreements the amount of dividend income earned per shareholder declined as the size of the NOL increased. Without compensating tax agreements all tax benefits generated from the NOL were realized by those affiliates that reported taxable income. The effect of the compensating tax agreements was to allocate the tax benefits realized from the NOL to the affiliates that earned the losses. Apparently this allocation was enough to ensure that under those methods not listed in Table 11 the amount of dividend income earned per shareholder did not vary from the amount earned when no NOL

existed. Thus when compensating tax agreements were in existence, less of the tax benefit from the NOL flowed through to the shareholders.

The results obtained in this analysis appear consistent with the intent underlying those methods that were expected to be affected by an increase in the size of the NOL. Their intent is: (1) to recognize the existence of a consolidated tax savings when an affiliate realizes a NOL, and (2) to pass some or all of those consolidated tax savings on to the ratepayers by reducing the utility's tax allowance, thereby reducing the rates charged the ratepayers. Reduced revenues create the possibility of less dividends being paid to the shareholders. On the other hand, the stand-alone method, as well as some of the other methods, provides for the flow-through of the consolidated tax savings to the shareholders of the utility when a NOL exists in the affiliated system. This was observed as either increases in the amount of dividend income earned by the shareholders as the size of the NOL increased, or, at the minimum, as no change in the amount of dividend income earned per shareholder from that amount earned when no NOL existed.

The intent underlying the Mechanic Falls Water Company method, the West Penn Power Company method, the Dauphin Consolidated Water Supply Company method, and the Continental Telephone Company of Maine method is the same as that underlying the Newton Water Company method. However, variations in the amount of rates charged and in the amount of dividend income earned were not observed under these methods in this analysis since the loss was a nonchronic loss. Variations under

these methods were noted in the next analysis when the NOL was assumed to be chronic.

Analysis of the Type of Net Operating Loss

Two additional assumptions were made in performing this analysis beyond those set forth in Table 5 of Chapter 6:

1. The regulated percentage factor was 75 percent
2. The percentage of the chronic loss that arose from affiliates having operations related to the operations of the utility was 50 percent

This analysis was performed using both 15 percent and 50 percent for the size of the NOL. This was done to determine whether the size of the NOL impacted the results obtained under those methods, noted in the above analysis, for which the type of NOL is the critical factor.

Effect on the Ratepayer

Table 12 sets forth the percentage the amount of rates charged per KWH under each respective method either exceeded (+) or fell below (-) the amount of rates charged per KWH under the stand-alone method, given: (1) the size of the NOL was 15 percent, and (2) the NOL was a nonchronic loss. Table 12 also sets forth the results obtained when the size of the NOL was 50 percent.

When the size of the NOL increased from 15 percent to 50 percent, decreases in the amount of rates charged were noted under the following methods:

1. Cities Service Gas Company
2. United Gas Pipe Line Company
3. Caribou Water Works

TABLE 12

ANALYSIS OF THE EFFECT THE TYPE OF NOL HAS ON THE RATEPAYER
(Chronic Loss % = -0-)

Method	Size of NOL = 15%				Size of NOL = 50%			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	.0079[a]	.0080[a]	.0122[a]		.0079[a]	.0080[a]	.0122[a]	
Stand-Alone (parent's interest)	-21%[b]	-27%[b]	-18%[b]	-22%	-21%[b]	-27%[b]	-18%[b]	-22%
Cities Service Gas Co.	-17%	-17%	-17%	-17%	-25%	-25%	-25%	-25%
United Gas Pipe Line Co.	-21%	-21%	-21%	-21%	-29%	-29%	-29%	-29%
Mechanic Falls Water Co.	--	--	--	--	--	--	--	--
Caribou Water Works	-25	-25%	-25%	-25%	-65%	-65%	-65%	-65%
Newton Water Co.	-29%	-29%	-29%	-29%	-74%	-74%	-74%	-74%
West Penn Power Co.	--	--	--	--	--	--	--	--
Dauphin Consolidated Water Supply Co.	--	--	--	--	--	--	--	--
Iowa Public Service	-14%	-14%	-14%	-14%	-45%	-45%	-45%	-45%

[a]Effect on the ratepayer: the rate per KWH amount charged the ratepayer.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, as compared to the rate per KWH amount charged the ratepayer under the stand-alone method.

TABLE 12--Continued

Method	Size of NOL = 15%				Size of NOL = 50%			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Narragansett Electric Co.	-14%[c]	-20%[c]	-12%[c]	-15%	-14%[d]	-20%[d]	-12%[d]	-15%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-30%	-33%	-27%	-30%	-30%	-33%	-27%	-30%
New England Telephone & Telegraph Co.	-22%	-27%	-18%	-22%	-22%	-27%	-18%	-22%
Muncie Remand	-17%	-21%	-14%	-17%	-17%	-21%	-12%	-17%
Continental Telephone Co. of Maine	-81%	-113%	-69%	-88%	-81%	-113%	-69%	-88%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-28%	-42%
Utility #2:	-39%	-59%
Utility #3:	-24%	-36%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-28%	-42%
Utility #2:	-39%	-59%
Utility #3:	-24%	-36%

4. Newton Water Company

5. Iowa Public Service

These results were consistent with the results obtained under these methods in the first analysis. It should be noted that for the results listed in these two tables the NOL was assumed to be a non-chronic loss.

Table 13 sets forth a comparison of how the amount of rates charged under each respective method was affected as the chronic loss percentage of the NOL increased from 0 percent to 100 percent, given the size of the NOL was 15 percent. Table 14 sets forth a comparison similar to that in Table 13, given the size of the NOL was 50 percent. The amount of rates charged under the methods not listed in either table was not found to be affected by an increase in the percentage of chronic loss in the NOL.

In reviewing the attributes of the methods, the tax allowances computed under the following methods were expected to be impacted by the degree to which the NOL consisted of a chronic loss:

1. Mechanic Falls Water Company

2. West Penn Power Company

3. Dauphin Consolidated Water Supply Company

4. Continental Telephone Company of Maine

The results of this analysis were consistent with this expectation. The amount of rates charged by each utility were impacted by an increase in the percentage of chronic loss in the NOL only under the above four methods.

The amount of rates charged the ratepayer declined the least under the Dauphin Consolidated Water Supply Company method as the

TABLE 13

ANALYSIS OF THE EFFECT VARYING THE CHRONIC LOSS PERCENTAGE HAS ON THE RATEPAYER
(Size of NOL = 15%)

Method	Chronic Loss Percentage 25% Mean	50% Mean	75% Mean	100% Mean
Mechanic Falls Water Co.[a]	-7%[b]	-13%[c]	-19%[d]	-25%[e]
West Penn Power Co.[a]	-3%	-7%	-10%	-14%
Dauphin Consolidated Water Supply Co.[a]	-2%	-3%[f]	-5%	-7%
Continental Telephone Co. of Maine[a]	-7%	-14%	-19%	-25%

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the chronic loss was 25 percent of the NOL, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the chronic loss was 50 percent of the NOL, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[d]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the chronic loss was 75 percent of the NOL, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[e]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the NOL was 100 percent chronic as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[f]See Table 21 for further analysis of the attribute: percentage of chronic loss arising from affiliates having operations related to the operations of the utility.

TABLE 14

ANALYSIS OF THE EFFECT VARYING THE CHRONIC LOSS PERCENTAGE HAS ON THE RATEPAYER

Method	Chronic Loss Percentage 25% Mean	50% Mean	75% Mean	100% Mean
Mechanic Falls Water Co.[a]	-21%[b]	-38%[c]	-53%[d]	-65%[e]
West Penn Power Co.[a]	-11%	-23%	-33%	-45%
Dauphin Consolidated Water Supply Co.[a]	-6%	-11%[f]	-17%	-23%
Continental Telephone Co. of Maine[a]	-20%	-39%	-52%	-66%

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the chronic loss was 25 percent of the NOL, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the chronic loss was 50 percent of the NOL, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[d]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the size of the chronic loss was 75 percent of the NOL, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[e]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the NOL was 100 percent chronic, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[f]See Table 21 for further analysis of the attribute: percentage of chronic loss arising from affiliates having operations related to the operations of the utility.

percentage of chronic loss in the NOL increased. Compared to the decline experienced under the Dauphin Consolidated Water Supply method, the amount of rates declined approximately twice as much under the West Penn Power Company method, and approximately three times as much under the Mechanic Falls Water Company method and the Continental Telephone Company of Maine method. This same relationship between the methods continued to exist when the size of the NOL was 50 percent (see Table 14).

In comparing the results listed in Table 13 with the results listed in Table 14, it was also noted that when the size of the NOL was 50 percent, the decline in the amount of rates charged under each respective method was three times as great as when the size of the NOL was 15 percent. Thus, when the size of the NOL increased approximately three times, the decline in the amount of rates charged under each respective method was approximately three times the decline in rates experienced when the NOL was 15 percent. This was consistent with the relationship observed under the Iowa Public Service method in the first analysis.

Another comparison to note is that when the size of the NOL was 15 percent the amount of rates charged under all four methods varied simultaneously with the change in the percentage of the chronic loss. For example, when the percentage of the chronic loss increased from 25 percent to 50 percent, the decline in the amount of rates charged approximately doubled. When the size of the NOL was 50 percent, this relationship continued to hold under both the West Penn Power Company method and the Dauphin Consolidated Water Supply Company method. However, under the Mechanic Falls Water Company method and the

Continental Telephone Company of Maine method, the relationship was somewhat less than simultaneous.

The smallest decline in the amount of rates charged may have been experienced under the Dauphin Consolidated Water Supply Company method because a critical factor in that method is the percentage of the chronic loss that arises from affiliates having operations related to the operations of the utility. In this analysis this factor was assumed to be 50 percent. In the next analysis, the effect of varying this factor from 30 percent to 70 percent was studied. In that analysis, it was found that the amount of rates charged declined as the percentage of the chronic loss arising from affiliates having operations related to the operations of the utility increased.

Effect on the Shareholder

Table 15 sets forth the percentage the amount of dividend income earned per shareholder either exceeded (+) or fell below (-) the amount of dividend income earned per shareholder under the stand-alone method given: (1) the size of the NOL was 15 percent, and (2) the NOL was a nonchronic tax loss. The table sets forth the results computed with compensating tax agreements and without such agreements. Table 16 sets forth the same analysis given the size of the NOL was 50 percent.

In reviewing the results listed in Table 12 and Table 15, it was found that the decline in the amount of dividend income earned per shareholder under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method, was approximately twice the amount of decline experienced in the amount

TABLE 15

ANALYSIS OF THE EFFECT THE TYPE OF NOL HAS ON THE SHAREHOLDER
(Chronic Loss % = -0-)
(Size of NOL = 15%)

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	252[a]	71[a]	32[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-38%[b]	-49%[b]	-31%[b]	-39%	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-31%	-30%	-31%	-31%	-37%	-37%	-37%	-37%
United Gas Pipe Line Co.	-38%	-37%	-38%	-38%	-45%	-45%	-44%	-45%
Mechanic Falls Water Co.	--	--	--	--	--	--	--	--
Caribou Water Works	-45%	-45%	-44%	-45%	-54%	-53%	-52%	-53%
Newton Water Co.	-71%	-70%	-72%	-71%	-85%	-85%	-85%	-85%
West Penn Power Co.	--	--	--	--	--	--	--	--
Dauphin Consolidated Water Supply Co.	--	--	--	--	--	--	--	--
Iowa Public Service	-25%	-24%	-25%	-25%	-30%	-30%	-30%	-30%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

TABLE 15--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Narragansett Electric Co.	-25%[c]	-35%[c]	-22%[c]	-27%	-31%[d]	-43%[d]	-26%[d]	-33%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-54%	-61%	-50%	-55%	-64%	-73%	-59%	-65%
New England Telephone & Telegraph Co.	-40%	-49%	-31%	-40%	-48%	-60%	-41%	-50%
Muncie Remand	-31%	-37%	-25%	-31%	-36%	-45%	-30%	-37%
Continental Telephone Co. of Maine	-148%	-206%	-125%	-160%	-176%	-243%	-148%	-189%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-51%	-77%
Utility #2:	-72%	-107%
Utility #3:	-44%	-66%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-62%	-92%
Utility #2:	-87%	-128%
Utility #3:	-52%	-78%

TABLE 16

ANALYSIS OF THE EFFECT THE TYPE OF NOL HAS ON THE SHAREHOLDER
(Chronic Loss % = -0-)
(Size of NOL = 50%)

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	349[a]	99[a]	45[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-28%[b]	-36%[b]	-24%[b]	-29%	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-33%	-33%	-33%	-33%	-55%	-55%	-56%	-55%
United Gas Pipe Line Co.	-38%	-37%	-38%	-38%	-63%	-63%	-63%	-63%
Mechanic Falls Water Co.	--	--	--	--	--	--	--	--
Caribou Water Works	-85%	-85%	-84%	-85%	-141%	-142%	-141%	-141%
Newton Water Co.	-97%	-97%	-98%	-97%	-161%	-162%	-163%	-162%
West Penn Power Co.	--	--	--	--	--	--	--	--
Dauphin Consolidated Water Supply Co.	--	--	--	--	--	--	--	--
Iowa Public Service	-60%	-60%	-60%	-60%	-99%	-98%	-100%	-99%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

TABLE 16--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Narragansett Electric Co.	-18%[c]	-26%[c]	-16%[c]	-20%	-31%[d]	-43%[d]	-26%[d]	-33%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-39%	-44%	-36%	-40%	-64%	-73%	-59%	-65%
New England Telephone & Telegraph Co.	-29%	-36%	-24%	-30%	-48%	-60%	-41%	-50%
Muncie Remand	-22%	-27%	-18%	-22%	-36%	-45%	-30%	-37%
Continental Telephone of Maine	-106%	-147%	-91%	-115%	-196%	-243%	-152%	-197%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-37%	-55%
Utility #2:	-52%	-78%
Utility #3:	-31%	-47%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-62%	-92%
Utility #2:	-87%	-128%
Utility #3:	-52%	-78%

of rates charged, both with and without compensating tax agreements. This was consistent with the relationship found in the first NOL analysis, when comparing the results listed in Table 7 with the results listed in Table 9.

When the size of the NOL was 50 percent, the decline in the amount of dividend income earned per shareholder was approximately twice as great as the decline experienced in the amount of rates charged only with compensating tax agreements. Without compensating tax agreements, the decline in dividend income was approximately 133 percent of the decline experienced in the amount of rates charged. (See Tables 12 and 16).

Consistent with the results obtained in the first NOL analysis, the results listed in Table 15 and Table 16 again show that the shareholders earned less dividend income when compensating tax agreements were used. When the size of the NOL was 50 percent, the difference between the results obtained with and without such agreements was even more dramatic. This may be due to the fact that with a larger NOL the tax benefits in the system were greater. Without compensating tax agreements the utility was able to retain more of the tax benefit realized from the NOL, thus resulting in more dividend income to the shareholders.

Table 17 sets forth a comparison of how the amount of dividend income earned per shareholder was affected under the various methods as the percentage of chronic loss increased, given: (1) the size of the NOL was 15 percent, and (2) the amount of tax paid by the utility was computed without compensating tax agreements. Table 18 sets forth the same analysis given the size of the NOL was 50 percent. For

TABLE 17

ANALYSIS OF THE EFFECT VARYING THE CHRONIC LOSS PERCENTAGE HAS ON THE SHAREHOLDER
(Size of NOL = 15%)
(Without CTA)

Method	Chronic Loss Percentage							
	25%		50%		75%		100%	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Mechanic Falls Water Co.[a]		-12%[b]		-23%[c]		-34%[d]		-45%[e]
West Penn Power Co.[a]		-6%		-12%		-19%		-25%
Dauphin Consolidated Water Supply Co.[a]		-3%		-6%[f]		-9%		-12%
Continental Telephone Co. of Maine								
Utility #1	-4%		-9%		-13%		-18%	
Utility #2	+1%		+3%		+4%		+5%	
Utility #3	-13%		-25%		-38%		-50%	
Mean		-5%		-10%		-16%		-21%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 25 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 50 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[d]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 75 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[e]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the NOL was 100 percent chronic as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[f]See Table 21 for further analysis of the attribute: percentage of chronic loss arising from affiliates having operations related to the operations of the utility.

TABLE 18

ANALYSIS OF THE EFFECT VARYING THE CHRONIC LOSS PERCENTAGE HAS ON THE SHAREHOLDER
(Size of NOL = 50%)
(Without CTA)

Method	Chronic Loss Percentage							
	25%		50%		75%		100%	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Mechanic Falls Water Co.[a]		-28%[b]		-51%[c]		-69%[d]		-85%[e]
West Penn Power Co.[a]		-15%		-30%		-44%		-60%
Dauphin Consolidated Water Supply Co.[a]		-7%		-15%[f]		-22%		-30%
Continental Telephone Co. of Maine								
Utility #1	-82%		-150%		-209%		-255%	
Utility #2	+6%		+13%		+17%		+23%	
Utility #3	-75%		-175%		-225%		-275%	
Mean		-50%		-104%		-139%		-169%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 25 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 50 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[d]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 75 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[e]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the NOL was 100 percent chronic as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[f]See Table 21 for further analysis of the attribute: percentage of chronic loss arising from affiliates having operations related to the operations of the utility.

methods not listed in either table, the amount of dividend income earned per shareholder was not found to be affected by variations in the chronic loss percentage.

Table 19 sets forth a comparison of how the amount of dividend income earned per shareholder was affected under the various methods as the percentage of the chronic loss increased, given: (1) the size of the NOL was 15 percent, and (2) the amount of tax paid was computed using compensating tax agreements. Table 20 sets forth the same comparison given the size of the NOL was 50 percent. The amount of dividend income earned per shareholder was not found to be affected by an increase in the percentage of chronic loss under those methods not listed in the two tables.

As noted from the results listed in Tables 17, 18, 19, and 20, the amount of dividend income earned per shareholder was found to decline only under the following methods as the percentage of the chronic loss increased:

1. Mechanic Falls Water Company
2. West Penn Power Company
3. Dauphin Consolidated Water Supply Company
4. Continental Telephone Company of Maine

When the NOL was 15 percent (see Tables 17 and 19), the relationship between the decline in the amount of dividend income earned per shareholder and the increase in the percentage of the chronic loss was approximately simultaneous under the Mechanic Falls Water Company method, the West Penn Power Company method, the Dauphin Consolidated Water Supply Company method, and for Utility #1 and Utility #3 under the Continental Telephone Company of Maine method. For example, as

TABLE 19

ANALYSIS OF THE EFFECT VARYING THE CHRONIC LOSS PERCENTAGE HAS ON THE SHAREHOLDER
(Size of NOL = 15%)
(With CTA)

Method	Chronic Loss Percentage							
	25%		50%		75%		100%	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Mechanic Falls Water Co.[a]		-15%[b]		-29%[c]		-41%[d]		-53%[e]
West Penn Power Co.[a]		-8%		-15%		-22%		-30%
Dauphin Consolidated Water Supply Co.[a]		-4%		-8%[f]		-11%		-15%
Continental Telephone Co. of Maine								
Utility #1	-4%		-7%		-11%		-13%	
Utility #2	+1%		+2%		+3%		+5%	
Utility #3	-15%		-23%		-31%		-38%	
Mean		-6%		-9%		-13%		-15%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 25 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 50 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[d]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 75 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[e]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the NOL was 100 percent chronic as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[f]See Table 21 for further analysis of the attribute: percentage of chronic loss arising from affiliates having operations related to the operations of the utility.

TABLE 20

ANALYSIS OF THE EFFECT VARYING THE CHRONIC LOSS PERCENTAGE HAS ON THE SHAREHOLDER
(Size of NOL = 50%)
(With CTA)

Method	Chronic Loss Percentage							
	25%		50%		75%		100%	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Mechanic Falls Water Co.[a]		-45%[b]		-82%[c]		-115%[d]		-141%[e]
West Penn Power Co.[a]		-25%		-49%		-74%		-99%
Dauphin Consolidated Water Supply Co.[a]		-12%		-25%[f]		-37%		-49%
Continental Telephone Co. of Maine								
Utility #1	-11%		-20%		-28%		-35%	
Utility #2	+3%		+7%		+9%		+12%	
Utility #3	-17%		-20%		-23%		-25%	
Mean		-8%		-11%		-14%		-16%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 25 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 50 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[d]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the size of the chronic loss was 75 percent of the NOL as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[e]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the NOL was 100 percent chronic as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[f]See Table 21 for further analysis of the attribute: percentage of chronic loss arising from affiliates having operations related to the operations of the utility.

the percentage of the chronic loss increased from 25 percent to 50 percent, the amount of dividend income earned per shareholder declined approximately 200 percent; as the percentage of the chronic loss increased from 25 percent to 75 percent, the amount of dividend income earned per shareholder declined approximately 300 percent. However, when the size of the NOL was 50 percent (see Tables 18 and 20), this relationship continued only under the West Penn Power Company method and the Dauphin Consolidated Water Supply method. It was somewhat less than simultaneous under the Mechanic Falls Water Company method and the Continental Telephone Company of Maine method.

Without compensating tax agreements (see Tables 17 and 18), it may be noted that as the size of the NOL increased from 15 percent to 50 percent (approximately 333 percent), the amount of dividend income earned per shareholder declined by approximately only 233 percent under all the methods except the Continental Telephone Company of Maine method. However, with compensating tax agreements (see Tables 19 and 20), when the size of the NOL increased from 15 percent to 50 percent, the amount of dividend income earned per shareholder declined by approximately 333 percent under the West Penn Power Company method and the Dauphin Consolidated Water Supply method; under the Mechanic Falls Water Company method, the amount of dividend income earned per shareholder declined by slightly less than 300 percent. Thus, as was expected from the results of the first NOL analysis: (1) with compensating tax agreements, the amount of dividend income earned per shareholder was less than the amount earned without compensating tax agreements, and (2) the size of the NOL did affect the results

obtained under these methods, providing a portion of the loss consisted of chronic losses.

It should be noted in Tables 17, 18, 19, and 20 that the amount of dividend income earned under the Continental Telephone Company of Maine method varied significantly between utilities. Thus the specific results experienced by a utility under this method must be dependent upon the specific financial characteristics of each utility; such specifics, most likely, being those related to the capital structure of the utility.

The results obtained in this analysis appear consistent with the underlying intent of these methods; that being that tax benefits from chronic tax losses realized in the system are to flow at least partially to the ratepayers in the form of reduced rates. Such reduced rates would result in less dividend income being paid to the shareholders. The tax benefits derived from such losses would be expected to increase as the percentage of chronic losses increased. The results of this analysis confirmed this expectation. The amount of rates assessed the ratepayers and the amount of dividend income earned by the shareholders under these four methods were found to continue to decline as the percentage of chronic losses increased.

Analysis of the Percentage of Chronic Loss Arising From Affiliates Having Operations Related to the Operations of the Utility

Two additional assumptions were made in performing this analysis beyond those set forth in Table 5 in Chapter 6:

1. The regulated percentage factor was 75 percent
2. The percentage of chronic tax loss in the system was 50 percent

This analysis was performed using both 15 percent and 50 percent for the size of the NOL.

In reviewing the attributes of the methods, only the tax allowances computed under the Dauphin Consolidated Water Supply method were expected to be impacted by the degree to which the NOL consisted of chronic losses arising from affiliates having operations related to the operations of the utility. The results of this analysis were consistent with this expectation.

Effect on the Ratepayer

Table 21 sets forth a comparison of how the amount of rates charged was affected under the Dauphin Consolidated Water Supply method as the percentage of the chronic loss arising from operations related to the utility increased from 30 percent to 70 percent, given the chronic loss percentage was 50 percent. This table expands upon one particular result listed for the ratepayers in Tables 13 and 14. For the results listed in those two tables, when the chronic loss percentage was 50 percent, it was assumed that the percentage of chronic losses arising from operations related to the operations of the utility was 50 percent. Table 21 expands upon this one result by listing the results obtained, given the chronic loss percentage was 50 percent, for the cases when the percentage of the chronic loss arising from related operations was 30 percent, 50 percent, and 70 percent. Thus this table sets forth the same analysis for the ratepayers as listed in Tables 13 and 14, given the chronic loss percentage was 50 percent, but it also shows how such results would vary for the ratepayers under the Dauphin Consolidated Water Supply method as the

TABLE 21

ANALYSIS OF THE EFFECT VARYING THE CHRONIC LOSS PERCENTAGE ARISING FROM AFFILIATES HAVING RELATED OPERATIONS HAS ON THE RATEPAYER AND THE SHAREHOLDER (Chronic Loss % = 50%)

Size of NOL	Related Chronic Loss Percentage 30%	50%	70%
	Effect on Ratepayers		
15%[a]	-2%[b]	-3%[c]	-5%[d]
50%[a]	-7%[b]	-11%[c]	-16%[d]
	Effect on Shareholders		
	Without CTA		
15%[e]	-3%[f]	-6%[g]	-9%[h]
50%[e]	-9%[f]	-15%[g]	-21%[h]
	With CTA		
15%[e]	-5%[f]	-8%[g]	-11%[h]
50%[e]	-15%[f]	-25%[g]	-34%[h]

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer when the percentage of chronic loss arising from affiliates having operations related to the operations of the utility was 30 percent, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer when the percentage of chronic loss arising from affiliates having operations related to the operations of the utility was 50 percent, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic. See Tables 13 and 14.

[d]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer when the percentage of chronic loss arising from affiliates having operations related to the operations of the utility was 70 percent, as compared to the rate per KWH amount charged the ratepayer when the NOL was 100 percent nonchronic.

[e]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[f]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder when the percentage of chronic loss arising from affiliates having operations related to the operations of the utility was 30 percent, as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

[g]Percentage increase (+) or decrease(-) in the amount of dividend income earned per shareholder when the percentage of chronic loss arising from affiliates having operations related to the operations of the utility was 50 percent, as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic. See Tables 17, 18, 19, and 20.

[h]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder when the percentage of chronic loss arising from affiliates having operations related to the operations of the utility was 70 percent, as compared to the amount of dividend income earned per shareholder when the NOL was 100 percent nonchronic.

percentage of the chronic loss arising from related operations increased from 30 percent to 70 percent.

One comparison to note, consistent with the results listed in Tables 13 and 14, is that when the size of the NOL was 50 percent, the decline in the amount of rates charged was three times as great as the decline experienced when the size of the NOL was 15 percent. Another comparison to note is that for both sizes of the NOL, the amount of rates charged varied simultaneously with the change in the percentage of chronic loss arising from related operations. For example, when the percentage of the chronic loss arising from related operations increased from 30 percent to 50 percent (or 167 percent), the amount of rates charged declined approximately 167 percent. When the percentage of the chronic loss arising from related operations increased from 30 percent to 70 percent (or 233 percent), the amount of rates charged declined approximately 233 percent. Therefore, as expected, as the percentage of the chronic loss arising from operations related to operations of the utility increased, the amount of rates charged declined simultaneously.

Effect on the Shareholder

Table 21 sets forth a comparison of how the amount of dividend income earned per shareholder under the Dauphin Consolidated Water Supply method was affected as the percentage of chronic loss arising from related operations increased, given the chronic loss percentage was 50 percent. As explained above, Table 21 expands upon one result listed in Tables 17, 18, 19, and 20 by listing the results obtained, for the chronic loss percentage of 50 percent, when the percentage of

the chronic loss arising from related operations was 30 percent and 70 percent, as well as when it was 50 percent. Thus this table sets forth the same analysis for the shareholders as listed in Tables 17, 18, 19, and 20 given the chronic loss percentage was 50 percent, but it also shows how such results would vary for the shareholders under the Dauphin Consolidated Water Supply method as the percentage of the chronic loss arising from related operations varied from 30 percent to 70 percent.

Consistent with the results found in the chronic loss analysis, with compensating tax agreements, when the size of the NOL was 50 percent, the reduction in the amount of dividend income earned per shareholder was approximately twice as great as the reduction in the amount of rates charged. Without compensating tax agreements, the reduction in the amount of dividend income earned per shareholder was approximately 133 percent of the reduction in the amount of rates charged. When the size of the NOL was 15 percent, the reduction in the amount of dividend income earned per shareholder was also greatest with compensating tax agreements.

Without compensating tax agreements, the decline in the amount of dividend income earned per shareholder, as the percentage of the chronic loss arising from related operations increased, was dependent upon the size of the NOL. For example, when the size of the NOL was 15 percent, as the percentage of the chronic loss arising from related operations increased from 30 percent to 50 percent, the amount of dividend income earned per shareholder declined approximately 200 percent. However, for the same relationship, when the size of the NOL was 50 percent, the amount of dividend income earned per shareholder

declined only 167 percent. As the percentage of the chronic loss arising from related operations increased from 30 percent to 70 percent, given the size of the NOL was 15 percent, the amount of dividend income earned per shareholder declined approximately 300 percent. For the same relationship, given the size of the NOL was 50 percent, the amount of dividend income earned per shareholder declined approximately 233 percent. Thus, without tax compensating agreements a simultaneous relationship existed between the increase in the percentage of chronic loss arising from related operations and the decline in the amount of dividend income earned per shareholder only when the size of the NOL was 50 percent. With compensating tax agreements a simultaneous relationship existed between the decline in the amount of dividend income earned per shareholder and the amount of increase in the percentage of chronic loss arising from related operations, for both sizes of the NOL.

Consistent with the results obtained in the chronic loss analysis, the results listed in Table 21 show that as the size of the NOL increased from 15 percent to 50 percent, the amount of dividend income earned per shareholder declined. Thus the size of the NOL did affect the results obtained under this method, providing a portion of the loss consisted of chronic losses.

The results obtained in this analysis appear consistent with the underlying intent of this method; that being that tax benefits from chronic losses arising from operations related to the operations of the utility are to flow, at least partially, to the ratepayers in the form of reduced rates. As such, as the percentage of chronic losses arising from related operations increases, the amount of rates

assessed the ratepayers would be expected to decline and the amount of dividend income earned by the shareholders would also be expected to decline. The results of this study confirmed this expectation. It was also found in this analysis, consistent with the results of the previous NOL analyses, that the decline in the amount of dividend income earned per shareholder was greatest when compensating tax agreements were used to compute the amount of tax paid than when the tax paid amount was computed without such agreements.

Analysis of the Type of Affiliate Incurring the Net Operating Loss

Two additional assumptions were made in performing this analysis beyond those set forth in Table 5 in Chapter 6:

1. The percentage of chronic tax loss in the system was 50 percent
2. The percentage of chronic loss arising from affiliates having operations related to the operations of the utility was 50 percent

Effect on the Ratepayer

Table 22 sets forth the percentage the amount of rates charged per KWH under each respective method either exceeded (+) or fell below (-) the amount of rates charged per KWH under the stand-alone method, given the regulated percentage was 30 percent. The results are set forth for both sizes of NOL.

Consistent with the results obtained in the first three NOL analyses, ratepayers were found to be impacted by the size of the NOL under the following methods:

1. Cities Service Gas Company
2. United Gas Pipe Line Company

TABLE 22

ANALSIS OF THE EFFECT THE TYPE OF AFFILIATE INCURRING THE NOL HAS ON THE RATEPAYER
(Regulated % = 30%)

Method	Size of NOL = 15%				Size of NOL = 50%			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	.0079[a]	.0080[a]	.0122[a]		.0079[a]	.0080[a]	.0122[a]	
Stand-Alone (parent's interest)	-21%[b]	-27%[b]	-18%[b]	-22%	-21%[b]	-27%[b]	-28%[b]	-25%
Cities Service Gas Co.	-17%	-17%	-17%	-17%	-25%	-25%	-25%	-25%
United Gas Pipe Line Co.	-21%	-21%	-21%	-21%	-29%	-29%	-29%	-29%
Mechanic Falls Water Co.	-13%	-13%	-13%	-13%	-38%	-38%	-38%	-38%
Caribou Water Works	-25%	-25%	-25%	-25%	-65%	-65%	-65%	-65%
Newton Water Co.	-39%	-39%	-39%	-39%	-74%	-74%	-74%	-74%
West Penn Power Co.	-7%	-7%	-7%	-7%	-33%	-23%	-33%	-30%
Dauphin Consolidated Water Supply Co.	-3%	-3%	-3%	-3%	-11%	-11%	-11%	-11%
Iowa Public Service	-14%	-14%	-14%	-14%	-45%	-45%	-45%	-45%

[a]Effect on the ratepayer: the rate per KWH amount charged the ratepayer.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, as compared to the rate per KWH amount charged the ratepayer under the stand-alone method.

TABLE 22--Continued

Method	Size of NOL = 15%				Size of NOL = 50%			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Narragansett Electric Co.	-14%[c]	-20%[c]	-12%[c]	-15%	-14%[d]	-20%[d]	-12%[d]	-15%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-30%	-34%	-27%	-30%	-30%	-33%	-27%	-30%
New England Telephone & Telegraph Co.	-22%	-27%	-18%	-22%	-22%	-27%	-18%	-22%
Muncie Remand	-17%	-21%	-14%	-17%	-17%	-21%	-14%	-17%
Continental Telephone Co. of Maine	-84%	-111%	-73%	-89%	-88%	-108%	-81%	-92%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-28%	-42%
Utility #2:	-39%	-59%
Utility #3:	-24%	-36%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-28%	-42%
Utility #2:	-39%	-59%
Utility #3:	-24%	-36%

3. Mechanic Falls Water Company

4. Caribou Water Works

5. Newton Water Company

6. West Penn Power Company

7. Dauphin Consolidated Water Supply Company

8. Iowa Public Service

9. Continental Telephone Company of Maine

It should be noted that because 50 percent of the NOL was assumed to be a chronic tax loss in this analysis, those methods under which the ratepayers were found in the first NOL analysis to be impacted by the size of the NOL, as well as those methods under which the ratepayers were found in the second NOL analysis to be impacted by the type of the NOL, also appear in this analysis. Under all these methods, as the size of the NOL increased, the amount of rates charged the ratepayer declined.

In analyzing the impact of the size of the NOL on the ratepayers, it was found that under the following methods the ratepayers of only one of the three utilities were impacted:

1. Stand-alone (parent's interest)

2. Narragansett Electric Company

Under the stand-alone (parent's interest) method, only the ratepayers of Utility #3 were impacted by the size of the NOL. Under the Narragansett Electric Company method, only the ratepayers of Utility #2 were impacted by the size of the NOL. Therefore, the specific financial characteristics of the utility must have been the primary determinates of the results experienced by the ratepayers under these methods as the size of the NOL increased.

Table 23 sets forth a comparison of how the amount of rates charged under each respective method was affected as the percentage of regulated affiliates incurring a NOL increased from 30 percent to 75 percent. The amount of rates charged the ratepayers was found to be impacted by an increase in the regulated percentage only under the two methods listed in Table 23. This analysis was performed using both 15 percent and 50 percent for the size of the NOL. This was done to determine whether the size of the NOL impacted the results. It was found that when the size of the NOL was 15 percent the amount of rates charged the ratepayers did not vary under any of the methods as the regulated percentage increased from 30 percent to 75 percent. However, varying the regulated percentage did impact the ratepayer when the size of the NOL was 50 percent. Therefore, only the results experienced when the size of the NOL was 50 percent are set forth in Table 23.

In reviewing the attributes of the methods, the tax allowances computed under the following methods were expected to be impacted by the type of affiliate incurring the NOL:

1. Cities Service Gas Company
2. United Gas Pipe Line Company

The results of this analysis were consistent with this expectation. Only under the above two methods were the amount of rates charged by each utility impacted by an increase in the percentage of regulated affiliates incurring the NOL.

Unlike the results obtained in the first three NOL analyses, the variation in the amount of rates charged was found in this analysis to be dependent upon the relationship between the utility's taxable

TABLE 23

ANALYSIS OF THE EFFECT VARYING THE REGULATED PERCENTAGE HAS ON THE RATEPAYER
(Size of NOL = 50%)

Method	Regulated Percentage				
	30%	50%		75%	
	(20%/60%)	(20%/60%)	(30%/50%)	(20%/60%)	(30%/75%)
Cities Service Gas Co.[a]	-12%[b]	-9%[c]	+4%[d]	-5%[e]	+9%[f]
United Gas Pipe Line Co.[a]	-12%	-10%	+3%	-5%	+8%

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the regulated percentage was 30 percent and the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system, as compared to the rate per KWH amount charged the ratepayer when the utility's taxable income represented 20 percent of the total positive taxable income of its corporate system.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the regulated percentage was 50 percent and the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system, as compared to the rate per KWH amount charged the ratepayer when the utility's taxable income represented 20 percent of the total positive taxable income of its corporate system.

[d]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system and the regulated percentage was 50 percent, as compared to the rate per KWH amount charged the ratepayer when the regulated percentage was 30 percent.

[e]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the regulated percentage was 75 percent and the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system, as compared to the rate per KWH amount charged the ratepayer when the utility's taxable income represented 20 percent of the total positive taxable income of its corporate system.

[f]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system and the regulated percentage was 75 percent, as compared to the rate per KWH amount charged the ratepayer when the regulated percentage was 30 percent.

income and the total positive taxable income of the system. The amount of rates charged was not found to be affected by an increase in the percentage of regulated affiliates incurring the NOL when the utility's taxable income represented either 20 percent or 40 percent of the system's positive taxable income. However, when the utility's taxable income represented 60 percent of the total positive taxable income of the system, a variation in the amount of rates charged was experienced as the percentage of regulated affiliates incurring the NOL increased. Therefore, the results listed in Table 23 show the following:

1. Given a particular regulated percentage, a comparison of the amount of rates charged when the utility's taxable income represented 20 percent of the total positive taxable income of the system as compared to the amount of rates charged when the utility's taxable income represented 60 percent of the total positive taxable income of the system.

2. Given the utility's taxable income represented 60 percent of the total positive taxable income of the system, a comparison of the amount of rates charged as the regulated percentage increased.

Given a particular regulated percentage, the amount of rates charged when the utility's taxable income represented 20 percent of the total positive taxable income of the system was found to be identical to the amount of rates charged when the utility's taxable income represented 40 percent of the total positive taxable income of the system. However, within that given regulated percentage, the amount of rates charged were found to be lower when the utility's taxable income represented 60 percent of the total positive taxable income of the system than when it represented 20 percent or 40 percent of the total positive taxable income of the system. As the regulated

percentage increased from 30 percent to 75 percent, the amount of rates charged was not found to be impacted by the increase when the utility's taxable income represented 20 percent or 40 percent of the total positive taxable income of the system. However, when the utility's taxable income represented 60 percent of the total positive taxable income of the system, the amount of rates charged increased minimally as the percentage of regulated affiliates incurring the NOL increased.

Effect on the Shareholder

Table 24 sets forth the percentage the amount of dividend income earned per shareholder either exceeded (+) or fell below (-) the amount of dividend income earned per shareholder under the stand-alone method given: (1) the regulated percentage was 30 percent, and (2) the size of the NOL was 15 percent. The table sets forth the results obtained both with and without tax compensating agreements. Table 25 sets forth the same analysis given the size of the NOL was 50 percent.

With tax compensating agreements, when the size of the NOL was 50 percent the decline in the amount of dividend income earned per shareholder was found to be approximately twice as great as the decline in the amount of rates charged, consistent with the results found in the first three NOL analyses (see Tables 22 and Table 25). Without such agreements the decline in the amount of dividend income earned per shareholder was approximately 133 percent of the decline in the amount of rates charged. The results listed in Tables 22 and 24 also confirm this finding; the decline in the amount of dividend

TABLE 24

ANALYSIS OF THE EFFECT THE TYPE OF AFFILIATE INCURRING THE NOL HAS ON THE SHAREHOLDER
(Regulated % = 30%)
(Size of NOL = 15%)

	Without CTA				With CTA			
	Utility				Utility			
Method	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	252[a]	71[a]	32[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-38%[b]	-49%[b]	-31%[b]	-39%	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-31%	-30%	-31%	-31%	-37%	-37%	-37%	-37%
United Gas Pipe Line Co.	-38%	-37%	-38%	-38%	-45%	-45%	-44%	-45%
Mechanic Falls Water Co.	-23%	-23%	-22%	-23%	-28%	-28%	-30%	-29%
Caribou Water Works	-45%	-45%	-44%	-45%	-54%	-53%	-52%	-53%
Newton Water Co.	-71%	-70%	-72%	-71%	-85%	-85%	-85%	-85%
West Penn Power Co.	-12%	-11%	-13%	-12%	-15%	-15%	-15%	-15%
Dauphin Consolidated Water Supply Co.	-6%	-6%	-6%	-6%	-8%	-8%	-7%	-8%
Iowa Public Service	-25%	-24%	-25%	-25%	-30%	-30%	-30%	-30%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

TABLE 24--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2		Mean	#1	#2	#3	Mean
Narragansett Electric Co.	-25%[c]	-35%[c]	-22%[c]	-27%	-31%[d]	-43%[d]	-26%[d]	-33%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-54%	-61%	-50%	-55%	-64%	-73%	-59%	-65%
New England Telephone & Telegraph Co.	-40%	-49%	-31%	-40%	-48%	-60%	-41%	-50%
Muncie Remand	-30%	-37%	-25%	-31%	-36%	-45%	-30%	-37%
Continental Telephone Co. of Maine	-152%	-203%	-131%	-162%	-182%	-240%	-159%	-194%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-51%	-77%
Utility #2:	-72%	-107%
Utility #3:	-44%	-66%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-62%	-92%
Utility #2:	-87%	-128%
Utility #3:	-52%	-78%

TABLE 25

ANALYSIS OF THE EFFECT THE TYPE OF AFFILIATE INCURRING THE NOL HAS ON THE SHAREHOLDER
(Regulated % = 30%)
(Size of NOL = 50%)

	Without CTA				With CTA			
	Utility				Utility			
Method	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	349[a]	99[a]	45[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-28%[b]	-36%[b]	-24%[b]	-29%	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-33%	-33%	-33%	-33%	-55%	-55%	-56%	-55%
United Gas Pipe Line Co.	-38%	-37%	-38%	-38%	-63%	-63%	-63%	-63%
Mechanic Falls Water Co.	-50%	-51%	-51%	-51%	-83%	-83%	-81%	-82%
Caribou Water Works	-85%	-85%	-84%	-85%	-141%	-142%	-141%	-141%
Newton Water Co.	-97%	-97%	-98%	-97%	-161%	-162%	-163%	-162%
West Penn Power Co.	-30%	-30%	-31%	-30%	-49%	-50%	-48%	-49%
Dauphin Consolidated Water Supply Co.	-15%	-15%	-16%	-15%	-25%	-25%	-26%	-25%
Iowa Public Service	-60%	-60%	-60%	-60%	-99%	-98%	-100%	-99%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

TABLE 25--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Narragansett Electric Co.	-18%[c]	-26%[c]	-16%[c]	-20%	-31%[d]	-43%[d]	-26%[d]	-33%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-39%	-44%	-36%	-40%	-64%	-73%	-59%	-65%
New England Telephone & Telegraph Co.	-29%	-36%	-24%	-30%	-48%	-60%	-41%	-50%
Muncie Remand	-22%	-27%	-18%	-22%	-36%	-45%	-30%	-37%
Continental Telephone Co. of Maine	-116%	-141%	-107%	-121%	-192%	-233%	-174%	-200%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-37%	-55%
Utility #2:	-52%	-78%
Utility #3:	-31%	-47%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-62%	-92%
Utility #2:	-87%	-128%
Utility #3:	-52%	-78%

income earned per shareholder was greatest with compensating tax agreements.

Consistent with the results experienced by the ratepayers, the shareholders were also found to be impacted by the size of the NOL under the following methods (see Tables 24 and 25):

1. Cities Service Gas Company
2. United Gas Pipe Line Company
3. Mechanic Falls Water Company
4. Caribou Water Works
5. Newton Water Company
6. West Penn Power Company
7. Dauphin Consolidated Water Supply Company
8. Iowa Public Service
9. Continental Telephone Company of Maine

Table 26 sets forth a comparison of how the amount of dividend income earned per shareholder under the various methods was affected as the percentage of regulated affiliates incurring the NOL increased from 30 percent to 75 percent when the size of the NOL was 50 percent. The results obtained both with and without compensating tax agreements are set forth. The amount of dividend income earned per shareholder was not found to be impacted by an increase in the percentage of regulated affiliates incurring the NOL under those methods not listed in Table 26.

This analysis was performed using both 15 percent and 50 percent for the size of the NOL. This was done to determine whether the size of the NOL impacted the results. It was found that when the size of the NOL was 15 percent the amount of dividend income earned per

TABLE 26

ANALYSIS OF THE EFFECT VARYING THE REGULATED PERCENTAGE HAS ON THE SHAREHOLDER
(Size of NOL = 50%)

Method	Regulated Percentage				
	30%	50%		75%	
	(20%/60%	(20%/60%)	(30%/50%)	(20%/60%)	(30%/75%)
Without CTA					
Cities Service Gas Co.[a]	-19%[b]	-13%[c]	+7%[d]	-7%[e]	+15%[f]
United Gas Pipe Line Co.[a]	-18%	-14%	+5%	-7%	+14%
With CTA					
Cities Service Gas Co.[a]	-44%	-33%	+18%	-18%	+47%
United Gas Pipe Line Co.[a]	-50%	-38%	+24%	-19%	+62%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the regulated percentage was 30 percent and the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system, as compared to the amount of dividend income earned per shareholder when the utility's taxable income represented 20 percent of the total positive taxable income of its corporate system.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the regulated percentage was 50 percent and the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system, as compared to the amount of dividend income earned per shareholder when the utility's taxable income represented 20 percent of the total positive taxable income of its corporate system.

[d]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system and the regulated percentage was 50 percent, as compared to the amount of dividend income earned per shareholder when the regulated percentage was 30 percent.

[e]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the regulated percentage was 75 percent and the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system, as compared to the amount of dividend income earned per shareholder when the utility's taxable income represented 20 percent of the total positive taxable income of its corporate system.

[f]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the utility's taxable income represented 60 percent of the total positive taxable income of its corporate system and the regulated percentage was 75 percent, as compared to the amount of dividend income earned per shareholder when the regulated percentage was 30 percent.

shareholder did not vary under any of the methods as the regulated percentage increased from 30 percent to 75 percent. This was true both with and without compensating tax agreements. However, varying the regulated percentage did impact the shareholders when the size of the NOL was 50 percent. Therefore, only the results experienced when the size of the NOL was 50 percent are set forth in Table 26.

The same methods under which the ratepayers of each utility were found to be affected by an increase in the regulated percentage (see Table 23) appear in Table 26. Also, the same relationship between the utility's taxable income and the total positive taxable income of the system was noted in this analysis for these two methods. The results of this analysis show that, given a particular regulated percentage, the amount of dividend income earned per shareholder when the utility's taxable income represented 20 percent of the total positive taxable income of the system was identical to the amount of dividend income earned per shareholder when the utility's taxable income represented 40 percent of the total positive taxable income of the system. However, within that given regulated percentage, the amount of dividend income earned per shareholder was lower when the utility's taxable income represented 60 percent of the total positive taxable income of the system. As the regulated percentage increased from 30 percent to 75 percent, the amount of dividend income earned per shareholder was not found to be impacted when the utility's taxable income represented either 20 percent or 40 percent of the total positive taxable income of the system. However, when the utility's taxable income represented 60 percent of the total positive taxable income of the system, the amount of dividend income earned per shareholder increased

as the percentage of regulated affiliates incurring a NOL increased. This relationship was noted both with and without tax compensating agreements.

In comparing the results obtained with and without tax compensating agreements, the amount of dividend income earned per shareholder with tax compensating agreements was significantly lower than without such agreements. This held true under each regulated percentage. However, as the regulated percentage increased, the amount of increase in the amount of dividend income earned per shareholder was larger with compensating tax agreements. This increase, of course, is relative, because the amount of dividend income earned per shareholder when the regulated percentage was 30 percent was significantly lower initially with tax compensating agreements. Even with a greater increase in dividend income experienced as the regulated percentage increased, the total amount of dividend income earned per shareholder continued to remain significantly lower with tax compensating agreements. It should be noted that the amount of increase in the amount of dividend income earned per shareholder, as the regulated percentage increased, varied between utilities given tax compensating agreements were used to compute the amount of tax paid. The reason for this variance is unknown.

The underlying intent of both the Cities Service Gas Company method and the United Gas Pipe Line Company method is to:

1. Allocate only the tax benefits generated from NOLs realized by <u>regulated</u> affiliates among <u>all</u> regulated affiliates having positive taxable income
2. Allocate, at least partially, the utility's share of such tax benefits to the ratepayers of the utility in the form of reduced rates

Under these two methods it would be expected that as the regulated percentage increased, the tax benefits generated from regulated affiliates incurring NOLs would be allocated among a greater number of affiliates. This would be expected to result in fewer tax benefits flowing to the utility, since there would be more affiliates with which to "share" such tax benefits. With fewer tax benefits flowing to the utility as the regulated percentage increased, it would be expected that the amount of rates charged the ratepayers would increase as the regulated percentage increased. If the rates were to increase, it would be expected that the amount of dividend income earned by the shareholders would also increase.

The results of this analysis were found to be consistent with these expectations only when the utility represented a large affiliate of the system (i.e., the utility's taxable income represented 60 percent of the total positive taxable income of the system). As the regulated percentage increased, it was found that the amount of rates charged the ratepayers increased, although they remained lower than the amount of rates charged under the stand-alone method. Also, as the regulated percentage increased, the amount of dividend income earned per shareholder was found to increase both with and without compensating tax agreements. Lastly it was found, consistent with the results of the first three NOL analyses, that with compensating tax agreements the amount of dividend income earned per shareholder was less than when such agreements were not used.

Analysis of the Capital Structure Attributes and the Rate of Return Attributes

This section of the chapter provides an analysis of the results obtained for the ratepayer and the shareholder when the attributes relating to capital structure and rates of return were varied under the different methods. The primary purpose of studying these attributes was to identify the effect they had, if any, on the amount of tax allowance computed under the imputed interest methods. As stated in Chapter 5, imputed interest methods have been used in cases where it was believed the consolidated tax savings arose, at least partially, from either the interest expense of the parent corporation or the interest expense of the corporate system, and that only the utility's portion of the consolidated tax savings that arose from this one particular item should be allocated to the ratepayers of the utility. This allocation would result in a reduction of the utility's tax allowance, and therefore a reduction in the amount of rates charged the ratepayers. Any portion of the consolidated tax savings that arose from tax losses in the system is not allocated to the utility under the imputed interest methods.

In this section of the data analysis it was found that the ratepayers and shareholders were impacted by changes in the capital structure attributes and the rate of return attributes when each utility's tax allowance was computed under the following imputed interest methods:

1. Narragansett Electric Company
2. Southwestern Bell
3. United Telephone Company of Florida

4. New England Telephone and Telegraph Company

5. Muncie Remand

6. Brockton Edison Company

Under each of the above methods, a portion of the interest expense of either the parent corporation or the corporate system is allocated to the utility for purposes of computing the utility's tax allowance. As a result it was found in this section of the study that when the long-term debt ratio of either the parent corporation or the corporate system was increased, or when the allowed rate of return on the long-term debt of either the parent corporation or the corporate system was increased, generally both the amount of rates charged the ratepayer and the amount of dividend income earned per shareholder declined under the above methods. The exact decrease in the amount of rates and in the amount of dividend income varied under the above methods because allocation of the imputed interest expense is computed differently under each of the above methods.

Under the Narragansett Electric Company method that portion of the consolidated tax savings that arises primarily from interest deductions available to the holding company is used to reduce the utility's tax allowance. The tax savings attributable to these deductions are allocated between the subsidiaries on the basis of their relative contribution to the consolidated taxable income.

Under the Southwestern Bell method the utility's allowable imputed interest expense is calculated by multiplying the system-wide debt cost by the utility's allocable share of the system-wide debt (i.e., actual system-wide debt ratio multiplied by the utility's jurisdictional capital).

Under the United Telephone Company of Florida method the utility's allowable imputed interest expense is calculated by: (1) multiplying the debt cost of the parent corporation by the debt ratio of the parent, (2) multiplying that figure by the equity ratio of the utility, and (3) multiplying that result by the jurisdictional rate base of the utility.

Under the New England Telephone & Telegraph method the actual interest paid on the utility's own debt is added to the utility's imputed interest expense amount. The resulting total amount of interest expense is used to compute the utility's tax allowance. The imputed interest expense amount is calculated in a manner similar to that used under the United Telephone Company of Florida method, with the parent corporation's debt ratio and debt cost being used in the computation.

The Muncie Remand method is similar to the New England Telephone & Telegraph method except for one major component. As stated in Chapter 5, under the New England Telephone & Telegraph method the parent corporation's debt ratio and debt cost are multiplied by the utility's rate base as well as by the percentage of common equity in the utility's capital structure. Under the Muncie Remand method the parent corporation's debt ratio and average debt cost are multiplied only by the utility's equity account amount.

The Brockton Edison method, as used in this study, is similar to the Narragansett Electric Company method in that under the Brockton Edison method the parent corporation's interest expense is allocated to the utility on the basis of the ratio of the utility's pre-tax income to the system's total pre-tax income.

The tax allowance computed under the Continental Telephone Company of Maine method was also found to be affected in this section of the data analysis by changes in the capital structure attributes and the rate of return attributes. However, such changes were not always found to cause a decrease in either the amount of rates charged the ratepayer or in the amount of dividend income earned per shareholder, as was true under the imputed interest methods. Under the Continental method an imputed interest method is used to compute the utility's allowable interest expense and an effective tax rate method is used to compute the utility's tax allowance. The imputed interest method adjusts the utility's tax allowance to reflect an interest deduction based on the system-wide cost of debt and debt ratio. The effective tax rate method, which is similar to the Mechanic Falls Water Company method, allocates to the utility a portion of the consolidated tax savings that arises from chronic tax losses in the system.

Consistent with the findings in the first section of the data analysis, under every method except the Narragansett Electric Company method and the Brockton Edison Company method the relative size of each utility in relationship to its affiliates was not found to have an effect on either the amount of rates a ratepayer would be charged or on the amount of dividend income a shareholder would earn under all of the following analyses:

1. Analysis of the allowed rate of return on the long-term debt of the utility

2. Analysis of the allowed rate of return on the long-term debt of the parent corporation and the corporate system

3. Analysis of the long-term debt ratio of the parent corporation and the corporate system

4. Analysis of the percentage of the parent corporation's ownership in the common equity of the utility

5. Analysis of the long-term debt ratio of the parent corporation computed by using its entire capital structure

6. Analysis of the book value of the long-term debt of the parent corporation

7. Analysis of the allowed rate of return on the common equity of the utility

The results of the above analyses are therefore set forth in terms of three separate utilities, as was done for the results obtained under the NOL analyses. The results obtained when each utility's taxable income represented 20 percent of the total positive taxable income of its respective system are set forth in the data analysis tables. The results experienced under the Narragansett Electric Company method and the Brockton Edison method when the utility's taxable income represented either 40 percent or 60 percent of the total positive taxable income of its respective system are set forth in footnotes to the applicable tables.

Also consistent with the findings in the first section of the data analysis, the results obtained under the Narragansett Electric Company method were found to be identical to the results obtained under the Brockton Edison Company method. Therefore, the results obtained under both of these methods are set forth in the data analysis tables only under the Narragansett Electric Company method.

Analysis of the Allowed Rate of Return on the Long-Term Debt of the Utility

In performing this analysis no additional assumptions were made beyond the assumptions set forth in Table 6 in Chapter 6. This analysis was performed under the following two scenarios:

1. The allowed rate of return on the long-term of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the corporate systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility. This scenario was referenced as 40%/20%.

2. The allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the corporate systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility. This scenario was referenced as 20%/10%.

Effect on the Ratepayer

Table 27 sets forth the percentage the amount of rates charged per KWH under each respective method either exceeded (+) or fell below (-) the amount of rates charged per KWH under the stand-alone method, when the allowed rate of return on the long-term debt of each utility was 7 percent. From the results listed in this table it can be seen that the amount of rates charged per KWH under the imputed interest methods ranged between 10 and 30 percent below the amount of rates charged under the stand-alone method. The amount of rates charged under the effective tax rate methods, however, ranged between 10 and 60 percent below the amount of rates charged under the

TABLE 27

ANALYSIS OF THE EFFECT THE ALLOWED RATE OF RETURN ON THE UTILITY'S LONG-TERM DEBT HAS ON THE RATEPAYER
(R of R on Utility's LTD = 7%)

Method	40%/20%[e] Utility #1	40%/20%[e] Utility #2	40%/20%[e] Utility #3	40%/20%[e] Mean	20%/10%[f] Utility #1	20%/10%[f] Utility #2	20%/10%[f] Utility #3	20%/10%[f] Mean
Stand-Alone (utility's interest)	.0079[a]	.0080[a]	.0122[a]		.0079[a]	.0080[a]	.0122[a]	
Stand-Alone (parent's interest)	-21%[b]	-27%[b]	-18%[b]	-22%	-21%[b]	-27%[b]	-18%[b]	-22%
Cities Service Gas Co.	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
United Gas Pipe Line Co.	-23%	-23%	-23%	-23%	-23%	-23%	-23%	-23%
Mechanic Falls Water Co.	-25%	-25%	-25%	-25%	-25%	-25%	-25%	-25%
Caribou Water Works	-44%	-44%	-44%	-44%	-44%	-44%	-44%	-44%
Newton Water Co.	-56%	-56%	-56%	-56%	-56%	-56%	-56%	-56%
West Penn Power Co.	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%
Dauphin Consolidated Water Supply Co.	-7%	-7%	-7%	-7%	-7%	-7%	-7%	-7%
Iowa Public Service	-27%	-27%	-27%	-27%	-27%	-27%	-27%	-27%

[a]Effect on the ratepayer: the rate per KWH amount charged the ratepayer.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, as compared to the rate per KWH amount charged the ratepayer under the stand-alone method.

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[f]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 27--Continued

Method	40%/20%[e] Utility #1	40%/20%[e] Utility #2	40%/20%[e] Utility #3	40%/20%[e] Mean	20%/10%[f] Utility #1	20%/10%[f] Utility #2	20%/10%[f] Utility #3	20%/10%[f] Mean
Narragansett Electric Co.	-8%[c]	-11%[c]	-7%[c]	-9%	-11%[d]	-16%[d]	-9%[d]	-12%
Southwestern Bell	+6%	+8%	+5%	+6%	--	--	--	--
United Telephone Co. of Florida	-17%	-20%	-16%	-18%	-23%	-27%	-21%	-24%
New England Telephone & Telegraph Co.	-13%	-16%	-11%	-13%	-17%	-21%	-14%	-17%
Muncie Remand	-10%	-12%	-8%	-10%	-13%	-16%	-11%	-13%
Continental Telephone Co. of Maine	-80%	-102%	-72%	-85%	-76%	-95%	-68%	-80%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-16%	-25%
Utility #2:	-23%	-35%
Utility #3:	-14%	-21%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-22%	-33%
Utility #2:	-31%	-46%
Utility #3:	-18%	-28%

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[f]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

stand-alone method. It should be noted that tax losses were realized in this analysis by some of the affiliates in each of the systems. Therefore, based on the results found in the first section of the data analysis, the rates charged under the effective tax rate methods should have been lower in this analysis than the amount of rates charged under the stand-alone method, due to the existence of the tax losses. However, it was not necessarily expected that the amount of rates charged under the effective tax rate methods would be considerably lower than the amount of rates charged under the imputed interest methods.

Among the imputed interest methods, the lowest rates were charged under the United Telephone Company of Florida method, and the highest rates were charged under the Southwestern Bell method. By ranking the imputed interest methods in terms of the amount of rates charged under them, the following order occurred, with the method that charged the lowest rates being listed first, followed in increasing order by the methods that charged a higher amount:

1. United Telephone Company of Florida
2. New England Telephone & Telegraph Company
3. Muncie Remand
4. Narragansett Electric Company
5. Southwestern Bell

The above ranking was also found for all of the following analyses (see Tables 33, 39, 45, and 49).

The results listed in Table 27 also show that the rates charged under the effective tax rate methods were not affected by an increase, from 40%/20% to 20%/10%, in the allowed rate of return relationship.

In fact, as changes were made in this analysis and in the following analyses, in both the capital structure attributes and the rate of return attributes, the amount of rates charged under the effective tax rate methods never varied (see Tables 27, 33, 39, 45, and 49).

On the other hand, it can be noted from Table 27 that the amount of rates charged per KWH under all of the imputed interest methods other than the Continental Telephone Company of Maine method, declined when the allowed rate of return relationship increased from 40%/20% to 20%/10%. Under the Continental Telephone Company of Maine method the amount of rates actually increased slightly as the allowed rate of return relationship increased. These findings were consistent with the results found in the next analysis.

Table 28 sets forth a comparison of how the amount of rates charged under each respective method was affected as the allowed rate of return on the long-term debt of each utility increased. Increasing the allowed rate of return on the long-term debt of each utility was found to have no effect on the amount of rates charged under those methods not listed in Table 28.

The amount of rates charged was expected to be affected by an increase in the allowed rate of return on the long-term debt of the utility under the six imputed interest methods noted above. As the allowed rate of return on the long-term debt of each utility increased, the interest expense of each utility would also be expected to increase. However, because this expense is accounted for in the revenue requirement of the utility, it would be expected that the amount of rates charged the ratepayer would be affected only under the imputed interest methods.

TABLE 28

ANALYSIS OF THE EFFECT VARYING THE ALLOWED RATE OF RETURN ON THE UTILITY'S LONG-TERM DEBT HAS ON THE RATEPAYER

Method	40%/20%[h]				20%/10%[i]			
	R of R = 9%[b]		R of R = 11%[c]		R of R = 9%[b]		R of R = 11%[c]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Narragansett Electric Co.[a]		-3%[d]		-5%[e]		-4%[f]		-7%[g]
Southwestern Bell[a]		+1%		+3%		--		--
United Telephone Co. of Florida[a]		-6%		-12%		-9%		-17%
New England Telephone & Telegraph Co.[a]		-5%		-9%		-6%		-12%
Muncie Remand[a]		-4%		-6%		-5%		-9%
Continental Telephone Co. of Maine								
Utility #1	-56%		-113%		-42%		-84%	
Utility #2	-1300%		-2600%		-300%		-575%	
Utility #3	-32%		-68%		-26%		-54%	

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the rate of return on the utility's long-term debt was 9 percent as compared to the rate per KWH amount charged the ratepayer when the rate of return on the utility's long-term debt was 7 percent.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the rate of return on the utility's long-term debt was 11 percent as compared to the rate per KWH amount charged the ratepayer when the rate of return on the utility's long-term debt was 7 percent.

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-5%	-10%
Utility #2:	-8%	-15%
Utility #3:	-5%	-7%

TABLE 28--Continued

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-11%	-18%
Utility #2:	-16%	-31%
Utility #3:	-10%	-15%

[f]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-8%	-13%
Utility #2:	-13%	-26%
Utility #3:	-6%	-11%

[g]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-16%	-28%
Utility #2:	-25%	-49%
Utility #3:	-13%	-22%

[h]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[i]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

In this analysis the allowed rate of return on the long-term debt of each parent corporation and each corporate system was related to the allowed rate of return on the long-term debt of its respective subsidiary utility (see Chapter 6). Thus in this analysis as the allowed rate of return on the long-term debt of each utility increased, the allowed rate of return on the long-term debt of each utility's respective parent corporation and each utility's respective corporate system also increased. Because of this relationship, in this analysis it would be expected that as the allowed rate of return on the long-term debt of each utility increased, the amount of imputed interest allocated to each utility from either its respective parent corporation or its respective corporate system would also increase, resulting in a reduced tax allowance to each utility. A reduced tax allowance would be expected to result in reduced rates being charged to the ratepayers. The results of this analysis were consistent with these expectations.

The allowed rate of return on the long-term debt of each parent/system increased in this analysis both: (1) as the allowed rate of return on the long-term debt of each utility increased from 7 percent to 11 percent, and (2) as the relationship between the allowed rate of return on the long-term debt of each utility and the allowed rate of return on the long-term debt of its respective parent/system increased from 40%/20% to 20%/10%. It should be noted that when the allowed rate of return on the long-term debt of each utility was 7%, 9%, and 11%, and the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of each respective subsidiary utility,

the allowed rate of return on the long-term debt of each parent corporation was, respectively, 4.2%, 5.4%, and 6.6%. When the allowed rate of return on the long-term debt of each corporate system was 20 percent lower than the allowed rate of return on the long-term debt of each respective subsidiary utility, the allowed rate of return on the long-term debt of each corporate system was, respectively, 5.6%, 7.2%, and 8.8%. When the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of each respective subsidiary utility, the allowed rate of return on the long-term debt of each parent corporation was, respectively, 5.6%, 7.2%, and 8.8%. Finally, when the allowed rate of return on the long-term debt of each corporate system was 10 percent lower than the allowed rate of return on the long-term debt of each respective subsidiary utility, the allowed rate of return on the long-term debt of each corporate system was, respectively, 6.3%, 8.1%, and 9.9%.

The results listed in Table 28 confirm that the amount of decline realized in the rates charged under the imputed interest methods was the greatest when the allowed rate of return on the long-term debt of each parent corporation and each corporate system was the highest (i.e., when the allowed rate of return on the long-term debt of each utility was 11 percent and the relationship between the allowed rate of return on the long-term debt of each utility and its respective parent/system was 20%/10%). The rates decreased by different amounts under each of the imputed interest methods as the allowed rate of return on the long-term debt of each utility increased,

due to differences among the methods in the calculation of the imputed interest.

Among the imputed interest methods, increasing the allowed rate of return on the long-term debt of each utility had the least effect on the amount of rates charged under the Southwestern Bell method. In fact, when the rate of return relationship was 40%/20% the rates increased slightly under the Southwestern Bell method as the allowed rate of return on the long-term debt of each respective utility increased. However, it should be noted that when the allowed rate of return on the long-term debt of each utility was 7 percent, and the rate of return relationship was 40%/20%, the amount of rates charged under the Southwestern Bell method was greater than the amount of rates charged under the stand-alone method. In actuality this would never occur since the rate computed under other methods is never supposed to exceed the rate charged under the stand-alone method. Therefore, when the rate of return relationship was 40%/20% the amount of rates charged under the Southwestern Bell method would really be equal to the amount of rates charged under the stand-alone method, and the variations realized in the amount of rates charged, as the allowed rate of return on the long-term debt of each utility increased, would not increase the rates above the amount of rates charged under the stand-alone method. When the rate of return relationship was 20%/10%, the amount of rates charged under the Southwestern Bell method was the same as the amount of rates charged under the stand-alone method, and the rates were not affected by an increase in the allowed rate of return on the long-term debt of each utility. The amount of rates charged under the Southwestern Bell method may have been higher than

under the other imputed interest methods due to the fact that under the Southwestern Bell method the corporate system's interest expense is allocated to the utility rather than the parent corporation's interest expense.

Among the imputed interest methods, increasing the allowed rate of return on the long-term debt of each utility had the greatest effect on the amount of rates charged under the United Telephone Company of Florida method. In fact, by ranking the imputed interest methods in terms of the effect increasing the allowed rate of return on the long-term debt of each utility had on the amount of rates charged under each respective method, the following order occurred, with the method under which the amount of rates charged was affected the most being listed first, followed in decreasing order by the methods under which the amount of rates charged was affected less:

1. United Telephone Company of Florida
2. New England Telephone & Telegraph Company
3. Muncie Remand
4. Narragansett Electric Company
5. Southwestern Bell

It can be noted that for the method under which the amount of rates charged the ratepayer was affected the most by an increase in the allowed rate of return (the United Telephone Company of Florida method) the lowest amount of rates was initially charged (see Table 27); and for the method under which the amount of rates charged was affected the least by an increase in the allowed rate of return (the Southwestern Bell method), the highest amount of rates was intially charged (see Table 27).

Among all the methods, however, increasing the allowed rate of return on the long-term debt of each utility had the greatest effect on the amount of rates charged under the Continental Telephone Company of Maine method. Apparently the combination of the imputed interest method and the effective tax method, both incorporated in the Continental method, produced a tax allowance that was significantly lower under this method than the amounts that were allowed under the imputed interest methods. The results listed in Table 28 show that the amount of rates declined under the Continental method, as the allowed rate of return on the long-term debt of each utility increased, under both rate of return relationships. However, it should be noted that the amount of decline in the rates was smaller when the rate of return relationship was 20%/10%.

The amount of decline in each utility's tax allowance, due to imputed interest, would also be expected to be dependent upon the long-term debt ratio of each parent corporation and each corporate system. As the long-term debt ratio of the parent/system increased, the amount of imputed interest allocated to its respective subsidiary utility would be expected to increase, thus reducing the tax allowance of the utility. In this analysis, the long-term debt ratio of each parent/system was related to the long-term debt ratio of its respective subsidiary utility (see Chapter 6). It was assumed that the long-term debt ratio of each parent corporation was 20 percent greater than the long-term debt ratio of its respective subsidiary utility, and the long-term debt ratio of each system was 10 percent greater than the long-term debt ratio of its respective subsidiary utility. Therefore, in this analysis, the greater the long-term debt ratio of the utility,

the greater would be the long-term debt ratios of its respective parent/system. Because the long-term debt ratios of the utilities were as follows: (1) Utility #1: 48%, (2) Utility #2: 57%, and (3) Utility #3: 43%, it would be expected that the ratepayers of Utility #2 would experience the greatest decline in the amount of rates charged to them, and the ratepayers of Utility #3 would experience the least decline in the amount of rates charged to them. This expectation was consistent with the findings listed in Table 28 under the Continental method. This expectation was also consistent with the findings listed in Table 27.

Effect on the Shareholder

Table 29 sets forth, computed under each method, the percentage the amount of dividend income earned per shareholder either exceeded (+) or fell below (-) the amount of dividend income earned per shareholder under the stand-alone method given: (1) the allowed rate of return on the long-term debt of each utility was 7 percent, and (2) the allowed rate of return relationship was 40%/20%. The results obtained both with and without compensating tax agreements are listed. Table 30 sets forth the same analysis as Table 29 given the allowed rate of return relationship was 20%/10%.

The results listed in Tables 29 and 30 show that the amount of dividend income earned per shareholder under the effective tax rate methods was less than the amount of dividend income earned per shareholder under the imputed interest methods. Also, the results show that the amount of dividend income earned under the effective tax rate methods was not affected by an increase in the rate of return

TABLE 29

ANALYSIS OF THE EFFECT THE ALLOWED RATE OF RETURN ON THE UTILITY'S LONG-TERM DEBT HAS ON THE SHAREHOLDER
(R of R on Utility's LTD = 7%)
(R of R Relationship = 40%/20%[e])

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	294[a]	83[a]	38[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-33%[b]	-42%[b]	-29%[b]	-35%	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-30%	-30%	-32%	-31%	-43%	-43%	-41%	-42%
United Gas Pipe Line Co.	-36%	-36%	-37%	-36%	-51%	-50%	-52%	-51%
Mechanic Falls Water Co.	-38%	-39%	-39%	-39%	-54%	-53%	-52%	-53%
Caribou Water Works	-69%	-69%	-68%	-69%	-96%	-97%	-96%	-96%
Newton Water Co.	-87%	-88%	-87%	-87%	-122%	-122%	-122%	-122%
West Penn Power Co.	-21%	-20%	-21%	-21%	-30%	-30%	-30%	-30%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 29--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Dauphin Consolidated Water Supply Co.	-11%	-11%	-11%	-11%	-15%	-15%	-15%	-15%
Iowa Public Service	-43%	-42%	-42%	-42%	-59%	-60%	-59%	-59%
Narragansett Electric Co.	-13%[c]	-18%[c]	-11%[c]	-14%	-18%[d]	-25%[d]	-15%[d]	-19%
Southwestern Bell	+9%	+12%	+5%	+7%	+12%	+17%	+11%	+13%
United Telephone Co. of Florida	-27%	-30%	-26%	-28%	-37%	-43%	-33%	-38%
New England Telephone & Telegraph Co.	-20%	-25%	-18%	-21%	-28%	-35%	-22%	-28%
Muncie Remand	-15%	-18%	-13%	-15%	-21%	-27%	-19%	-22%
Continental Telephone Co. of Maine	-125%	-158%	-111%	-131%	-174%	-220%	-156%	-183%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-26%	-39%
Utility #2:	-36%	-54%
Utility #3:	-24%	-34%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-36%	-54%
Utility #2:	-50%	-75%
Utility #3:	-30%	-44%

TABLE 30

ANALYSIS OF THE EFFECT THE ALLOWED RATE OF RETURN ON THE UTILITY'S LONG-TERM DEBT HAS ON THE SHAREHOLDER
(R of R on Utility's LTD = 7%)
(R of R Relationship = 20%/10%[e])

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	294[a]	83[a]	38[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-33%[b]	-42%[b]	-29%[b]	-35%	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-30%	-30%	-32%	-31%	-43%	-43%	-41%	-42%
United Gas Pipe Line Co.	-36%	-36%	-37%	-36%	-51%	-50%	-52%	-51%
Mechanic Falls Water Co.	-38%	-39%	-39%	-39%	-54%	-53%	-52%	-53%
Caribou Water Works	-69%	-69%	-68%	-69%	-96%	-97%	-96%	-96%
Newton Water Co.	-87%	-88%	-87%	-87%	-122%	-122%	-122%	-122%
West Penn Power Co.	-21%	-20%	-21%	-21%	-30%	-30%	-30%	-30%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 30--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Dauphin Consolidated Water Supply Co.	-11%	-11%	-11%	-11%	-15%	-15%	-15%	-15%
Iowa Public Service	-43%	-42%	-42%	-42%	-59%	-60%	-59%	-59%
Narragansett Electric Co.	-17%[c]	-24%[c]	-16%[c]	-19%	-24%[d]	-33%[d]	-19%[d]	-25%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-36%	-41%	-34%	-37%	-50%	-57%	-48%	-52%
New England Telephone & Telegraph Co.	-27%	-34%	-24%	-28%	-37%	-47%	-30%	-38%
Muncie Remand	-20%	-25%	-18%	-21%	-28%	-35%	-22%	-28%
Continental Telephone Co. of Maine	-118%	-148%	-105%	-124%	-164%	-207%	-148%	-173%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-34%	-51%
Utility #2:	-48%	-72%
Utility #3:	-29%	-50%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-48%	-72%
Utility #2:	-67%	-100%
Utility #3:	-41%	-59%

relationship from 40%/20% to 20%/10%. In fact, consistent with the results obtained for the ratepayer, the amount of dividend income earned per shareholder under the effective tax rate methods never varied as changes were made both in this analysis and in the following capital structure/rate of return analyses (see Tables 29, 30, 35, 36, 41, 42, 47, and 51).

Consistent with the results obtained in the first section of the data analysis, the findings in Tables 29 and 30 show that the amount of dividend income earned per shareholder under each method was lower with compensating tax agreements. This was true for both the 40%/20% and 20%/10% allowed rate of return relationships. This result was also found for all of the following analyses (see Tables 35, 36, 41, 42, 47, and 51). In this analysis and in all of the following analyses some of the affiliates in each corporate system realized tax losses. Therefore, when compensating tax agreements were used to compute the amount of tax paid for each utility, each utility effectively reimbursed its loss affiliates for the tax benefit of their losses. Use of the compensating tax agreements resulted in each utility retaining less of its revenue than if its tax paid amount had been computed without tax compensating agreements.

Among the imputed interest methods, the least amount of dividend income per shareholder was earned under the United Telephone Company of Florida method, and the greatest amount of dividend income per shareholder was earned under the Southwestern Bell method. By ranking the imputed interest methods in terms of the amount of dividend income earned, the following order occurred, with the method that generated the least amount of dividend income per shareholder listed first,

followed in increasing order by the methods that generated a greater amount of dividend income per shareholder:

1. United Telephone Company of Florida
2. New England Telephone & Telegraph Company
3. Muncie Remand
4. Narragansett Electric Company
5. Southwestern Bell

The above findings were consistent with the results obtained in this analysis for the ratepayer. These results were also found for the shareholder under all of the following analyses (see Tables 35, 36, 41, 42, 47, and 51).

Table 31 sets forth a comparison of how the amount of dividend income earned per shareholder was affected under each respective method by an increase in the allowed rate of return on the long-term debt of each utility given the allowed rate of return relationship was 40%/20%. The table lists the results obtained both with and without tax compensating agreements. Table 32 sets forth the same analysis as Table 31 given the allowed rate of return relationship was 20%/10%. The amount of dividend income earned per shareholder under those methods not listed in either table was not found to be affected by an increase in the allowed rate of return on the long-term debt of each utility. The same methods under which the ratepayers of each utility were found to be affected by an increase in the allowed rate of return on the long-term debt of each utility (see Table 28) appear in Tables 31 and 32.

Consistent with the findings in Table 28, the amount of dividend income earned per shareholder was affected the least under the

TABLE 31

ANALYSIS OF THE EFFECT VARYING THE ALLOWED RATE OF RETURN ON THE UTILITY'S LONG-TERM DEBT HAS ON THE SHAREHOLDER
(R of R Relationship = 40%/20%[h])

Method	Without CTA				With CTA			
	R of R = 9%[b]		R of R = 11%[c]		R of R = 9%[b]		R of R = 11%[c]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Narragansett Electric Co.[a]		-5%[d]		-10%[e]		-7%[f]		-14%[g]
Southwestern Bell[a]		+3%		+5%		+2%		+5%
United Telephone Co. of Florida[a]		-10%		-22%		-18%		-37%
New England Telephone & Telegraph Co.[a]		-7%		-14%		-12%		-24%
Muncie Remand[a]		-5%		-11%		-7%		-15%
Continental Telephone Co. of Maine								
Utility #1	-70%		-141%		-33%		-66%	
Utility #2	-44%		-88%		-29%		-58%	
Utility #3	-150%		-300%		-40%		-73%	

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the rate of return on the utility's long-term debt was 9 percent as compared to the amount of dividend income earned per shareholder when the rate of return on the utility's long-term debt was 7 percent.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the rate of return on the utility's long-term debt was 11 percent as compared to the amount of dividend income earned per shareholder when the rate of return on the utility's long-term debt was 7 percent.

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-10%	-18%
Utility #2:	-15%	-32%
Utility #3:	-7%	-12%

TABLE 31--Continued

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-20%	-36%
Utility #2:	-32%	-66%
Utility #3:	-14%	-28%

[f]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-16%	-34%
Utility #2:	-30%	-87%
Utility #3:	-16%	-27%

[g]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-32%	-66%
Utility #2:	-57%	-173%
Utility #3:	-26%	-47%

[h]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 32

ANALYSIS OF THE EFFECT VARYING THE ALLOWED RATE OF RETURN ON THE UTILITY'S LONG-TERM DEBT HAS ON THE SHAREHOLDER
(R of R Relationship = 20%/10%[g])

Method	Without CTA				With CTA			
	R of R = 9%[a]		R of R = 11%[b]		R of R = 9%[a]		R of R = 11%[b]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Narragansett Electric Co.								
Utility #1	-6%[c]		-12%[d]		-9%[e]		-18%[f]	
Utility #2	-8%[c]		-17%[d]		-15%[e]		-30%[f]	
Utility #3	-3%[c]		-9%[d]		-9%[e]		-18%[f]	
Mean		-6%		-13%		-11%		-22%
United Telephone Co. of Florida								
Utility #1	-16%		-32%		-29%		-57%	
Utility #2	-20%		-39%		-38%		-77%	
Utility #3	-12%		-28%		-21%		-50%	
Mean		-16%		-33%		-29%		-61%
New England Telephone & Telegraph Co.								
Utility #1	-11%		-21%		-17%		-34%	
Utility #2	-13%		-27%		-25%		-50%	
Utility #3	-7%		-14%		-16%		-26%	
Mean		-10%		-21%		-19%		-37%
Muncie Remand								
Utility #1	-7%		-14%		-11%		-22%	
Utility #2	-10%		-18%		-15%		-31%	
Utility #3	-3%		-10%		-10%		-19%	
Mean		-7%		-14%		-12%		-24%
Continental Telephone Co. of Maine								
Utility #1	-87%		-175%		-34%		-68%	
Utility #2	-48%		-93%		-28%		-58%	
Utility #3	-250%		-500%		-38%		-77%	

[a]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the rate of return on the utility's long-term debt was 9% as compared to the amount of dividend income earned per shareholder when the rate of return on the utility's long-term debt was 7%.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the rate of return on the utility's long-term debt was 11% as compared to the amount of dividend income earned per shareholder when the rate of return on the utility's long-term debt was 7%.

TABLE 32--Continued

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively were as follows for the three utilities:

	40%	60%
Utility #1:	-15%	-30%
Utility #2:	-26%	-74%
Utility #3:	-11%	-19%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-30%	-60%
Utility #2:	-51%	-148%
Utility #3:	-22%	-43%

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-26%	-72%
Utility #2:	-60%	-1700%
Utility #3:	-19%	-45%

[f]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-52%	-143%
Utility #2:	-115%	-3400%
Utility #3:	-38%	-91%

[g]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

Southwestern Bell method as the allowed rate of return on the long-term debt of each utility increased. Like the results obtained for the ratepayer under the Southwestern Bell method, when the allowed rate of return relationship was 40%/20%, the amount of dividend income earned per shareholder was actually greater than the amount of dividend income earned per shareholder under the stand-alone method, and the amount of dividend income earned per shareholder increased as the allowed rate of return on the long-term debt of each utility increased. When the allowed rate of return relationship was 20%/10%, the amount of dividend income earned per shareholder under the Southwestern Bell method was the same as the amount of dividend income earned per shareholder under the stand-alone method, and the amount of dividend income earned per shareholder was not affected by an increase in the allowed rate of return on the long-term debt of each utility.

Also consistent with the findings in this analysis for the ratepayer, among the imputed interest methods the amount of dividend income earned per shareholder under the United Telephone Company of Florida method was affected the most by an increase in the allowed rate of return on the long-term debt of each utility. By ranking the imputed interest methods in terms of the effect increasing the allowed rate of return on the long-term debt of each utility had on the amount of dividend income earned per shareholder under each method, the following order occurred, with the method under which the amount of dividend income earned was affected the most listed first, followed in decreasing order by the methods under which the amount of dividend income earned was affected less:

1. United Telephone Company of Florida
2. New England Telephone & Telegraph Company
3. Muncie Remand
4. Narragansett Electric Company
5. Southwestern Bell

This ranking agreed with the results found concerning the effect increasing the allowed rate of return on the long-term debt of each utility had on the amount of rates charged (see Table 28). Also consistent with those results, increasing the allowed rate of return on the long-term debt of each utility had the greatest effect on the amount of dividend income earned under the United Telephone Company of Florida method. It can be noted that the least amount of dividend income earned per shareholder was realized under the United Telephone Company of Florida method. The method under which the amount of dividend income earned per shareholder was affected the least by an increase in the allowed rate of return was the Southwestern Bell method. It was also the method under which the greatest amount of dividend income was earned per shareholder.

Overall, increasing the allowed rate of return on the long-term debt of each utility had the greatest effect on the amount of dividend income earned per shareholder under the Continental Telephone Company of Maine method. However, it should be noted that under the Continental method the amount of dividend income earned per shareholder when the allowed rate of return on the long-term debt of each utility was 7 percent (see Tables 29 and 30), actually began as a negative amount. Technically a utility would not pay a negative dividend. Therefore, the dividend amounts listed in both Table 29 and

Table 30 for the Continental method really represent zero, and none of the variations listed in either Table 31 or 32, realized as the allowed rate of return on the long-term debt of each utility increased, increased the amount of dividend income earned per shareholder under the Continental method above zero.

Analysis of the Allowed Rate of Return on the Long-Term Debt of the Parent Corporation and the Corporate System

In performing this analysis no additional assumptions were made beyond the assumptions set forth in Table 6 of Chapter 6. This analysis was performed using both 7 percent and 11 percent for the allowed rate of return on the long-term debt of each utility.

The results obtained in this analysis for the ratepayer and the shareholder should be consistent with the results obtained in the previous analysis since both analyses dealt effectively with studying the effects of an increase in the allowed rate of return on the long-term debt of each parent corporation and each corporate system. It should be noted that in this analysis an increase in the allowed rate of return on the long-term debt of each parent corporation and each corporate system was realized as the allowed rate of return relationship increased from 40%/20% to 10%/5%.

The effects experienced by the ratepayer are set forth in Tables 33 and 34. The findings listed in these tables parallel the findings from the previous analysis, as listed in Tables 27 and 28. The results concerning the shareholder are set forth in Tables 35 through 38 and also parallel the findings from the previous analysis, as listed in Tables 29 through 32.

TABLE 33

ANALYSIS OF THE EFFECT THE ALLOWED RATES OF RETURN ON THE PARENT'S AND THE SYSTEM'S LONG-TERM DEBT HAVE ON THE RATEPAYER
(R of R Relationship = 40%/20%[e])

Method	R of R = 7%				R of R = 11%			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	.0079[a]	.0080[a]	.0122[a]		.0079[a]	.0080[a]	.0122[a]	
Stand-Alone (parent's interest)	-21%[b]	-27%[b]	-18%[b]	-22%	-21%[b]	-27%[b]	-18%[b]	-22%
Cities Service Gas Co.	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
United Gas Pipe Line Co.	-23%	-23%	-23%	-23%	-23%	-23%	-23%	-23%
Mechanic Falls Water Co.	-25%	-25%	-25%	-25%	-25%	-25%	-25%	-25%
Caribou Water Works	-44%	-47%	-44%	-47%	-44%	-44%	-44%	-44%
Newton Water Co.	-56%	-56%	-56%	-56%	-56%	-56%	-56%	-56%
West Penn Power Co.	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%

[a]Effect on the ratepayer: the rate per KWH amount charged the ratepayer.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, as compared to the rate per KWH amount charged the ratepayer under the stand-alone method.

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 33--Continued

Method	R of R = 7% Utility #1	Utility #2	Utility #3	Mean	R of R = 11% Utility #1	Utility #2	Utility #3	Mean
Dauphin Consolidated Water Supply Co.	-7%	-7%	-7%	-7%	-7%	-7%	-7%	-7%
Iowa Public Service	-27%	-27%	-27%	-27%	-27%	-27%	-27%	-27%
Narragansett Electric Co.	-8%[c]	-11%[c]	-7%[c]	-9%[c]	-13%[d]	-18%[d]	-11%[d]	-14%
Southwestern Bell	+6%	+8%	+5%	+6%	+9%	+12%	+7%	+9%
United Telephone Co. of Florida	-17%	-20%	-16%	-18%	-27%	-31%	-25%	-28%
New England Telephone & Telegraph Co.	-13%	-16%	-11%	-13%	-20%	-25%	-17%	-21%
Muncie Remand	-10%	-12%	-8%	-10%	-15%	-19%	-13%	-16%
Continental Telephone Co. of Maine	-80%	-102%	-72%	-85%	-103%	-134%	-91%	-109%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-16%	-25%
Utility #2:	-23%	-35%
Utility #3:	-14%	-21%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-26%	-39%
Utility #2:	-36%	-54%
Utility #3:	-22%	-33%

TABLE 34

ANALYSIS OF THE EFFECT VARYING THE ALLOWED RATES OF RETURN ON THE PARENT'S AND THE SYSTEM'S LONG-TERM DEBT HAS ON THE RATEPAYER

Method	R of R = 7%				R of R = 11%			
	20%/10%[b]		10%/5%[c]		20%/10%[b]		10%/5%[c]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Narragansett Electric Co.[a]		-3%[d]		-5%[e]		-5%[f]		-8%[g]
Southwestern Bell[a]		-5%		-8%		-8%		-12%
United Telephone Co. of Florida[a]		-7%		-11%		-13%		-19%
New England Telephone & Telegraph Co.[a]		-5%		-8%		-9%		-13%
Muncie Remand[a]		-4%		-6%		-6%		-9%
Continental Telephone Co. of Maine								
Utility #1	+19%		+31%		+250%		+400%	
Utility #2	+500%		+700%		+30%		+44%	
Utility #3	+15%		+24%		+64%		+100%	

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility, as compared to the rate per KWH amount charged the ratepayer when the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility, as compared to the rate per KWH amount charged the ratepayer when the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 34--Continued

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-6%	-12%
Utility #2:	-10%	-17%
Utility #3:	-6%	-8%

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively were as follows for the three utilities:

	40%	60%
Utility #1:	-9%	-17%
Utility #2:	-15%	-27%
Utility #3:	-9%	-13%

[f]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-12%	-22%
Utility #2:	-20%	-39%
Utility #3:	-9%	-16%

[g]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-17%	-33%
Utility #2:	-29%	-58%
Utility #3:	-14%	-24%

TABLE 35

ANALYSIS OF THE EFFECT THE ALLOWED RATES OF RETURN ON THE PARENT'S AND THE SYSTEM'S LONG-TERM DEBT HAVE ON THE SHAREHOLDER
(R of R = 7%)
(R of R Relationship = 40%/20%[e])

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	294[a]	83[a]	38[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-33%[b]	-42%[b]	-29%[b]	-35%	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-30%	-30%	-32%	-31%	-43%	-43%	-41%	-42%
United Gas Pipe Line Co.	-36%	-36%	-37%	-36%	-51%	-50%	-52%	-51%
Mechanic Falls Water Co.	-38%	-39%	-39%	-39%	-54%	-53%	-52%	-53%
Caribou Water Works	-69%	-69%	-68%	-69%	-96%	-97%	-96%	-96%
Newton Water Co.	-87%	-88%	-87%	-87%	-122%	-122%	-122%	-122%
West Penn Power Co.	-21%	-20%	-21%	-21%	-30%	-30%	-30%	-30%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 35--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Dauphin Consolidated Water Supply Co.	-11%	-11%	-11%	-11%	-15%	-15%	-15%	-15%
Iowa Public Service	-43%	-42%	-42%	-42%	-59%	-60%	-59%	-59%
Narragansett Electric Co.	-13%[c]	-18%[c]	-11%[c]	-14%	-18%[d]	-25%[d]	-15%[d]	-19%
Southwestern Bell	+9%	+12%	+5%	+9%	+12%	+17%	+11%	+13%
United Telephone Co. of Florida	-27%	-30%	-26%	-28%	-37%	-43%	-33%	-38%
New England Telephone & Telegraph Co.	-20%	-25%	-18%	-21%	-28%	-35%	-22%	-28%
Muncie Remand	-15%	-18%	-13%	-15%	-21%	-27%	-19%	-22%
Continental Telephone Co. of Maine	-125%	-158%	-111%	-131%	-174%	-220%	-156%	-183%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-26%	-38%
Utility #2:	-36%	-54%
Utility #3:	-24%	-34%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-36%	-54%
Utility #2:	-50%	-75%
Utility #3:	-30%	-44%

TABLE 36

ANALYSIS OF THE EFFECT THE ALLOWED RATES OF RETURN ON THE PARENT'S AND THE SYSTEM'S LONG-TERM DEBT HAVE ON THE SHAREHOLDER
(R of R = 11%)
(R of R Relationship = 40%/20%[e])

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	294[a]	83[a]	38[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-33%[b]	-42%[b]	-29%[b]	-35%	-46%	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-30%	-30%	-32%	-31%	-43%	-43%	-41%	-42%
United Gas Pipe Line Co.	-36%	-36%	-37%	-36%	-51%	-50%	-52%	-51%
Mechanic Falls Water Co.	-38%	-39%	-39%	-39%	-54%	-53%	-52%	-53%
Caribou Water Works	-69%	-69%	-68%	-69%	-96%	-97%	-96%	-96%
Newton Water Co.	-87%	-88%	-87%	-87%	-122%	-122%	-122%	-122%
West Penn Power Co.	-21%	-20%	-21%	-21%	-30%	-30%	-30%	-30%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 36--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Dauphin Consolidated Water Supply Co.	-11%	-11%	-11%	-11%	-15%	-15%	-15%	-15%
Iowa Public Service	-43%	-42%	-42%	-42%	-59%	-60%	-59%	-59%
Narragansett Electric Co.	-20%[c]	-28%[c]	-18%[c]	-22%	-28%[d]	-40%[d]	-22%[d]	-30%
Southwestern Bell	+13%	+19%	+11%	+14%	+18%	+25%	+15%	+19%
United Telephone Co. of Florida	-42%	-48%	-39%	-43%	-59%	-68%	-56%	-61%
New England Telephone & Telegraph Co.	-32%	-39%	-26%	-32%	-44%	-55%	-37%	-45%
Muncie Remand	-24%	-29%	-21%	-25%	-33%	-42%	-26%	-34%
Continental Telephone Co. of Maine	-161%	-208%	-142%	-170%	-224%	-290%	-196%	-237%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-40%	-61%
Utility #2:	-57%	-84%
Utility #3:	-34%	-53%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-56%	-84%
Utility #2:	-78%	-118%
Utility #3:	-48%	-70%

TABLE 37

ANALYSIS OF THE EFFECT VARYING THE ALLOWED RATES OF RETURN ON THE PARENT'S AND THE SYSTEM'S LONG-TERM DEBT HAS ON THE SHAREHOLDER
(R of R = 7%)

	Without CTA				With CTA			
	20%/10%[b]		10%/5%[c]		20%/10%[b]		10%/5%[c]	
Method	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Narragansett Electric Co.[a]		-6%[d]		-9%[e]		-8%[f]		-13%[g]
Southwestern Bell[a]		-7%		-11%		-11%		-16%
United Telephone Co. of Florida[a]		-13%		-18%		-22%		-32%
New England Telephone & Telegraph Co.[a]		-9%		-13%		-14%		-20%
Muncie Remand[a]		-7%		-9%		-8%		-13%
Continental Telephone Co. of Maine								
Utility #1	+28%		+42%		+13%		+20%	
Utility #2	+17%		+25%		+11%		+17%	
Utility #3	+50%		+75%		+13%		+20%	
Mean		+32%		+47%		+12%		+19%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 37--Continued

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-12%	-21%
Utility #2:	-19%	-39%
Utility #3:	-7%	-16%

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-17%	-31%
Utility #2:	-28%	-58%
Utility #3:	-14%	-24%

[f]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-19%	-39%
Utility #2:	-33%	-100%
Utility #3:	-16%	-27%

[g]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-27%	-58%
Utility #2:	-50%	-153%
Utility #3:	-21%	-40%

TABLE 38

ANALYSIS OF THE EFFECT VARYING THE ALLOWED RATES OF RETURN ON THE PARENT'S AND THE SYSTEM'S LONG-TERM DEBT HAS ON THE SHAREHOLDER
(R of R = 11%)

Method	Without CTA				With CTA			
	20%/10%[b]		10%/5%[c]		20%/10%[b]		10%/5%[c]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Narragansett Electric Co.[a]		-9%[d]		-14%[e]		-16%[f]		-24%[g]
Southwestern Bell[a]		-12%		-17%		-15%		-23%
United Telephone Co. of Florida								
Utility #1	-24%		-36%		-48%		-71%	
Utility #2	-30%		-47%		-68%		-105%	
Utility #3	-22%		-30%		-42%		-58%	
Mean		-25%		-38%		-53%		-78%
New England Telephone & Telegraph Co.								
Utility #1	-15%		-23%		-26%		-40%	
Utility #2	-22%		-33%		-41%		-59%	
Utility #3	-11%		-18%		-18%		-29%	
Mean		-16%		-25%		-28%		-43%
Muncie Remand[a]		-10%		-16%		-18%		-26%
Continental Telephone Co. of Maine[a]		+19%		+29%		+12%		+18%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 10 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 38--Continued

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-22%	-51%
Utility #2:	-42%	-218%
Utility #3:	-16%	-33%

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-34%	-77%
Utility #2:	-64%	-269%
Utility #3:	-28%	-50%

[f]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-42%	-179%
Utility #2:	-123%	-209%
Utility #3:	-29%	-88%

[g]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-64%	-270%
Utility #2:	-185%	-318%
Utility #3:	-43%	-125%

Consistent with the results obtained in the previous analysis, the findings listed in Table 34 show that the amount of rates charged declined under all of the imputed interest methods as the allowed rate of return on the long-term debt of each parent corporation and each corporate system increased. However, in this analysis increasing the allowed rate of return had the least effect on the amount of rates charged under the Narragansett Electric Company method rather than under the Southwestern Bell method. Consistent with the previous analysis, increasing the allowed rate of return had the greatest effect on the amount of rates charged under the United Telephone Company of Florida method. By ranking the imputed interest methods in terms of the effect increasing the allowed rate of return on the long-term debt of each parent corporation and each system had on the amount of rates charged under each respective method, the following order occurred, with the method under which the rates were affected the most being listed first, followed in decreasing order by the methods under which the rates were affected less:

1. United Telephone Company of Florida
2. New England Telephone & Telegraph Company
3. Southwestern Bell
4. Muncie Remand
5. Narragansett Electric Company

In the previous analysis the Muncie Remand method was third, the Narragansett Electric Company method was fourth, and the Southwestern Bell method was fifth, rather than fourth, fifth, and third, respectively.

The results obtained under the Continental Telephone Company of Maine method are somewhat confusing. As explained in the previous analysis, because of the relationship in this study between the allowed rate of return on the long-term debt of each utility and the allowed rate of return on the long-term debt of the respective system, as the allowed rate of return on the long-term debt of each utility increased, the allowed rate of return on the long-term debt of each respective system also increased. Therefore, as expected, the results listed in Table 33 confirm that as the allowed rate of return on the long-term debt of each utility increased, the amount of rates charged under the Continental method declined. This result was consistent with the findings listed in Table 28 for the Continental method. It would also be expected that as the allowed rate of return relationship increased from 40%/20% to 10%/5%, the amount of rates charged the ratepayer would decline. However, the results listed in Table 34 show that as the allowed rate of return relationship increased, the amount of rates charged under the Continental method actually increased. This result is consistent with the findings listed in Table 27, however, it is unknown why this result occurred only under the Continental method.

The findings related to the shareholder, as listed in Tables 35 through 38, are consistent with the findings listed in the previous analysis. The findings show that the amount of dividend income earned per shareholder declined under all of the imputed interest methods as the allowed rate of return on the long-term debt of each parent corporation and each corporate system increased. However, consistent with the findings in this analysis for the ratepayer, increasing the

allowed rate of return had the least effect on the amount of dividend income earned per shareholder under the Narragansett Electric Company method, rather than under the Southwestern Bell method. Consistent with the previous analysis though, increasing the allowed rate of return had the greatest effect on the amount of dividend income earned per shareholder under the United Telephone Company of Florida method. By ranking the imputed interest methods in terms of the effect increasing the allowed rate of return had on the amount of dividend income earned under each respective method, the following order occurred, with the method under which the amount of dividend income earned was affected the most being listed first, followed in decreasing order by the methods under which the amount of dividend income earned was affected less:

1. United Telephone Company of Florida
2. New England Telephone & Telegraph Company
3. Muncie Remand
4. Southwestern Bell
5. Narragansett Electric Company

It should be noted that the above results differ from the results obtained in this analysis for the ratepayer. In the above analysis the Muncie Remand method is listed third followed by the Southwestern Bell method, whereas in the ratepayer analysis the Southwestern Bell method was listed third followed by the Muncie Remand method. The above results also differ from the ranking found in the previous analysis. In that analysis the Narragansett Electric Company method was ranked fourth and the Southwestern Bell method was fifth.

The results obtained under the Continental Telephone Company of Maine method were again somewhat confusing. In comparing the results listed in Table 35 with the results listed in Table 36, it can be seen that as the allowed rate of return on the long-term debt of each system increased, the amount of dividend income earned per shareholder under the Continental method declined. This result was expected and was consistent with the findings from the previous analysis, as listed in Tables 31 and 32. It would also be expected that as the allowed rate of return relationship increased from 40%/20% to 10%/5%, the amount of dividend income earned per shareholder would decline. However, the results listed in Tables 37 and 38 show that as the allowed rate of return relationship increased, the amount of dividend income earned under the Continental method actually increased. This result is also consistent with the findings from the previous analysis, as listed in Tables 29 and 30; however, it is unknown why this result occurred only under the Continental method. It should be noted, though, that the amount of dividend income earned per shareholder under the Continental method, when the allowed rate of return relationship was 40%/20% (see Tables 35 and 36), was actually a <u>negative</u> amount. This was consistent with the findings in the previous analysis. Thus the amount of dividend income earned under the Continental method when the allowed rate of return relationship was 40%/20% was actually zero. Thus, increasing the allowed rate of return relationship did not increase the amount of dividend income earned under the Continental method above zero.

Analysis of the Long-Term Debt Ratio of the Parent Corporation and the Corporate System

In performing this analysis no additional assumptions were made beyond the assumptions set forth in Table 6 in Chapter 6. This analysis was performed under the following two scenarios:

1. The allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the corporate systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility. This scenario was referenced as 40%/20%.

2. The allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the corporate systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility. This scenario was referenced as 20%/10%.

Effect on the Ratepayer

Table 39 sets forth the percentage the amount of rates charged per KWH under each respective method either exceeded (+) or fell below (-) the amount of rates charged per KWH under the stand-alone method, when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility, and the long-term debt ratio of each corporate system was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility. The table sets forth the findings for both the 40%/20% and the 10%/5% allowed rate of return relationships.

Consistent with the findings under the previous two analyses, as the allowed rate of return relationship increased in this analysis,

TABLE 39

ANALYSIS OF THE EFFECT THE LONG-TERM DEBT RATIOS OF THE PARENT AND THE SYSTEM HAVE ON THE RATEPAYER
(LTD Ratio Relationship = 10%/5%[g])

Method	40%/20%[e] Utility #1	40%/20%[e] Utility #2	40%/20%[e] Utility #3	40%/20%[e] Mean	10%/5%[f] Utility #1	10%/5%[f] Utility #2	10%/5%[f] Utility #3	10%/5%[f] Mean
Stand-Alone (utility's interest)	.0079[a]	.0080[a]	.0122[a]		.0079[a]	.0080[a]	.0122[a]	
Stand-Alone (parent's interest)	-11%[b]	-15%[b]	-8%[b]	-11%	-11%[b]	-15%[b]	-8%[b]	-11%
Cities Service Gas Co.	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
United Gas Pipe Line Co.	-23%	-23%	-23%	-23%	-23%	-23%	-23%	-23%
Mechanic Falls Water Co.	-25%	-25%	-25%	-25%	-25%	-25%	-25%	-25%
Caribou Water Works	-44%	-44%	-44%	-44%	-44%	-44%	-44%	-44%
Newton Water Co.	-56%	-56%	-56%	-56%	-56%	-56%	-56%	-56%
West Penn Power Co.	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%
Dauphin Consolidated Water Supply Co.	-7%	-7%	-7%	-7%	-7%	-7%	-7%	-7%
Iowa Public Service	-27%	-27%	-27%	-27%	-27%	-27%	-27%	-27%

[a]Effect on the ratepayer: the rate per KWH amount charged the ratepayer.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, as compared to the rate per KWH amount charged the ratepayer under the stand-alone method.

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[f]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[g]In this analysis, the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility, and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

TABLE 39--Continued

Method	40%/20%[e] Utility #1	40%/20%[e] Utility #2	40%/20%[e] Utility #3	40%/20%[e] Mean	10%/5%[f] Utility #1	10%/5%[f] Utility #2	10%/5%[f] Utility #3	10%/5%[f] Mean
Narragansett Electric Co.	-11%[c]	-15%[c]	-9%[c]	-12%	-16%[d]	-22%[d]	-13%[d]	-17%
Southwestern Bell	+9%	+13%	+8%	+10%	--	--	--	--
United Telephone Co. of Florida	-20%	-23%	-19%	-21%	-30%	-35%	-28%	-31%
New England Telephone & Telegraph Co.	-15%	-19%	-12%	-15%	-23%	-29%	-19%	-24%
Muncie Remand	-13%	-14%	-9%	-12%	-17%	-21%	-14%	-17%
Continental Telephone Co. of Maine	-85%	-109%	-75%	-90%	-77%	-98%	-69%	-81%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-21%	-32%
Utility #2:	-30%	-44%
Utility #3:	-18%	-27%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-32%	-48%
Utility #2:	-44%	-67%
Utility #3:	-27%	-40%

[e]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[f]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

the amount of rates charged: (1) declined under all the imputed interest methods, and (2) increased under the Continental Telephone Company of Maine method.

Table 40 sets forth a comparison of how the amount of rates were affected under the various methods as the long-term debt ratios of each parent corporation and each system increased. It should be noted that when the long-term debt ratio relationship is referred to in this analysis as 10%/5% it means the following:

1. The long-term debt ratio of each parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility; and

2. The long-term debt ratio of each corporate system was 5 percent greater than the long-term debt ratio of its respective subsidiary.

Therefore, an increase in the long-term debt ratio of each parent corporation and each system (parent/system) was experienced in this analysis as the long-term debt ratio relationship increased from 10%/5% to 40%/20%. Increasing the long-term debt ratio of each parent/system had no effect on the amount of rates charged under those methods not listed in Table 40.

The methods under which the ratepayer was expected to be affected by an increase in the long-term debt ratio of either the parent corporation or the system were the imputed interest methods. This expectation held true for all but the Narragansett Electric Company method, for which no variation in the amount of rates charged was realized as the long-term debt ratio of each parent/system increased. It should be noted from the two previous analyses, however, that for those methods under which the ratepayer experienced a decline in the

TABLE 40

ANALYSIS OF THE EFFECT VARYING THE LONG-TERM DEBT RATIOS OF THE PARENT AND THE SYSTEM HAS ON THE RATEPAYER

	R of R Relationship = 40%/20%[b]				R of R Relationship = 10%/5%[c]			
	20%/10%[d]		40%/20%[e]		20%/10%[d]		40%/20%[e]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Stand-Alone (parent's interest)								
Utility #1	-11%		-34%		-11%		-34%	
Utility #2	-15%		-50%		-15%		-50%	
Utility #3	-11%		-28%		-11%		-28%	
Mean		-12%		-37%		-12%		-37%
Southwestern Bell[a]		-2%		-7%		-3%		-9%
United Telephone Co. of Florida[a]		-2%		-7%		-5%		-12%
New England Telephone & Telegraph Co.[a]		-2%		-5%		-3%		-8%
Muncie Remand[a]		-1%		-3%		-2%		-6%
Continental Telephone Co. of Maine								
Utility #1	-42%		-133%		-22%		-72%	
Utility #2	-100%		-329%		-500%		-1900%	
Utility #3	-23%		-67%		-16%		-47%	

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[c]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

[d]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the long-term debt ratio of the parent corporation was 20 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 10 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the rate per KWH amount charged the ratepayer when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each systems respective subsidiary utility.

TABLE 40--Continued

[e]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the long-term debt ratio of the parent corporation was 40 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 20 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the rate per KWH amount charged the ratepayer when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

amount of rates charged as the allowed rate of return on the long-term debt of each utility increased, the smallest amount of decline in the rates charged occurred under the Narragansett Electric Company method. Therefore, since increasing the long-term debt ratio of each parent/system had a minimal effect on the amount of rates charged in this analysis under the United Telephone Company of Florida method, the New England Telephone and Telegraph Company method, and the Muncie Remand method, it is possible that increasing the long-term debt ratio of each parent corporation had no effect on the amount of rates charged under the Narragansett Electric Company method.

In this analysis increasing the long-term debt ratio of each parent/system had the least effect on the amount of rates charged under the Muncie Remand method, and among the imputed interest methods it had the greatest effect on the amount of rates charged under the United Telephone Company of Florida method. By ranking the imputed interest methods in terms of the effect increasing the long-term debt ratio of each parent/system had on the amount of rates charged under each respective method, the following order occurred, with the method under which the amount of rates charged was affected the most being listed first, followed in decreasing order by the methods under which the amount of rates charged was affected less:

1. United Telephone Company of Florida
2. Southwestern Bell
3. New England Telephone & Telegraph Company
4. Muncie Remand

The above ranking differs from the rankings obtained for both of the previous two analyses.

Unlike the previous analyses, it was found in this analysis that the amount of rates charged under the stand-alone (parent's interest) method was also affected by an increase in the long-term debt ratio of each parent corporation. Under this method the interest expense of the parent corporation is used to compute the tax allowance of the utility. It appears from the results listed in Table 40 that an increase in the long-term debt ratio of each parent corporation affected the amount of rates charged under this method, however, an increase in the allowed rate of return relationship did not.

It was expected from the results of the previous two analyses that the greatest decline in the amount of rates charged the ratepayer under the imputed interest methods would be realized when the allowed rate of return relationship was 10%/5% rather than when it was 40%/20%. The results of this analysis confirmed this expectation.

In this analysis, as the long-term debt ratio of each utility increased, the long-term debt ratio of each respective parent corporation and each respective system increased because the long-term debt ratio of each parent corporation and each system were related to the long-term debt ratio of the respective utility (see Chapter 6). Therefore, the amount of decline realized in the rates charged, as the long-term debt ratio of each parent/system increased, was dependent upon the long-term debt ratio of the respective utility. As can be seen from the results obtained under both the Continental Telephone Company of Maine method and the stand-alone (parent's interest) method, the greatest decline in the amount of rates charged was realized by the ratepayers of Utility #2, which had the largest long-

term debt ratio. The ratepayers of Utility #3 realized the smallest decline, and Utility #3 had the lowest long-term debt ratio.

Consistent with the previous analyses, among all of the methods, increasing the long-term debt ratio of each parent/system had the greatest effect on the amount of rates charged under the Continental Telephone Company of Maine method. Also consistent with the previous analyses, the amount of rates charged declined under the Continental method as the long-term debt ratio of each system increased. This was true under both the 40%/20% and 10%/5% rate of return relationships. However, the amount of decline in rates realized by the ratepayers of Utility #1 and Utility #3 was smaller when the rate of return relationship was 10%/5%. The results listed in Table 40 for the ratepayers of Utility #2 appear contradictory since the ratepayers realized a greater decline in the amount of rates charged to them when the rate of return relationship was 40%/20% rather than when it was 10%/5%. This finding could result from the fact that for the ratepayers of Utility #2, when the long-term debt relationship was 10%/5% (see Table 39), the amount of rates charged was effectively zero for both rate of return relationships. Thus any variation in the amount of rates charged, as the long-term debt ratio of each system increased, really consisted of variations made on a negative number.

Effect on the Shareholder

Table 41 sets forth, computed under each method, the percentage the amount of dividend income earned per shareholder either exceeded (+) or fell below (-) the amount of dividend income earned per shareholder under the stand-alone method given: (1) the long-term debt

TABLE 41

ANALYSIS OF THE EFFECT THE LONG-TERM DEBT RATIOS OF THE PARENT AND THE SYSTEM HAVE ON THE SHAREHOLDER
(LTD Ratio Relationship = 10%/5%[e])
(R of R Relationship = 40%/20%[f])

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	294[a]	83[a]	38[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-17%[b]	-23%[b]	-13%[b]	-18%	-23%[b]	-33%[b]	-19%[b]	-25%
Cities Service Gas Co.	-30%	-30%	-32%	-31%	-43%	-43%	-41%	-42%
United Gas Pipe Line Co.	-36%	-36%	-37%	-36%	-51%	-50%	-52%	-51%
Mechanic Falls Water Co.	-38%	-39%	-39%	-39%	-54%	-53%	-52%	-53%
Caribou Water Works	-69%	-69%	-68%	-69%	-96%	-97%	-96%	-96%
Newton Water Co.	-87%	-88%	-87%	-87%	-122%	-122%	-122%	-122%
West Penn Power Co.	-21%	-20%	-21%	-21%	-30%	-30%	-30%	-30%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

[e]In this analysis, the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility, and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

[f]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 41--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Dauphin Consolidated Water Supply Co.	-11%	-11%	-11%	-11%	-15%	-15%	-15%	-15%
Iowa Public Service	-43%	-42%	-42%	-42%	-59%	-60%	-59%	-59%
Narragansett Electric Co.	-17%[c]	-23%[c]	-16%[c]	-19%	-23%[d]	-33%[d]	-19%[d]	-25%
Southwestern Bell	+15%	+20%	+11%	+15%	+20%	+28%	+19%	+22%
United Telephone Co. of Florida	-32%	-36%	-29%	-32%	-44%	-52%	-41%	-46%
New England Telephone & Telegraph Co.	-24%	-30%	-21%	-25%	-33%	-42%	-26%	-34%
Muncie Remand	-18%	-22%	-16%	-19%	-25%	-32%	-19%	-25%
Continental Telephone Co. of Maine	-132%	-170%	-116%	-139%	-184%	-237%	-163%	-195%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-33%	-49%
Utility #2:	-46%	-69%
Utility #3:	-29%	-42%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-46%	-69%
Utility #2:	-65%	-97%
Utility #3:	-41%	-59%

ratio relationship was 10%/5%, and (2) the allowed rate of return relationship was 40%/20%. The results obtained both with and without compensating tax agreements are listed. Table 42 sets forth the same analysis as Table 41 given the allowed rate of return relationship was 10%/5%. The findings listed in these tables were consistent with the results found for the previous two analyses.

Table 43 sets forth a comparison of how the amount of dividend income earned per shareholder was affected under the various methods as the long-term debt ratio of each parent/system increased, given the rate of return relationship was 40%/20%. The results obtained both with and without compensating tax agreements are listed. Table 44 sets forth the same analysis given the rate of return relationship was 10%/5%.

The same methods under which the ratepayers of each utility were found to be affected by an increase in the long-term debt ratio of either the parent corporation or the system (see Table 40) appear in Tables 43 and 44. Consistent with the findings in Table 40, the amount of dividend income earned per shareholder under the Narragansett Electric Company method was not affected by an increase in the long-term debt ratio of either the parent corporation or the system. Also consistent with the findings in this analysis for the ratepayer, the amount of dividend income earned under the Muncie Remand method was affected the least by an increase in the long-term debt ratio of each parent corporation.

Like the results obtained for the ratepayer, under the Southwestern Bell method when the allowed rate of return relationship was 40%/20%, the amount of dividend income earned per shareholder was

TABLE 42

ANALYSIS OF THE EFFECT THE LONG-TERM DEBT RATIOS OF THE PARENT AND THE SYSTEM HAVE ON THE SHAREHOLDER
(LTD Ratio Relationship = 10%/5%[e])
(R of R Relationship = 10%/5%[f])

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	294[a]	83[a]	38[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-17%[b]	-23%[b]	-13%[b]	-18%	-23%[b]	-33%[b]	-19%[b]	-25%
Cities Service Gas Co.	-30%	-30%	-32%	-31%	-43%	-43%	-41%	-42%
United Gas Pipe Line Co.	-36%	-36%	-37%	-36%	-51%	-50%	-52%	-51%
Mechanic Falls Water Co.	-38%	-39%	-39%	-39%	-54%	-53%	-52%	-53%
Caribou Water Works	-69%	-69%	-68%	-69%	-96%	-97%	-96%	-96%
Newton Water Co.	-87%	-88%	-87%	-87%	-122%	-122%	-122%	-122%
West Penn Power Co.	-21%	-20%	-21%	-21%	-30%	-30%	-30%	-30%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

[e]In this analysis, the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility, and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

[f]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 42--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Dauphin Consolidated Water Supply Co.	-11%	-11%	-11%	-11%	-15%	-15%	-15%	-15%
Iowa Public Service	-43%	-42%	-42%	-42%	-59%	-60%	-59%	-59%
Narragansett Electric Co.	-25%[c]	-35%[c]	-21%[c]	-27%	-35%[d]	-48%[d]	-30%[d]	-38%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-47%	-54%	-45%	-49%	-66%	-77%	-59%	-67%
New England Telephone & Telegraph Co.	-35%	-45%	-29%	-36%	-50%	-63%	-41%	-51%
Muncie Remand	-27%	-34%	-24%	-28%	-37%	-47%	-30%	-38%
Continental Telephone Co. of Maine	-120%	-153%	-108%	-127%	-168%	-213%	-148%	-176%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-49%	-74%
Utility #2:	-69%	-104%
Utility #3:	-42%	-63%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-69%	-103%
Utility #2:	-97%	-145%
Utility #3:	-59%	89%

TABLE 43

ANALYSIS OF THE EFFECT VARYING THE LONG-TERM DEBT RATIOS OF THE PARENT AND THE SYSTEM HAS ON THE SHAREHOLDER
(R of R Relationship = 40%/20%[c])

Method	Without CTA				With CTA			
	20%/10%[a]		40%/20%[b]		20%/10%[a]		40%/20%[b]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Stand-Alone (parent's interest)								
Utility #1	-20%		-55%		-30%		-83%	
Utility #2	-25%		-86%		-40%		-138%	
Utility #3	-18%		-45%		-23%		-68%	
Mean		-21%		-62%		-31%		-96%
Southwestern Bell								
Utility #1	-3%		-9%		-4%		-13%	
Utility #2	-4%		-13%		-6%		-17%	
Utility #3	-2%		-7%		-6%		-13%	
Mean		-3%		-10%		-5%		-14%

[a]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the long-term debt ratio of the parent corporation was 20 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 10 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the long-term debt ratio of the parent corporation was 40 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 20 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

[c]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 40 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 20 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 43--Continued

Method	Without CTA				With CTA			
	20%/10%[a]		40%/20%[b]		20%/10%[a]		40%/20%[b]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
United Telephone Co. of Florida								
Utility #1	-4%		-12%		-8%		-21%	
Utility #2	-6%		-15%		-7%		-28%	
Utility #3	-4%		-11%		-6%		-19%	
Mean		-5%		-13%		-7%		-23%
New England Telephone & Telegraph Co.								
Utility #1	-3%		-8%		-4%		-13%	
Utility #2	-3%		-10%		-6%		-20%	
Utility #3	--		-7%		-5%		-10%	
Mean		-2%		-8%		-5%		-14%
Muncie Remand								
Utility #1	-2%		-6%		-3%		-8%	
Utility #2	-3%		-8%		-2%		-12%	
Utility #3	--		-3%		-5%		-9%	
Mean		-2%		-6%		-3%		-10%
Continental Telephone Co. of Maine								
Utility #1	-33%		-95%		-17%		-51%	
Utility #2	-19%		-64%		-13%		-44%	
Utility #3	-67%		-167%		-24%		-59%	

[a]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the long-term debt ratio of the parent corporation was 20 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 10 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the long-term debt ratio of the parent corporation was 40 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 20 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

TABLE 44

ANALYSIS OF THE EFFECT VARYING THE LONG-TERM DEBT RATIOS OF THE PARENT AND THE SYSTEM HAS ON THE SHAREHOLDER (R of R Relationship = 10%/5%[c])

Method	Without CTA				With CTA			
	20%/10%[a]		40%/20%[b]		20%/10%[a]		40%/20%[b]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Stand-Alone (parent's interest)								
Utility #1	-20%		-55%		-30%		-83%	
Utility #2	-25%		-86%		-40%		-138%	
Utility #3	-18%		-45%		-23%		-68%	
Mean		-21%		-62%		-31%		-96%
Southwestern Bell								
Utility #1	-4%		-13%		-6%		-18%	
Utility #2	-6%		-18%		-8%		-25%	
Utility #3	-5%		-11%		-4%		-15%	
Mean		-5%		-14%		-6%		-19%

[a]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the long-term debt ratio of the parent corporation was 20 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 10 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the long-term debt ratio of the parent corporation was 40 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 20 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

[c]In this analysis, the allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility, and the allowed rate of return on the long-term debt of each of the systems was 5 percent lower than the allowed rate of return on the long-term debt of each system's respective subsidiary utility.

TABLE 44--Continued

Method	Without CTA				With CTA			
	20%/10%[a]		40%/20%[b]		20%/10%[a]		40%/20%[b]	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
United Telephone Co. of Florida								
Utility #1	-8%		-24%		-19%		-51%	
Utility #2	-11%		-34%		-29%		-86%	
Utility #3	-5%		-19%		-18%		-45%	
Mean		-8%		-26%		-22%		-61%
New England Telephone & Telegraph Co.								
Utility #1	-5%		-15%		-9%		-25%	
Utility #2	-7%		-22%		-9%		-45%	
Utility #3	-4%		-11%		-6%		-19%	
Mean		-5%		-16%		-8%		-30%
Muncie Remand								
Utility #1	-4%		-10%		-5%		-15%	
Utility #2	-4%		-13%		-6%		-25%	
Utility #3	--		-7%		-5%		-11%	
Mean		-3%		-10%		-5%		-17%
Continental Telephone Co. of Maine								
Utility #1	-46%		-132%		-18%		-54%	
Utility #2	-23%		-70%		-13%		-46%	
Utility #3	-100%		-267%		-23%		-69%	
Mean						-18%		-56%

[a]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the long-term debt ratio of the parent corporation was 20 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 10 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the long-term debt ratio of the parent corporation was 40 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 20 percent greater than the long-term debt ratio of each system's respective subsidiary utility, as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of the parent corporation was 10 percent greater than the long-term debt ratio of its respective subsidiary utility and the long-term debt ratio of each of the systems was 5 percent greater than the long-term debt ratio of each system's respective subsidiary utility.

actually greater than the amount of dividend income earned per shareholder under the stand-alone method. When the allowed rate of return relationship was 10%/5%, the amount of dividend income earned per shareholder under the Southwestern Bell method was the same as the amount of dividend income earned per shareholder under the stand-alone method. However, for both rate of return relationships the amount of dividend income earned declined as the long-term debt ratio of each system increased.

Also consistent with the findings related to the ratepayer, among the imputed interest methods other than the stand-alone (parent's interest) method, increasing the long-term debt ratio of each parent/system had the greatest effect on the amount of dividend income earned per shareholder under the United Telephone Company of Florida method. By ranking the imputed interest methods in terms of the effect increasing the long-term debt ratio of each parent/system had on the amount of dividend income earned per shareholder under each method, the following order occurred, with the method under which the amount of dividend income earned was affected the most listed first, followed in decreasing order by the methods under which the amount of dividend income earned was affected less:

1. United Telephone Company of Florida
2. Southwestern Bell
3. New England Telephone & Telegraph Company
4. Muncie Remand

It should be noted that if the allowed rate of return relationship was 10%/5% the New England Telephone & Telegraph Company method would be listed second in the above ranking and the Southwestern Bell method

would be listed third. The above ranking was consistent with the rankings found in this analysis for the ratepayer. However, the above ranking was not consistent with the results found in the previous two analyses.

Under the stand-alone (parent's interest) method, the amount of dividend income earned per shareholder declined as the long-term debt ratio of each parent corporation increased. However, consistent with the findings in this analysis for the ratepayer, the amount of dividend income earned was not affected by an increase in the rate of return relationship. Consistent with the results obtained for the ratepayer in this analysis, increasing the long-term debt ratio of each parent/system had a greater effect on the amount of dividend income earned under the stand-alone (parent's interest) method than under the imputed interest methods.

Under the Continental Telephone Company of Maine method the amount of dividend income earned per shareholder, when the long-term debt ratio relationship was 10%/5% (see Tables 41 and 42), actually was a negative amount. Therefore, as explained in the previous analyses, the amount of dividend income listed under the Continental method in both Table 41 and Table 42 really represents zero. Increasing the long-term debt ratio of each system had no effect on increasing the amount of dividend income earned under the Continental method above zero.

Analysis of the Percentage of the Parent Corporation's Ownership in the Common Equity of the Utility

Tables 45 through 48 set forth the results obtained for the ratepayer and the shareholder under the following three analyses:

1. Analysis of the percentage of the parent corporation's ownership in the common equity of its subsidiary utility

2. Analysis of the long-term debt ratio of the parent corporation computed by using its entire capital structure

3. Analysis of the book value of the long-term debt of the parent corporation

The above three attributes studied were found to impact the amount of tax allowance calculated under three different methods. The three methods and the particular attribute that was found to impact the tax allowance computed under each respective method were as follows:

1. New England Telephone & Telegraph Company method: Percentage ownership of the parent corporation in the common equity of its subsidiary utility

2. Muncie Remand method: Long-term debt ratio of the parent corporation computed by using its entire capital structure

3. Narragansett Electric Company method: Book value of the long-term debt of the parent corporation

The results found for the ratepayer and the shareholder under these three analyses were consistent with the results found in the previous analyses under all of the methods except the three methods noted above. Under these three analyses, the results obtained for the ratepayer and the shareholder were impacted under only one method per analysis. Therefore, for the following three analyses only the results obtained

TABLE 45

ANALYSIS OF THE EFFECT THE PARENT'S PERCENTAGE OF OWNERSHIP
IN THE UTILITY HAS ON THE RATEPAYER
ANALYSIS OF THE EFFECT USING THE ENTIRE CAPITAL STRUCTURE TO COMPUTE THE
PARENT'S LONG-TERM DEBT RATIO HAS ON THE RATEPAYER
ANALYSIS OF THE EFFECT THE BOOK VALUE OF THE PARENT'S
LONG-TERM DEBT HAS ON THE RATEPAYER

Method	Utility #1	Utility #2	Utility #3	Mean
Stand-Alone (utility's interest)	.0079[a]	.0080[a]	.0122[a]	
Stand-Alone (parent's interest)	-21%[b]	-27%[b]	-18%[b]	-22%
Cities Service Gas Co.	-19%	-19%	-19%	-19%
United Gas Pipe Line Co.	-23%	-23%	-23%	-23%
Mechanic Falls Water Co.	-25%	-25%	-25%	-25%
Caribou Water Works	-44%	-44%	-44%	-44%
Newton Water Co.	-56%	-56%	-56%	-56%
West Penn Power Co.	-14%	-14%	-14%	-14%
Dauphin Consolidated Water Supply Co.	-7%	-7%	-7%	-7%
Iowa Public Service	-27%	-27%	-27%	-27%

[a]Effect on the ratepayer: the rate per KWH amount charged the ratepayer.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, as compared to the rate per KWH amount charged the ratepayer under the stand-alone method.

TABLE 45--Continued

Method	Utility #1	Utility #2	Utility #3	Mean
Narragansett Electric Co.[f]	-14%[c]	-20%[c]	-12%[c]	-15%[c]
Southwestern Bell	--	--	--	--
United Telephone Co. of Florida	-30%	-34%	-27%	-30%
New England Telephone & Telegraph Co.	-22%[d]	-27%[d]	-18%[d]	-22%[d]
Muncie Remand	-17%[e]	-21%[e]	-14%[e]	-17%[e]
Continental Telephone Co. of Florida	-86%	-110%	-76%	-91%

[c]This figure is the amount realized under the following two analyses: (1) analysis of the long-term debt ratio of the parent corporation when using its entire capital structure; and (2) analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility. The amounts realized under the Narragansett Electric Co. method under the analysis of the book value of the long-term debt of the parent corporation were as follows: (1) Utility #1: -12%; (2) Utility #2: -16%; (3) Utility #3: -10%; and (4) Mean: -13%. These latter figures were realized when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of the long-term debt of its respective subsidiary utility.

[d]This figure is the amount realized under the following two analyses: (1) analysis of the long-term debt ratio of the parent corporation when using its entire capital structure; and (2) analysis of the book value of the long-term debt of the parent corporation. The amounts realized under the New England Telephone & Telegraph Co. method, under the analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility, were as follows: (1) Utility #1: -5%; (2) Utility #2: -7%; (3) Utility #3: -5%; and (4) Mean: -6%. These latter figures were realized when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

[e]This figure is the amount realized under the following two analyses: (1) analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility; and (2) analysis of the book value of the long-term debt of the parent corporation. The amounts realized under the Muncie Remand method, under the analysis of the long-term debt ratio of the parent corporation when using its entire capital structure, were as follows: (1) Utility #1: -13%; (2) Utility #2: -16%; (3) Utility #3: -11%; and (4) Mean: -13%. These latter figures were realized when the long-term debt ratio of each parent corporation, using its entire capital structure, was 40 percent less than its respective regular long-term debt ratio.

[f]For these three analyses, the results obtained under the Narragansett Electric Co. method are shown for the case when each utility's taxable income represented 20 percent of the total taxable income of its respective system. To avoid further complexity and confusion, the results obtained under these three analyses when each utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system will not be listed.

TABLE 46

ANALYSIS OF THE EFFECT VARYING THE THREE VARIABLES HAS ON THE RATEPAYER

Parent's Percentage of Ownership in the Utility's Common Equity			
	Ownership Percentage		
Method	50%	75%	100%
New England Telephone & Telegraph Co.[a]	-5%[b]	-12%[c]	-18%[d]

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under the New England Telephone & Telegraph Co. method, when each parent corporation owned 50 percent of the common equity of its respective subsidiary utility as compared to the rate per KWH amount charged the ratepayer when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under the New England Telephone & Telegraph Co. method, when each parent corporation owned 75 percent of the common equity of its respective subsidiary utility as compared to the rate per KWH amount charged the ratepayer when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

[d]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under the New England Telephone & Telegraph Co. method, when each parent corporation owned 100 percent of the common equity of its respective subsidiary utility as compared to the rate per KWH amount charged the ratepayer when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

TABLE 46--Continued

LTD Ratio of the Parent Using its Entire Capital Structure		
	LTD Ratio	
Method	25%	10%
Muncie Remand[a]	-4%[e]	-7%[f]

Book Value of the Parent's Long-Term Debt		
	Book Value Percentage	
	50%	75%
Narragansett Electric Co.[g]	-3%[h]	-6%[i]

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[e]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under the Muncie Remand method, when the long-term debt ratio of each parent corporation, using its entire capital structure, was 25 percent less than its respective regular long-term debt ratio as compared to the rate per KWH amount charged the ratepayer when the long-term debt ratio of each parent corporation, using its entire capital structure, was 40 percent less than its respective regular long-term debt ratio.

[f]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under the Muncie Remand method, when the long-term debt ratio of each parent corporation, using its entire capital structure, was 10 percent less than its respective regular long-term debt ratio as compared to the rate per KWH amount charged the ratepayer when the long-term debt ratio of each parent corporation, using its entire capital structure, was 40 percent less than its respective regular long-term debt ratio.

[g]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them. For this analysis, the results obtained under the Narragansett Electric Co. method are shown for the case when each utility's taxable income represented 20 percent of the total taxable income of its respective system. To avoid further complexity and confusion, the results obtained under this analysis when each utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system will not be listed.

[h]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under the Narragansett Electric Co. method, when the book value of the long-term debt of each parent corporation was 50 percent greater than the book value of the long-term debt of its respective subsidiary utility as compared to the rate per KWH amount charged the ratepayer when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of the long-term debt of its respective subsidiary utility.

[i]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under the Narragansett Electric Co. method, when the book value of the long-term debt of each parent corporation was 75 percent greater than the book value of the long-term debt of its respective subsidiary utility as compared to the rate per KWH amount charged the ratepayer when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of the long-term debt of its respective subsidiary utility.

for the ratepayer and the shareholder under the three methods noted above will be discussed.

In performing these three analyses the following two additional assumptions were made beyond the assumptions set forth in Table 6 of Chapter 6:

1. The allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility

2. The allowed rate of return on the long-term debt of each corporate system was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility

Effect on the Ratepayer

Table 45 sets forth the percentage the amount of rates per KWH charged under each respective method either exceeded (+) or fell below (-) the amount of rates which were charged per KWH under the stand-alone method. It was expected that only the tax allowance computed under the New England Telephone & Telegraph Company method would be affected in this analysis by an increase in the percentage of each parent corporation's ownership in the common equity of its respective subsidiary utility. The results of this analysis confirmed this expectation.

The results shown in Table 45 under the New England Telephone & Telegraph method are those obtained when each parent corporation owned 100 percent of the common equity of its respective subsidiary utility. However, the results obtained under this method when each parent corporation owned only 25 percent of the common equity of its respective subsidiary utility were considerably lower: (1) Utility #1: -5%;

(2) Utility #2: -7%; (3) Utility #3: -5%; and (4) Mean: -6%. The results obtained under the other methods were not affected by a change in the ownership percentage. Therefore, when each parent corporation owned only 25 percent of the common equity of its respective subsidiary utility, among the imputed interest methods, the lowest rates were charged under the United Telephone Company of Florida method and the highest rates were charged under the Southwestern Bell method. By ranking the imputed interest methods in terms of the amount of rates charged under them when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility, the following order occurred, with the method that charged the lowest rates being listed first, followed in increasing order by the methods that charged a higher amount:

1. United Telephone Company of Florida
2. Muncie Remand
3. Narragansett Electric Company
4. New England Telephone & Telegraph Company
5. Southwestern Bell

When the ownership percentage was 25 percent, the New England Telephone & Telegraph method ranked fourth rather than second, as it did under all of the other capital structure/rate of return analyses. Thus if this particular attribute is included in the calculation of a utility's tax allowance under the imputed interest methods, as it is under the New England Telephone & Telegraph method, the amount of rates charged by a utility could be higher in those instances where the parent corporation owns less interest in the utility.

Table 46 sets forth a comparison of how the amount of rates was affected under the New England Telephone & Telegraph method as the percentage of each parent corporation's ownership in the common equity of its respective subsidiary utility increased from 25 percent to 100 percent. Increasing the ownership percentage had no effect on the amount of rates charged under the other methods.

It would be expected that as the parent corporation's ownership increased, the amount of imputed interest used to calculate the tax allowance of the subsidiary utility, under the New England Telephone & Telegraph method, would also increase (see Chapter 5). Therefore, as the ownership percentage increased it would be expected that the amount of rates charged the ratepayer would decline. The results listed in Table 46 confirm this expectation. As the ownership percentage of each parent corporation increased, the amount of rates charged under the New England Telephone & Telegraph method declined. However, the amount of decline in the rates charged was not significant.

Effect on the Shareholder

Table 47 sets forth, computed under each method, the percentage the amount of dividend income earned per shareholder either exceeded (+) or fell below (-) the amount of dividend income earned per shareholder under the stand-alone method. The results obtained both with and without compensating tax agreements are listed.

The results shown in Table 47 under the New England Telephone & Telegraph method are those obtained in this analysis when each parent corporation owned 100 percent of the common equity of its respective

TABLE 47

ANALYSIS OF THE EFFECT THE PARENT'S PERCENTAGE OF OWNERSHIP IN THE UTILITY HAS ON THE SHAREHOLDER
ANALYSIS OF THE EFFECT USING THE ENTIRE CAPITAL STRUCTURE TO COMPUTE THE PARENT'S LONG-TERM DEBT RATIO HAS ON THE SHAREHOLDER
ANALYSIS OF THE EFFECT THE BOOK VALUE OF THE PARENT'S LONG-TERM DEBT HAS ON THE SHAREHOLDER

	Without CTA				With CTA			
	Utility				Utility			
Method	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	294[a]	83[a]	38[a]		211[a]	60[a]	27[a]	
Stand-Alone (parent's interest)	-33%[b]	-42%[b]	-29%[b]	-35%	-46%[b]	-60%[b]	-37%[b]	-48%
Cities Service Gas Co.	-30%	-30%	-32%	-31%	-43%	-43%	-41%	-42%
United Gas Pipe Line Co.	-36%	-36%	-37%	-36%	-51%	-50%	-52%	-51%
Mechanic Falls Water Co.	-38%	-39%	-39%	-39%	-54%	-53%	-52%	-53%
Caribou Water Works	-69%	-69%	-68%	-69%	-96%	-97%	-96%	-96%
Newton Water Co.	-87%	-88%	-87%	-87%	-122%	-122%	-122%	-122%
West Penn Power Co.	-21%	-20%	-21%	-21%	-30%	-30%	-30%	-30%
Dauphin Consolidated Water Supply Co.	-11%	-11%	-11%	-11%	-15%	-15%	-15%	-15%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

TABLE 47--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Iowa Public Service	-43%	-42%	-42%	-42%	-59%	-60%	-59%	-59%
Narragansett Electric Co.[i]	-22%[c]	-30%[c]	-18%[c]	-23%[c]	-31%[f]	-43%[f]	-26%[f]	-33%[f]
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-46%	-53%	-42%	-47%	-64%	-73%	-59%	-65%

[c]This figure is the amount realized under the following two analyses: (1) analysis of the long-term debt ratio of the parent corporation when using its entire capital structure; and (2) analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility. The amounts realized under the Narragansett Electric Co. method, under the analysis of the book value of the long-term debt of the parent corporation, were as follows: (1) Utility #1: -18%; (2) Utility #2: -25%; (3) Utility #3: -16%; and (4) Mean: -20%. These latter figures were realized when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of the long-term debt of its respective subsidiary utility.

[f]This figure is the amount realized under the following two analyses: (1) analysis of the long-term debt ratio of the parent corporation when using its entire capital structure; and (2) analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility. The amounts realized under the Narragansett Electric Co. method, under the analysis of the book value of the long-term debt of the parent corporation, were as follows: (1) Utility #1: -26%; (2) Utility #2: -37%; (3) Utility #3: -22%; and (4) Mean: -28%. These latter figures were realized when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of the long-term debt of its respective subsidiary utility.

[i]For these three analyses, the results obtained under the Narragansett Electric Co. method are shown for the case when each utility's taxable income represented 20 percent of the total taxable income of its respective system. To avoid further complexity and confusion, the results obtained under these three analyses when each utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system will not be listed.

TABLE 47--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
New England Telephone & Telegraph Co.	-35%[d]	-42%[d]	-29%[d]	-35%[d]	-48%[g]	-60%[g]	-41%[g]	-50%[g]
Muncie Remand	-26%[e]	-33%[e]	-21%[e]	-27%[e]	-36%[h]	-45%[h]	-30%[h]	-37%[h]
Continental Telephone Co. of Maine	-134%	-171%	-118%	-141%	-186%	-237%	-167%	-197%

[d]This figure is the amount realized under the following two analyses: (1) analysis of the long-term debt ratio of the parent corporation when using its entire capital structure; and (2) analysis of the book value of the long-term debt of the parent corporation. The amounts realized under the New England Telephone & Telegraph Co. method, under the analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility, were as follows: (1) Utility #1: -9%; (2) Utility #2: -11%; (3) Utility #3: -8%; and (4) Mean: -9%. These latter figures were realized when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

[e]This figure is the amount realized under the following two analyses: (1) analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility; and (2) analysis of the book value of the long-term debt of the parent corporation. The amounts realized under the Muncie Remand method, under the analysis of the long-term debt ratio of the parent corporation when using its entire capital structure, were as follows: (1) Utility #1: -21%; (2) Utility #2: -25%; (3) Utility #3: -18%; and (4) Mean: -21%. These latter figures were realized when the long-term debt ratio of each parent corporation, using its entire capital structure, was 40 percent less than its respective regular long-term debt ratio.

[g]This figure is the amount realized under the following two analyses: (1) analysis of the long-term debt ratio of the parent corporation when using its entire capital structure; and (2) analysis of the book value of the long-term debt of the parent corporation. The amounts realized under the New England Telephone & Telegraph Co. method, under the analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility, were as follows: (1) Utility #1: -12%; (2) Utility #2: -15%; (3) Utility #3: -11%; and (4) Mean: -13%. These latter figures were realized when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

[h]This figure is the amount realized under the following two analyses: (1) analysis of the parent corporation's percentage ownership in the common equity of its respective subsidiary utility; and (2) analysis of the book value of the long-term debt of the parent corporation. The amounts realized under the Muncie Remand method, under the analysis of the long-term debt ratio of the parent corporation when using its entire capital structure, were as follows: (1) Utility #1: -29%; (2) Utility #2: -37%; (3) Utility #3: -22%; and (4) Mean: -29%. These latter figures were realized when the long-term debt ratio of each parent corporation, using its entire capital structure, was 40 percent less than its respective regular long-term debt ratio.

subsidiary utility. However, the results obtained under this method when the ownership percentage was 25 percent were lower:

1. Without compensating tax agreements:
    a. Utility #1: -9%
    b. Utility #2: -11%
    c. Utility #3: -8%
    d. Mean: -9%
2. With compensating tax agreements:
    a. Utility #1: -12%
    b. Utility #2: -15%
    c. Utility #3: -11%
    d. Mean: -13%

Consistent with the findings in this analysis for the ratepayer, as the ownership percentage increased the amount of dividend income earned per shareholder under the other methods was not affected.

By ranking the imputed interest methods in terms of the amount of dividend income earned per shareholder under them when the ownership percentage was 25 percent, the following order occurred, with the method that generated the least amount of dividend income per shareholder listed first, followed in increasing order by the methods that generated a greater amount of dividend income per shareholder:

1. United Telephone Company of Florida
2. Muncie Remand
3. Narragansett Electric Company
4. New England Telephone & Telegraph Company
5. Southwestern Bell

The above findings were consistent with the results obtained in this analysis for the ratepayer. By including the reduced ownership percentage in the tax allowance computation, the New England Telephone & Telegraph method ranked fourth rather than second, as it did under all of the other capital structure/rate of return analyses. Therefore, by allowing this particular attribute to be included in the calculation of a utility's tax allowance, at least under the imputed interest methods, the amount of dividend income earned per shareholder could be higher when the parent corporation owns less interest in the utility.

Table 48 sets forth how an increase, from 25 percent to 100 percent, in the ownership percentage affected the amount of dividend income earned per shareholder under the New England Telephone & Telegraph method. The table lists the results obtained both with and without compensating tax agreements. As expected from the results obtained in this analysis for the ratepayer, as the ownership percentage increased the amount of dividend income earned per shareholder declined. This was due to the fact that the amount of imputed interest used to calculate the tax allowance increased as the ownership percentage increased, thereby reducing the revenue requirement for each utility. Increasing the ownership percentage had no effect on the amount of dividend income earned per shareholder under the other methods.

TABLE 48

ANALYSIS OF THE EFFECT VARYING THE THREE VARIABLES HAS ON THE SHAREHOLDER

Method	Parent's Percentage of Ownership in the Utility's Common Equity											
	Without CTA						With CTA					
	Ownership Percentage						Ownership Percentage					
	50%		75%		100%		50%		75%		100%	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
New England Telephone & Telegraph Co.												
Utility #1	-10%[a]		-19%[b]		-29%[c]		-14%[a]		-28%[b]		-41%[c]	
Utility #2	-12%		-24%		-35%		-18%		-35%		-53%	
Utility #3	-9%		-14%		-23%		-8%		-21%		-33%	
Mean		-10%		-19%		-29%		-13%		-28%		-42%

[a]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under the New England Telephone & Telegraph Co. method, when each parent corporation owned 50 percent of the common equity of its respective subsidiary utility as compared to the amount of dividend income earned per shareholder when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under the New England Telephone & Telegraph Co. method, when each parent corporation owned 75 percent of the common equity of its respective subsidiary utility as compared to the amount of dividend income earned per shareholder when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under the New England Telephone & Telegraph Co. method, when each parent corporation owned 100 percent of the common equity of its respective subsidiary utility as compared to the amount of dividend income earned per shareholder when each parent corporation owned 25 percent of the common equity of its respective subsidiary utility.

TABLE 48--Continued

Method	LTD Ratio of the Parent Using its Entire Capital Structure			
	Without CTA		With CTA	
	LTD Ratio		LTD Ratio	
	25%	10%	25%	10%
Muncie Remand[d]	-6%[e]	-14%[f]	-11%[e]	-22%[f]

[d]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[e]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under the Muncie Remand method, when the long-term debt ratio of each parent corporation, using its entire capital structure, was 25 percent less than its respective regular long-term debt ratio as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of each parent corporation, using its entire capital structure, was 40 percent less than its respective regular long-term debt ratio.

[f]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under the Muncie Remand method, when the long-term debt ratio of each parent corporation, using its entire capital structure, was 10 percent less than its respective regular long-term debt ratio as compared to the amount of dividend income earned per shareholder when the long-term debt ratio of each parent corporation, using its entire capital structure, was 40 percent less than its respective regular long-term debt ratio.

TABLE 48--Continued

Method	Book Value of the Parent's Long-Term Debt			
	Without CTA		With CTA	
	Book Value Percentage		Book Value Percentage	
	50%	75%	50%	75%
Narragansett Electric Co.[g]	-5%[h]	-11%[i]	-8%[h]	-15%[i]

[g]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder. For this analysis, the results obtained under the Narragansett Electric Co. method are shown for the case when each utility's taxable income represented 20 percent of the total taxable income of its respective system. To avoid further complexity and confusion, the results obtained under this analysis when each utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system will not be listed.

[h]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under the Narragansett Electric Co. method, when the book value of the long-term debt of each parent corporation was 50 percent greater than the book value of the long-term debt of its respective subsidiary utility as compared to the amount of dividend income earned per shareholder when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of the long-term debt of its respective subsidiary utility.

[i]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under the Narragansett Electric Co. method, when the book value of the long-term debt of each parent corporation was 75 percent greater than the book value of the long-term debt of its respective subsidiary utility as compared to the amount of dividend income earned per shareholder when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of the long-term debt of its respective subsidiary utility.

Analysis of the Long-Term Debt Ratio of the Parent Corporation Computed by Using Its Entire Capital Structure

It was expected for this analysis that only the tax allowance computed under the Muncie Remand method would be affected by an increase in the long-term debt ratio of each parent corporation, when the long-term debt ratio was computed using the entire capital structure of the parent corporation. The "entire capital structure" of the parent corporation is defined under the Muncie Remand method as including the retained earnings of the parent's subsidiaries (see Chapter 5). The long-term debt ratio of a parent corporation computed by using its entire capital structure would be expected to be lower than its regular debt ratio, computed using only its own capital structure. Therefore, it would be expected that when a parent corporation's long-term debt ratio and cost of debt are used to compute a utility's imputed interest, the amount of imputed interest would be lower when the entire capital structure of the parent is used to compute the long-term debt ratio, as compared to the amount computed when the regular long-term debt ratio is used. It would also be expected that if the imputed interest expense declined, the utility's tax allowance would increase, and thus the amount of rates charged the ratepayer would increase.

Effect on the Ratepayer

The results listed in Table 45 for the Muncie Remand method are those obtained when the long-term debt ratio of each parent corporation, computed by using the entire capital structure of the parent, was 25 percent lower than its regular long-term debt ratio. However,

when the long-term debt ratio of each parent corporation, computed by using its entire capital structure, was 40 percent lower than its regular long-term debt ratio, the results obtained under the Muncie Remand method were lower: (1) Utility #1: -13%; (2) Utility #2: -16%; (3) Utility #3: -11%; and (4) Mean: -13%. Increasing the long-term debt ratio of each parent corporation, computed by using the entire capital structure of the parent, had no effect on the results obtained under the other methods. Therefore, among the imputed interest methods, when the parent's long-term debt ratio, computed by using its entire capital structure, was 40 percent lower than its regular long-term debt ratio, the lowest rates were charged under the United Telephone Company of Florida method and the highest rates were charged under the Southwestern Bell method. By ranking the imputed interest methods in terms of the amount of rates charged under them when the parent's long-term debt ratio, computed by using its entire capital structure, was 40 percent lower than its regular long-term debt ratio, the following order occurred, with the method that charged the lowest rates being listed first, followed in increasing order by the methods that charged a higher amount:

1. United Telephone Company of Florida
2. New England Telephone & Telegraph Company
3. Narragansett Electric Company
4. Muncie Remand
5. Southwestern Bell

In this situation the Muncie Remand method ranked fourth rather than third as it did in all of the other capital structure/rate of return analyses. Therefore, at least under the imputed interest methods, if

the long-term debt ratio of a utility's parent corporation is allowed to be computed by using the parent's entire capital structure, the rates charged by that utility could be higher than the rates it would be allowed to charge if the regular long-term debt ratio of its parent is used to compute its imputed interest expense.

Table 46 sets forth a comparison of how the amount of rates charged per KWH under the Muncie Remand method were affected by an increase in the long-term debt ratio of each parent corporation. The long-term debt ratio of each parent corporation was computed by using its entire capital structure. An increase in this long-term debt ratio was realized as the attribute varied from 40 percent to 10 percent. It should be noted that when this attribute was 10 percent it meant that the long-term debt ratio of each parent corporation, computed by using its entire capital structure, was 10 percent lower than its regular long-term debt ratio. Therefore, when this attribute was 10 percent, the long-term debt ratio of the parent, computed by using its entire capital structure, was almost the same as the parent's regular long-term debt ratio. Based on the results of the previous analyses, it would be expected that an increase in the long-term debt ratio of each parent corporation would cause the amount of rates charged to decline. The results listed in Table 46 confirm this expectation. As the long-term debt ratio of each parent corporation increased, computed by using the entire capital structure of the parent corporation, the amount of rates charged under the Muncie Remand method declined. However, the decline realized in the rates charged was minimal.

Effect on the Shareholder

The results listed in Table 47 for the Muncie Remand method are those obtained when the long-term debt ratio of each parent corporation, computed by using its entire capital structure, was 25 percent lower than its regular long-term debt ratio. However, the results obtained under the Muncie Remand method when the long-term debt ratio of each parent corporation, computed by using its entire capital structure, was 40 percent lower than its regular long-term debt ratio were lower:

1. Without compensating tax agreements:
    a. Utility #1: -21%
    b. Utility #2: -25%
    c. Utility #3: -18%
    d. Mean: -21%
2. With compensating tax agreements:
    a. Utility #1: -29%
    b. Utility #2: -37%
    c. Utility #3: -22%
    d. Mean: -29%

Consistent with the findings in this analysis for the ratepayer, increasing the long-term debt ratio of each parent corporation, computed by using the entire capital structure of the parent, had no effect on the amount of dividend income earned per shareholder under the other methods. The findings obtained when the imputed interest methods were ranked in terms of the amount of dividend income earned per shareholder under them when the long-term debt ratio of each parent, computed by using its entire capital structure, was 40 percent

below its regular long-term debt ratio, were identical to the rankings obtained in this analysis for the ratepayer. Thus the Muncie Remand method ranked fourth rather than second, as it did in all of the other capital structure/rate of return analyses. Therefore, by allowing the long-term debt ratio of a utility's parent corporation to be computed by using its entire capital structure, at least under the imputed interest methods, the amount of dividend income a shareholder could earn would be greater than the amount that would be earned if the parent's regular long-term debt ratio is used to compute the utility's tax allowance.

As expected from the findings obtained in this analysis for the ratepayer, the results listed in Table 48 for the Muncie Remand method confirm that increasing the long-term debt ratio of each parent corporation, computed by using the entire capital structure of the parent, caused the amount of dividend income earned per shareholder to decline only under the Muncie Remand method. However, the amount of decline realized by the shareholders was not significant.

Analysis of the Book Value of the Long-Term Debt of the Parent Corporation

In this analysis it was expected that an increase in the book value of the long-term debt of each parent corporation would impact the tax allowance computed under the following imputed interest methods:

1. Stand-alone (parent's interest)
2. Muncie Remand
3. Narragansett Electric Company

The above methods were selected based on the fact that either the long-term debt interest expense of the parent corporation or the book value of the long-term debt of the parent corporation were factors in the formulas underlying these methods (see Appendix B). However, these expectations were not confirmed by the results of this analysis. In fact, the only method under which each utility's tax allowance was impacted by an increase in the book value of the long-term debt of each parent corporation was the Narragansett Electric Company method.

It was initially thought that an increase in the book value of the long-term debt of each parent corporation would cause the interest expense of each parent corporation to increase; and, if the interest expense of the parent corporation increased, it was thought that the imputed interest allocated to the parent corporation's respective subsidiary utility would also increase, thus resulting in a reduction of the utility's tax allowance under all of the above three methods. However, in reviewing the formulas underlying both the stand-alone (parent's interest) method and the Muncie Remand method it can be noted that one of the factors in each of the formulas is:

$$\frac{\text{Interest expense of the parent corporation}}{\text{Book value of the long-term debt of the parent corporation}}$$

In this analysis when the book value of the long-term debt of each parent corporation increased, so did the parent's interest expense. However, the numerator and the denominator of the above ratio apparently changed simultaneously, so the value of the ratio did not change as the book value of the long-term debt of each parent

increased. Therefore, since there was no variation in the value of this ratio, no variation resulted in either the amount of rates charged or in the amount of dividend income earned per shareholder under the stand-alone (parent's interest) method and the Muncie Remand method as the book value of the long-term debt of each parent corporation increased.

Effect on the Ratepayer

The results shown in Table 45 under the Narragansett Electric Company method are those obtained when the book value of the long-term debt of each parent corporation was 50 percent greater than the book value of the long-term debt of its respective subsidiary utility. It should be noted that the results of this analysis are only shown for that case where the taxable income of each utility represented 20 percent of the total positive taxable income of its respective system. The results obtained under the Narragansett Electric method when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of its respective subsidiary were somewhat lower: (1) Utility #1: -12%; (2) Utility #2: -16%; (3) Utility #3: -10%; and (4) Mean: -13%. The results obtained under the other methods were not affected by a change in the size of the book value of the long-term debt of each parent corporation. Nonetheless, apparently because the amount of change in the rates charged under the Narragansett Electric Company method was minimal, the ranking of the imputed interest methods in terms of the amount of rates charged under them, when the book value attribute was 25 percent, did not vary from

the ranking obtained under all of the other capital structure/rate of return analyses.

Table 46 sets forth a comparison of how the amount of rates was affected under the Narragansett Electric Company method when the book value of the long-term debt of each parent corporation increased. As expected, as the book value increased, the amount of rates charged under the Narragansett Electric Company method declined. However, the amount of decline realized in the rates charged was minimal. Increasing the book value of the long-term debt of each parent corporation had no effect on the amount of rates charged under the other method.

Effect on the Shareholder

The results listed in Table 47 for the Narragansett Electric Company method are those obtained when the book value of the long-term debt of each parent corporation was 50 percent greater than the book value of the long-term debt of its respective subsidiary utility. It should be noted that the results of this analysis are only shown for that case where the taxable income of each utility represented 20 percent of the total positive taxable income of its respective system. The results obtained under the Narragansett Electric Company method when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of its respective subsidiary utility were somewhat lower:

1. Without compensating tax agreements:
    a. Utility #1: -18%
    b. Utility #2: -25%

c. Utility #3: -16%

d. Mean: -20%

2. With compensating tax agreements:

a. Utility #1: -26%

b. Utility #2: -37%

c. Utility #3: -22%

d. Mean: -28%

Consistent with the findings in this analysis for the ratepayer, increasing the book value of the long-term debt of each parent corporation had no effect on the amount of dividend income earned per shareholder under the other methods. Also consistent with the findings in this analysis for the ratepayer, the ranking of the imputed interest methods in terms of the amount of dividend income earned per shareholder under them when the book value of the long-term debt of each parent corporation was 25 percent greater than the book value of the long-term debt of its respective subsidiary utility, did not vary from the ranking found under all of the other capital structure/rate of return analyses. In other words, the Narragansett Electric Company method continued to rank fourth, as it did in all of the other capital structure/rate of return analyses.

The results listed in Table 48 for the Narragansett Electric Company method confirm the results obtained in this analysis for the ratepayer. As the book value of the long-term debt of each parent corporation increased, the amount of dividend income earned per shareholder declined. Furthermore, increasing the book value of the long-term debt of each parent corporation did not affect the amount of dividend income earned per shareholder under the other methods. The

amount of decline in dividend income realized by the shareholder under the Narragansett Electric Company method, as the book value of the long-term debt of each parent corporation increased, was not significant.

Analysis of the Allowed Rate of Return on The Common Equity of the Utility

In performing this analysis the following two additional assumptions were made beyond those set forth in Table 6 of Chapter 6:

1. The allowed rate of return on the long-term debt of each parent corporation was 20 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility

2. The allowed rate of return on the long-term debt of each parent corporation was 10 percent lower than the allowed rate of return on the long-term debt of its respective subsidiary utility

Effect on the Ratepayer

Table 49 sets forth the percentage the amount of rates per KWH charged under each respective method either exceeded (+) or fell below (-) the amount of rates which were charged per KWH under the stand-alone method when the allowed rate of return on the common equity of each utility was 14 percent.

Table 50 sets forth a comparison of how the amount of rates were affected under the various methods as the allowed rate of return on the common equity of each utility increased from 14 percent to 17 percent. It should be noted that in this analysis the allowed rate of return on the common equity of each parent corporation was assumed to be the same as the allowed rate of return on the common equity of its respective subsidiary utility (see Chapter 6). Therefore, in this

TABLE 49

ANALYSIS OF THE EFFECT THE ALLOWED RATE OF RETURN ON THE UTILITY'S COMMON EQUITY HAS ON THE RATEPAYER (R of R = 14%)

Method	Utility #1	Utility #2	Utility #3	Mean
Stand-Alone (utility's interest)	.0073[a]	.0073[a]	.0113[a]	
Stand-Alone (parent's interest)	-21%[b]	-27%[b]	-17%[b]	-22%
Cities Service Gas Co.	-19%	-19%	-19%	-19%
United Gas Pipe Line Co.	-23%	-23%	-23%	-23%
Mechanic Falls Water Co.	-25%	-25%	-25%	-25%
Caribou Water Works	-44%	-44%	-44%	-44%
Newton Water Co.	-56%	-56%	-56%	-56%
West Penn Power Co.	-14%	-14%	-14%	-14%
Dauphin Consolidated Water Supply Co.	-7%	-7%	-7%	-7%
Iowa Public Service	-27%	-27%	-27%	-27%
Narragansett Electric Co.	-15%[c]	-22%[c]	-13%[c]	-17%
Southwestern Bell	--	--	--	--
United Telephone Co. of Florida	-32%	-37%	-29%	-33%
New England Telephone & Telegraph Co.	-24%	-30%	-20%	-25%
Muncie Remand	-18%	-22%	-15%	-18%
Continental Telephone Co. of Maine	-89%	-115%	-79%	-94%

[a]Effect on the ratepayer: the rate per KWH amount charged the ratepayer.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, as compared to the rate per KWH amount charged the ratepayer under the stand-alone method.

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-31%	-46%
Utility #2:	-43%	-65%
Utility #3:	-26%	-39%

TABLE 50

ANALYSIS OF THE EFFECT VARYING THE ALLOWED RATE OF RETURN ON THE UTILITY'S COMMON EQUITY HAS ON THE RATEPAYER

Method	R of R = 15.5% Utility	R of R = 15.5% Mean	R of R = 17% Utility	R of R = 17% Mean
Stand-Alone (utility's interest)[a]		+9%[b]		+17%[c]
Stand-Alone (parent's interest)[a]		+9%		+16%
Cities Service Gas Co.[a]		+8%		+16%
United Gas Pipe Line Co.[a]		+8%		+17%
Mechanic Falls Water Co.[a]		+9%		+17%
Caribou Water Works[a]		+7%		+16%
Newton Water Co.[a]		+9%		+18%
West Penn Power Co.[a]		+9%		+17%
Dauphin Consolidated Water Supply Co.[a]		+8%		+17%
Iowa Public Service[a]		+9%		+17%
Narragansett Electric Co.[a]		+10%[d]		+21%[e]
Southwestern Bell[a]		+9%		+18%
United Telephone Co. of Florida[a]		+12%		+24%
New England Telephone & Telegraph Co.[a]		+12%		+23%
Muncie Remand[a]		+11%		+21%
Continental Telephone Co. of Maine				
Utility #1	+38%		+88%	
Utility #2	+27%		+64%	
Utility #3	+21%		+42%	
Mean		+29%		+65%

[a]Ratepayers of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the rate per KWH amount charged them.

[b]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the rate of return on the utility's common equity was 15.5 percent as compared to the rate per KWH amount charged the ratepayer when the rate of return on the utility's common equity was 14 percent.

[c]Percentage increase (+) or decrease (-) in the rate per KWH amount charged the ratepayer, under each respective method, when the rate of return on the utility's common equity was 17 percent as compared to the rate per KWH amount charged the ratepayer when the rate of return on the utility's common equity was 14 percent.

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	+12%	+18%
Utility #2:	+17%	+23%
Utility #3:	+11%	+13%

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	+24%	+33%
Utility #2:	+34%	+50%
Utility #3:	+21%	+26%

analysis when the allowed rate of return on the common equity of each utility increased from 14 percent to 15.5 percent so did the allowed rate of return on the common equity of its respective parent corporation.

The findings listed in Table 50 show that the amount of increase in rates realized under the stand-alone method as the allowed rate of return on the common equity of each utility increased, was equal to the after-tax effect of increasing the allowed rate of return. For example, the after-tax effect of increasing the allowed rate of return on the common equity of each utility from 14 percent to 15.5 percent, was 9 percent, computed as follows:

$$\frac{(.155 - .14)}{.14} \times \frac{t}{(1 - t)} = .09$$

where t represents the statutory tax rate of 46 percent.

It was expected that increasing the allowed rate of return on the common equity of each utility and each parent corporation would affect the amount of rates charged under all of the methods. This was expected because the cost of capital of either the utility or the parent corporation is a factor under all of the methods in computing the utility's tax allowance. It was not expected, however, that as the allowed rate of return on the common equity of each utility and each parent corporation increased, the amount of increase realized in the rates would vary among the methods. It was expected that the amount of increase realized in the rates charged would be the same under all of the methods. Instead, the amount of rates charged under the following imputed interest methods increased slightly more than

the amount of increase realized under the stand-alone method, as the allowed rate of return on the common equity of each utility and each parent increased:

1. Narragansett Electric Company
2. United Telephone Company of Florida
3. New England Telephone & Telegraph Company
4. Muncie Remand

It is not known why an increase in the allowed rate of return on the common equity of each utility and each parent corporation affected the amount of rates charged under each of these methods more than the amount of rates charged under the other methods. In reviewing the formulas underlying these methods it can be noted that in all but the Narragansett Electric Company method, either the utility's equity percentage or the utility's equity account appear as factors in the formulas and that these particular factors do not appear in the formulas underlying any of the other methods. However, it is not known why an increase in the allowed rate of return on the common equity would affect either of these two factors.

It is also not known why the amount of rates charged under the Narragansett Electric Company method would be affected by an increase in the allowed rate of return on the common equity of each utility. Under this method the amount of tax savings allocated to the utility is based on the parent corporation's interest expense, and the portion of the tax savings allocated to the utility is based on the utility's relative contribution to the consolidated taxable income. It would appear that neither of these two factors should be affected by an increase in the allowed rate of return on the common equity of the

utility. Apparently, however, increasing this attribute caused the utility's taxable income to change, which in turn may have affected the amount of tax savings that was allocated to the utility.

Increasing the allowed rate of return on the common equity of the utility had the greatest effect on the amount of rates charged under the Continental Telephone Company of Maine method. However, it is not known which factor in the formula underlying this method could have caused such a significant increase in the amount of rates charged under this method. It should be noted though that the amount of rates charged by each utility under this method fell significantly below the amount of rates charged under the stand-alone method, when the allowed rate of return on the common equity of each utility was 14 percent (see Table 49). In effect then, increasing the allowed rate of return on the common equity of each utility caused the amount of rates charged under this method to move closer to the amount of rates charged under the stand-alone method.

Effect on the Shareholder

Table 51 sets forth, computed under each method, the percentage the amount of dividend income earned per shareholder either exceeded (+) or fell below (-) the amount of dividend income earned per shareholder under the stand-alone method when the allowed rate of return on the common equity of each utility was 14 percent. The results obtained both with and without compensating tax agreements are listed.

Table 52 sets forth a comparison of how the amount of dividend income earned per shareholder was affected under each method by an increase in the allowed rate of return on the common equity of each

TABLE 51

ANALYSIS OF THE EFFECT THE ALLOWED RATE OF RETURN ON THE UTILITY'S COMMON EQUITY HAS ON THE SHAREHOLDER (R of R = 14%)

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Stand-Alone (utility's interest)	270[a]	76[a]	35[a]		194[a]	55[a]	25[a]	
Stand-Alone (parent's interest)	-32%[b]	-42%[b]	-29%[b]	-34%	-45%[b]	-58%[b]	-36%[b]	-46%
Cities Service Gas Co.	-30%	-30%	-31%	-30%	-42%	-44%	-44%	-43%
United Gas Pipe Line Co.	-36%	-36%	-37%	-36%	-51%	-51%	-52%	-51%
Mechanic Falls Water Co.	-38%	-38%	-40%	-39%	-54%	-55%	-52%	-54%
Caribou Water Works	-69%	-68%	-69%	-69%	-96%	-96%	-96%	-96%
Newton Water Co.	-87%	-87%	-89%	-88%	-122%	-122%	-124%	-123%
West Penn Power Co.	-21%	-21%	-23%	-22%	-30%	-31%	-28%	-30%
Dauphin Consolidated Water Supply Co.	-10%	-11%	-11%	-11%	-15%	-16%	-16%	-16%
Iowa Public Service	-43%	-42%	-43%	-43%	-59%	-60%	-60%	-60%

[a]Effect on the shareholder: the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, as compared to the amount of dividend income earned per shareholder under the stand-alone method.

TABLE 51--Continued

Method	Without CTA				With CTA			
	Utility				Utility			
	#1	#2	#3	Mean	#1	#2	#3	Mean
Narragansett Electric Co.	-24%[c]	-33%[c]	-20%[c]	-26%	-34%[d]	-47%[d]	-28%[d]	-36%
Southwestern Bell	--	--	--	--	--	--	--	--
United Telephone Co. of Florida	-50%	-58%	-46%	-51%	-70%	-80%	-64%	-71%
New England Telephone & Telegraph Co.	-37%	-47%	-31%	-38%	-53%	-65%	-44%	-54%
Muncie Remand	-28%	-36%	-23%	-29%	-39%	-49%	-32%	-40%
Continental Telephone Co. of Maine	-140%	-180%	-123%	-148%	-194%	-249%	-192%	-212%

[c]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-48%	-72%
Utility #2:	-67%	-101%
Utility #3:	-40%	-60%

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	-67%	-100%
Utility #2:	-95%	-140%
Utility #3:	-56%	-84%

TABLE 52

ANALYSIS OF THE EFFECT VARYING THE ALLOWED RATE OF RETURN ON THE UTILITY'S COMMON EQUITY HAS ON THE SHAREHOLDER

Method	Without CTA				With CTA			
	R of R = 15.5%		R of R = 17%		R of R = 15.5%		R of R = 17%	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Stand-Alone (utility's interest)[a]		+9%[b]		+16%[c]		+9%[b]		+17%[c]
Stand-Alone (parent's interest)[a]		+8%		+16%		+6%		+11%
Cities Service Gas Co.[a]		+9%		+18%		+11%		+19%
United Gas Pipe Line Co.[a]		+9%		+18%		+9%		+18%
Mechanic Falls Water Co.[a]		+9%		+18%		+10%		+15%
Caribou Water Works								
Utility #1	+8%		+17%		+14%		+29%	
Utility #2	+8%		+17%		--		--	
Utility #3	+9%		+18%		--		--	
Mean		+8%		+17%				
Newton Water Co.								
Utility #1	+9%		+18%		+7%		+16%	
Utility #2	--		+10%		+8%		+17%	
Utility #3	+25%		+25%		--		--	
West Penn Power Co.[a]		+10%		+18%		+9%		+16%
Dauphin Consolidated Water Supply Co.[a]		+9%		+17%		+10%		+19%
Iowa Public Service[a]		+9%		+17%		+9%		+19%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[b]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the rate of return on the utility's common equity was 15.5 percent as compared to the amount of dividend income earned per shareholder when the rate of return on the utility's common equity was 14 percent.

[c]Percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder, under each respective method, when the rate of return on the utility's common equity was 17 percent as compared to the amount of dividend income earned per shareholder when the rate of return on the utility's common equity was 14 percent.

TABLE 52--Continued

Method	Without CTA				With CTA			
	R of R = 15.5%		R of R = 17%		R of R = 15.5%		R of R = 17%	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
Narragansett Electric Co.[a]		+12%[d]		+23%[e]		+14%[f]		+27%[g]
Southwestern Bell[a]		+9%		+17%		+9%		+17%
United Telephone Co. of Florida								
Utility #1	+17%		+35%		+29%		+59%	
Utility #2	+22%		+44%		+45%		+91%	
Utility #3	+16%		+26%		+22%		+44%	
Mean		+18%		+35%		+32%		+65%

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

[d]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	+17%	+30%
Utility #2:	+22%	+700%
Utility #3:	+14%	+21%

[e]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	+33%	+60%
Utility #2:	+56%	+1300%
Utility #3:	+24%	+36%

[f]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	+25%	+1700%
Utility #2:	+167%	+23%
Utility #3:	+18%	+50%

[g]The results obtained when the utility's taxable income represented 40 percent and 60 percent of the total positive taxable income of the system, respectively, were as follows for the three utilities:

	40%	60%
Utility #1:	+51%	+3300%
Utility #2:	+333%	+83%
Utility #3:	+36%	+100%

TABLE 52--Continued

Method	Without CTA				With CTA			
	R of R = 15.5%		R of R = 17%		R of R = 15.5%		R of R = 17%	
	Utility	Mean	Utility	Mean	Utility	Mean	Utility	Mean
New England Telephone & Telegraph Co.								
Utility #1	+14%		+28%		+18%		+37%	
Utility #2	+20%		+35%		+26%		+53%	
Utility #3	+13%		+25%		+14%		+29%	
Mean		+16%		+29%		+19%		+40%
Muncie Remand[a]		+12%		+24%		+15%		+29%
Continental Telephone Co. of Maine								
Utility #1	-7%		-14%		-1%		-1%	
Utility #2	-3%		-7%		--		+1%	
Utility #3	+13%		+25%		--		--	

[a]Shareholders of all three utilities experienced approximately the same percentage increase (+) or decrease (-) in the amount of dividend income earned per shareholder.

utility. The results obtained both with and without compensating tax agreements are listed.

The shareholders of each utility were found to be affected by an increase in the allowed rate of return on the common equity of each utility under the same methods that the ratepayers were found to be affected. In fact, without compensating tax agreements the amount of increase in the dividend income earned per shareholder, realized as the allowed rate of return on the common equity increased, was approximately the same as the amount of increase in rates realized by the ratepayer as the allowed rate of return increased, under all of the methods except the Continental Telephone Company of Maine method. Consistent with the results found for the ratepayers, the amount of dividend income earned per shareholder under the following methods increased more than the amount of increase that was realized under the stand-alone method:

1. Narragansett Electric Company
2. United Telephone Company of Florida
3. New England Telephone & Telegraph Company
4. Muncie Remand

Consistent with the previous analyses the amount of dividend income earned per shareholder under the Continental Telephone Company of Maine method, when the allowed rate of return on the common equity of each utility was 14 percent, was a negative amount. Increasing the allowed rate of return had no effect on increasing the amount of dividend income earned per shareholder under this method above zero.

CHAPTER 8

CONCLUSIONS

The Pure Stand-Alone Method

Regulatory commissions presently use different methods to compute the tax allowances of their jurisdictional affiliated utilities. The mechanics of the various methods affect both the revenue requirements and the cash flows of affiliated utilities. As a result, use of the various methods impacts both the amount of rates assessed the ratepayers of the utilities and the amount of dividend income earned by the shareholders of the utilities. The purpose of this study was to determine the extent to which mandatory use of the various tax allowance methods impacts the ratepayers and shareholders of affiliated utilities.

The pure stand-alone method represents the standard from which other methods have been derived to compute the tax allowance of an affiliated utility. Under the pure stand-alone method the tax allowance of an affiliated utility is calculated as though the utility is a separate entity. The mechanics of the pure stand-alone method are as follows:

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$i_u = LTDC_u \times \frac{LTDI_u}{LTD_u}$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = TB_u \times [t/(1 - t)]$$

where:

TI_u = taxable income of the utility

RB_u = rate base of the utility

r_u = rate of return allowed for the utility based on the utility's capital structure and the utility's cost of capital

i_u = weighted cost of the utility's long-term debt used in determining the utility's allowed rate of return

$LTDC_u$ = percentage of long-term debt in the utility's capital structure

$LTDI_u$ = interest expense on the utility's long-term debt

LTD_u = book value of the utility's long-term debt

TB_u = tax base of the utility

PTD_u = permanent tax differences of the utility

SE_u = effect of the surtax exemption on the utility

TA_u = federal income tax allowance included in the utility's revenue requirement

t = statutory tax rate

Consolidated Entity Methods

Several state regulatory commissions have opposed use of the pure stand-alone method arguing that it allows a hypothetical tax liability to be passed on to the ratepayers. They argue that under the pure stand-alone method ratepayers are charged an amount that exceeds the utility's respective share of the actual consolidated tax

liability when consolidated tax savings are realized. These commissions argue that by allowing a hypothetical tax liability to be included in the utility's revenue requirement, the shareholders are permitted to earn in excess of a fair rate of return.

Several commissions holding this view presently use a number of different consoldiated-entity methods to compute the tax allowances of their jurisdictional affiliated utilities. The consolidated-entity methods can be classified into two different categories: (1) effective tax rate methods, and (2) imputed interest methods. Under the effective tax rate methods, only the consolidated tax savings realized by the utility that were generated from tax losses of the utility's affiliates are allocated, in some manner, between the ratepayers and the shareholders of the utility. Under the imputed interest methods, only the consolidated tax savings realized by the utility that arose from excess interest deductions of the affiliates are allocated between the ratepayers and the shareholders of the utility.

A number of different effective tax rate methods and imputed interest methods, as well as the pure stand-alone method, were analyzed in this study as to the impact they have on the ratepayers and shareholders of affiliated utilities. The findings in this study were drawn from simulated data as opposed to actual data. The results obtained from a simulation study can provide a realistic indication of what actual data would find, provided the relative relationships of the various attributes and financial variables in the simulation were realistic. Therefore, based on the findings obtained in this exploratory study some conclusions will be drawn and a possible solution to

the problem studied will be presented. Both the conclusions and the solution can be applied in the present regulatory environment.

FERC Method is Found to be a Misnomer

From reviewing both commission and court decisions, as well as statements made by the authors of studies that have addressed the topic of computing the tax allowance for an affiliated utility, it became apparent that the majority of ratepayers and shareholders hold the opinion that, for purposes of computing an affiliated utility's tax allowance, the FERC treats an affiliated utility as though it is a separate entity. One finding of this study, however, was that the FERC instead uses a consolidated-entity method to compute the tax allowances of its jurisdictional affiliated utilities. In fact, despite what it may appear to ratepayers and shareholders, the FERC actually uses an imputed interest method to do so.

In its Columbia Gulf Transmission decision, the FERC explained the mechanics it used to compute a "stand-alone tax allowance:"

> . . . From the total return allowed on rate base are deducted interest expenses (computed by multiplying the rate base by the weighted cost of long-term debt used in determining the rate of return), permanent tax differences, and the effect of the surtax exemption to arrive at the tax base. The tax base is then multiplied by the factor of 48 per cent over 52 per cent (now 46 per cent over 54 per cent) to produce the tax allowance, which includes recognition of the fact that the tax allowance itself is subject to tax when received by the utility and is not deductible. The amount so calculated is the tax allowance.[1]

In the latter part of its decision the FERC went on to explain that

---

[1] Re Columbia Gulf Transmission Company, 54 PUR4th 31, Opinion No. 173, Docket Nos. RP75-105-002, RP75-106-006 (FERC June 22, 1983), p. 38.

the parent corporation's capital structure and cost of capital were to be used to compute the utilities' weighted rates of return rather than the respective utility's capital structure and cost of capital:

> The rate of return is based on the parent's, not the pipelines', interest expense. Because this is so, our stand-alone policy requires that the tax savings created by the parent's excess interest deductions be used to reduce the pipelines' tax allowances.
>
> In a normal case the tax allowance is simply the tax factor derived from statutory tax rate applied to the tax base. The tax base is derived, essentially, by multiplying the rate base by the overall rate of return and then subtracting the company's interest expense used in determining the return. In calculating their tax allowances the pipelines followed this method exactly. The only point worth noting is that the interest expense the pipelines deducted was their parent's interest expense since the overall return was based on the parent's capital structure and costs.[2]

Therefore, under the method used by the FERC, any consolidated tax savings generated from the interest deductions of the utility's parent are passed on to the ratepayers through a reduced tax allowance, as was also found to be true in this study for tax allowances computed under the other imputed interest methods.

Thus, one important finding of this study that merits public awareness is that despite what it may appear, the FERC actually uses a consolidated-entity method to compute the tax allowances of its jurisdictional affiliated utilities. To continue to refer to the method the FERC uses as the "stand-alone" method is a misnomer and may also be considered a misrepresentation of the facts.

---

[2] Ibid., p. 56.

Problems Found with the Use of Consolidated-Entity Methods

The results of this exploratory study also showed that the current policy of allowing commissions to use a number of different methods to compute the tax allowances of their jurisdictional affiliated utilities, could result in a ratepayer of affiliated Utility A located in State X, paying higher rates than a ratepayer of affiliated Utility B located in State Y, despite the fact that the two utilities had identical economic circumstances. Such a result could occur merely because the regulatory commission of State X required use of one method to compute the tax allowance of Utility A, and the regulatory commission of State Y required use of a different method. Likewise, the findings of this study showed that under the current policy the shareholders of Utility A and B could be earning different amounts of dividend income despite the fact that the economic circumstances of the two utilities were identical.

By allowing commissions to use different tax allowance methods, as is currently being done, the goal of ensuring the public that the ratepayers of two separate utilities, each having the same economic circumstances, are assessed the same amount of rates for the same amount of usage is not being met. Likewise, the goal of ensuring that the shareholders of two separate utilities, each having the same economic circumstances, earn the same amount of dividend income is not being met.

Arbitrary Rates

One major problem found in this study with use of the consolidated-entity methods, including the FERC's hybrid stand-alone

method, is that they result both in arbitrary rates being assessed the ratepayers, and in arbitrary amounts of dividend income being earned by the shareholders of affiliated utilities. For example, under the effective tax rate methods, the amount of rates charged the ratepayers was found to be dependent upon the results of the operations of the utility's affiliates. It was found that when the utility's affiliates experienced tax losses, the rates the utility charged declined. When the affiliates began realizing profits, the utility's rates were found to then begin increasing. Under the imputed interest methods, the amount of rates charged the ratepayers was found to be dependent upon the financing policy of its affiliates. For example, when the utility's affiliates increased their long-term debt, the rates charged by the utility were found to decline. When the debt of its affiliates was paid off, the rates were found to increase. This relationship between the amount of rates charged and either: (1) the operations of the utility's affiliates, or (2) the capital financing policy of the utility's affiliates, is not logical. Furthermore, it creates arbitrary results for both the current and future ratepayers and shareholders of affiliated utilities.

Expansion of a Commission's Scope of Investigation

Another problem that arises when a consolidated-entity method is used to compute an affiliated utility's tax allowance is the possibility of having to expand the scope of a commission's rate hearing investigations. Because an affiliate's operations impact an affiliated utility's cost of service when a consolidated-entity method is used, it can be argued that commissions have the responsibility to

examine any decisions made by the affiliates of their jurisdictional affiliated utilities that impact either their operations or their financing policy. However, expanding the scope of a commission's investigation presents an additional burden both to the commission and to the nonutility affiliates that would normally not be subject to regulatory review. In fact, a further problem that arises is determining the degree to which commissions would actually have authority over the operations and policies of nonutility affiliates.

Recommendation of the Study

The solution to these problems is to require commissions to treat an affiliated utility as though it was a separate entity. Under this recommendation a commission would consider solely the operations of the utility in determining its tax allowance. This could be accomplished in either of two ways. First, commissions could be required to only use the pure stand-alone method to compute the tax allowances of their jurisdictional affiliated utilities. Under this method, the amount of allowable interest expense that would be deducted for purposes of computing the tax allowance would be that amount determined from using the utility's own capital structure and cost of capital.

The second manner in which the problems could be solved is to preclude all utilities from being a party to a consolidated tax return. Being a more efficient solution to the problem, this suggestion is the recommendation of this study. This solution could be implemented through legislative action by an amendment to Internal Revenue Code section 1504(b). The recommended amendment would not allow utilities to qualify as "includible corporations" for purposes

of filing a consolidated tax return. "Corporations exempt from taxation under section 501, insurance companies subject to taxation under section 801 or 821, and foreign corporations"[3] are presently examples of corporations listed in IRC section 1504(b) that do not meet the definition of "includible corporations." The result of this amendment to IRC section 1504(b) would be to disallow utilities from being participants in the filing of a consolidated tax return. The effect of such an amendment would be to require utilities, through legislative action, to file as separate entities for federal income tax purposes. The advantage of this solution is that it would preclude requiring state commissions to use the pure stand-alone method, since it is questionable whether such a requirement could in actuality be legally enforced among the state commissions.

If this recommendation were implemented the question as to which party was to receive the consolidated tax savings, the ratepayer or the shareholder, would become obsolete. Since all utilities would file for tax purposes as separate utilities under this recommendation, consolidated tax benefits would not be realized by any utility. The only tax benefits a utility would realize would be those that arose from deductions claimed by the utility.

Another advantage of this recommendation would be that for those utilities that realized tax losses, the tax benefits from the losses would stay with the utility, by being utilized as loss carryovers against either its past or future tax income. Now if a utility is a

---

[3]Internal Revenue Code Section 1504(b).

party to a consolidated tax return, the possibility exists that such tax benefits would flow to the utility's affiliates, as consolidated tax benefits. As such, they could now possibly be "lost" as tax benefits to be realized by either the ratepayers or shareholders of the utility.

Another important result of implementing this policy would be that ratepayers of affiliated utilities would only realize those tax benefits that were associated with the expenses they actually incurred (i.e., expenses that were included in the utility's cost of service). For example, if tax losses were realized by a utility's affiliates, the ratepayers of the utility would realize tax benefits from those losses only if they actually incurred the associated costs that generated the losses and if they bore the risks inherent in the losses. Under the present practice of using consolidated-entity methods, ratepayers of affiliated utilities are receiving some of the tax benefits that were generated from deductions and losses for which they neither incurred the costs nor bore the risks. This current practice is neither logical nor fair to the shareholders or affiliates who absorbed the costs and bore the risks associated with the deductions. The shareholders or the affiliates are the parties who should rightfully receive the tax benefits in that instance.

Excess interest deductions would be handled in the same manner as tax losses under this recommendation. Only if the ratepayers of the affiliated utility actually incurred the interest expense and bore the risk of the debt financing, would any tax benefits generated from such deductions flow to them through reduced rates. If the ratepayers did not pay the interest expenses and were not bearing the risks of

excess debt financing, any tax benefits generated from the excess interest expenses would then flow to the affiliates and the shareholders that incurred the debt.

These results are logical and fair to both current and future ratepayers and shareholders, since the amount of rates charged the ratepayers and the amount of dividend income earned by the shareholders would not be subject to either the operations or the policies of the utility's affiliates.

Lastly, another advantage of implementing this study's recommendation would be the alleviation of any commission having to expand its scope of investigation to include a review of the operations and policies of the affiliates of its jurisdictional utilities. This would reduce both the burden of additional reviewing time by the commissions and the additional costs of such investigations.

Expected Results

In conclusion, one result of implementing the recommendation of this study would be elimination of the arbitrary rates that are presently being assessed the ratepayers of affiliated utilities and, in turn, elimination of the arbitrary amounts of dividend income that are presently being earned by the shareholders of affiliated utilities. Under this recommended policy, the amount of rates an affiliated utility would assess its ratepayers and the amount of dividend income the shareholders of the utility would earn would not be dependent upon either the operations or the financing policy of the utility's affiliates. Furthermore, the ratepayers would only realize those tax benefits that they were entitled to because they incurred the costs that

generated the tax benefits and they bore the risks inherent in incurring the expenses. The shareholders would realize the tax benefits generated from the investments for which they bore the risks. Such a result would be both logical, fair, and reasonable. Finally, by implementing this recommendation, commissions would not find it necessary to have to expand the scope of their investigations to include the operations and decisions of the affiliates of their jurisdictional utilities. For all of these reasons, implementing the recommendation of this study should be of benefit to commissions and affiliated utilities, as well as to the public.

APPENDIX A

APPENDIX A

STATE COMMISSION DECISIONS AND COURT CASES DEALING WITH THE TAX ALLOWANCE OF AN AFFILIATED UTILITY

Commission Decisions and Court Cases Dealing With Consolidated-Entity Methods

Alabama Public Service Commission

1. Re Continental Telephone Company of the South (62 PUR4th 61) 1984

Alaska Public Service Commission

1. Re RCA Alaska Communcations, Inc. (Case U-78-4, Order No. 33) 1981

2. Re Alaska Gas & Service Company (18 PUR4th 1) 1976

Alaska Superior Court, Third Judicial District

1. Alaska Gas & Service Company, and Alaska Pipeline Company v. Alaska PUC (76-7377, May 4, 1978) 1978

Arkansas Public Service Commission

1. Re General Telephone Company of the Southwest (29 PUR4th 379) 1979

2. Re Arkansas Louisiana Gas Company (4 PUR4th 265) 1974

3. Re Southwestern Bell Telephone Company (2 PUR3d 1) 1953

Colorado Public Utilities Commission

1. Re Mountain States Telephone & Telegraph Company (11 PUR4th 1) 1975

Connecticut Public Utilities Commission

1. Re Newton Water Company (Docket No. 790911) 1980

2. Re The Connecticut Natural Gas Corporation (37 PUR4th 287) 1980

3. Re North Canaan Water Company (Docket No. 761107) 1977

4. Re Mystic Valley Water Company (17 PUR4th 507) 1976

5. Re The Connecticut Natural Gas Corporation (11 PUR4th 66) 1975

6. Re Collinsville Water Company (Docket No. 11535) 1974

7. Re Terryville Water Company (Docket No. 11450) 1974

8. Re The Seymour Water Company (97 PUR3d 315) 1972

9. Re Bridgeport Hydraulic Company (90 PUR3d 111) 1971

10. Re Stamford Water Company (89 PUR3d 502) 1971

Connecticut Supreme Court

1. Woodbury Water Company v. Connecticut PUC (174 Conn 258) 1978

District of Columbia Public Service Commission

1. Re Washington Gas Light Company (52 PUR4th 1) 1983

2. Re Chesapeake & Potomac Telephone Company (4 PUR4th 1) 1974

Florida Public Service Commission

1. Re Jacksonville Suburban Utilities Corporation (39 PUR4th 1) 1980

2. Re United Telephone Company of Florida (34 PUR4th 421) 1980

3. Re Florida Gas Company 1973
(2 PUR4th 150)

4. Re Southern Bell Telephone & Telegraph Company 1972
(94 PUR3d 134)

Florida Supreme Court

1. Citizens of Florida v. Paula F. Hawkins, et al. 1978
(24 PUR4th 374)

Illinois Commerce Commission

1. Re Illinois Bell Telephone Company 1955
(7 PUR3d 493)

Indiana Public Service Commission

1. Re Indiana & Michigan Electric Company 1982
(Cause No. 35251, July 7, 1982)

2. Re Indiana Cities Water Corporation 1981
(45 PUR4th 55)

3. Re Indiana and Michigan Electric Company 1981
(40 PUR4th 537)

4. Re Muncie Water Works Company 1981
(44 PUR4th 331)

5. Re Richmond Water Works Corporation 1980
(Cause No. 35852)

6. Re Terre Haute Water Works Corporation 1980
(Cause No. 35796)

7. Re Indiana Bell Telephone Company 1951
(91 PUR NS 307)

Indiana Court of Appeals

1. United Telephone Company of Indiana v. Indiana PSC 1980
(402 NE2d 1013)

2. Citizens Energy Coalition, Inc. v. 1979
Indiana & Michigan Electric Company
(396 NE2d 441)

3. City of Muncie v. Indiana PSC 1978
(26 PUR4th 588)

Iowa State Commerce Commission

1. Re Davenport Water Company 1982
(49 PUR4th 616)

2. Re Davenport Water Company 1981
(44 PUR4th 374)

3. Re United Telephone Company of Iowa 1981
(Docket No. RPU-79-12)

4. Re Hawkeye State Telephone Company 1974
(4 PUR4th 250)

5. Re Davenport Water Company 1968
(76 PUR3d 209)

Kansas State Corporation Commission

1. Re Southwestern Bell Telephone Company 1973
(98 PUR3d 30)

2. Re Southwestern Bell Telephone Company 1960
(34 PUR3d 257)

Kansas Supreme Court

1. Southwestern Bell Telephone Company v. Kansas SCC 1963
(51 PUR3d 113)

Kentucky Public Service Commission

1. Re Kentucky Power Company 1983
(56 PUR4th 151)

2. Re Lexington Water Company 1970
(Case No. 5355, December 24, 1970)

3. Re Lexington Water Company 1968
(72 PUR3d 253)

Maine Public Utilities Commission

1. Re Caribou Water Works 1983
(57 PUR4th 136)

2. Re Continental Telephone Company of Maine 1977
(18 PUR4th 636)

3. Re Mars Hill & Blaine Company 1977
(19 PUR4th 380)

4. Re Camden & Rockland Water Company 1976
(F.C. No. 2132, March 26, 1976)

5. Re Mechanic Falls Water Company 1976
(13 PUR4th 347)

6. Re Penobscot County Water Company 1975
(9 PUR4th 603)

Maine Supreme Judicial Court

1. Continental Telephone Company of Maine v. Maine PUC 1979
(397 A2d 1001)

2. Mars Hill & Blaine Water Company v. Maine PUC 1979
(397 A2d 570)

3. New England Telephone & Telegraph Company v. 1978
Maine PUC (27 PUR4th 1)

4. Mechanic Falls Water Company v. Maine PUC 1977
(381 A2d 1080)

Maryland Public Utilities Commission

1. Re Chesapeake & Potomac Telephone Company 1979
of Maryland (70 MD PSC 341)

2. Re Chesapeake & Potomac Telephone Company 1969
of Maryland (81 PUR3d 342)

3. Re Chespeake & Potomac Telephone Company 1961
of Maryland (38 PUR3d 67)

Maryland Court of Appeals

1. Chespeake & Potomac Telephone Company of 1963
Maryland v. Maryland PSC, et al.
(48 PUR3d 36)

Massachusetts Department of Public Utilities

1. Re Lowell Gas Company 1981
(D.P.U. 637,638)

2. Re Massachusetts Electric Company 1975
(12 PUR4th 65)

3. Re New England Telephone & Telegraph Company 1970
(84 PUR3d 130)

4. Re Salisbury Water Supply Company 1964
(54 PUR3d 196)

Massachusetts Supreme Judicial Court

1. Brockton Edison Company v. Massachusetts DPU (400 NE2d 838) 1980

Michigan Public Service Commission

1. Re Indiana & Michigan Electric Company (Case No. U-6148) 1981

2. Re Michigan Bell Telephone Company (Case No. U-6002) 1980

3. Re The Detroit Edison Company (88 PUR3d 68) 1970

4. Re Michigan Consolidated Gas Company (79 PUR3d 375) 1969

5. Re Michigan Bell Telephone Company (24 PUR3d 109) 1958

6. Re Michigan Bell Telephone Company (5 PUR3d 301) 1954

Minnesota Public Service Commission

1. Re Northwestern Bell Telephone Company (37 PUR4th 1) 1980

2. Re Northwestern Bell Telephone Company (16 PUR4th 207) 1976

3. Re Northwestern Bell Telephone Company (8 PUR4th 75) 1974

4. Re Minneapolis Transit Company (81 PUR3d 232) 1969

Minnesota Supreme Court

1. Northwestern Bell Telephone Company v. Minnesota PSC (20 PUR4th 320) 1977

Minnesota District Court, 2nd Judicial District

1. Re Northwestern Bell Telephone Company (9 PUR4th 427) 1975

Mississippi Public Service Commission

1. Re Mississippi Power Company (36 PUR4th 342) 1980

Supreme Court of Mississippi

1. Allain v. Mississippi PSC (435 So 2d 608) — 1983

2. Mississippi PSC v. Mississippi Power & Light Company (429 So 2d 883) — 1983

Montana Public Service Commission

1. Re Mountain States Telephone & Telegraph Company (29 PUR4th 97) — 1978

Nebraska Public Service Commission

1. Re United Telephone Company of the West (12 PUR4th 462) — 1975

New Jersey Board of Public Utility Commissioners

1. Re Rockland Electric Company (53 PUR4th 658) — 1983

2. Re South Jersey Gas Company (Docket No. 818-754, October 8, 1982) — 1982

3. Re Lambertville Water Company (Docket Nos. 746-481, 754-244, September 11, 1981) — 1981

4. Re Barnegat Water Company (24 PUR4th 639) — 1978

5. Re Toms River Water Company (No. A-651-76) — 1978

6. Re New Jersey Water Company (Docket No. 7412-915, January 8, 1976) — 1976

7. Re Jersey Central Power & Light Company (2 PUR4th 70) — 1973

8. Re New Jersey Bell Telephone Company (24 PUR3d 181) — 1958

New Jersey Superior Court

1. Re Lambertville Water Company (153 NJ Super 24, 378 A2d 1158) — 1977

North Carolina Utilities Commission

1. Re Mid-Carolina Telephone Company, Inc. 1982
(46 PUR4th 575)

North Dakota Public Service Commission

1. Re Northwestern Bell Telephone Company 1953
(2 PUR3d 93)

Oregon Public Service Commission

1. Re Jantzen Beach Water Company 1975
(UF 3132, Order No. 75-091, January 31, 1975)

Pennsylvania Public Utility Commission

1. Penn. PUC v. The Bell Telephone Company 1983
of Pennsylvania (52 PUR4th 85, 57 PUR4th 196)

2. Penn. PUC v. Equitable Gas Company 1983
(54 PUR4th 406)

3. Penn. PUC v. Philadelphia Electric Company 1983
(56 PUR4th 637)

4. Penn. PUC v. UGI Corporation 1982
(R-821899, December 17, 1982)

5. Penn. PUC v. Pennsylvania Power & Light Company 1981
(R-80031114)

6. Penn. PUC v. West Penn Power Company 1981
(R-80021082)

7. Penn. PUC v. West Penn Power Company 1980
(32 PUR4th 245)

8. Penn. PUC v. Metropolitan Edison Company 1979
(28 PUR4th 555)

9. Penn. PUC v. Western Pennsylvania Water 1979
Company (28 PUR4th 87)

10. Penn. PUC v. Metropolitan Edison Company 1978
(26 PUR4th 176)

11. Penn. PUC v. Mid-Penn Telephone Corporation 1978
(R-77090462, Complaint Docket No. 22488)

12. Penn. PUC v. The Bell Telephone Company 1971
of Pennsylvania (93 PUR3d 13)

13. Penn. PUC v. South Pittsburgh Water Company (84 PUR3d 487) 1970

Pennsylvania Superior Court

1. Western Pennsylvania Water Company v. Pennsylvania PUC (422 A2d 906) 1980

2. Riverton Consolidated Water Company v. Pennsylvania PUC (24 PUR3d 9) 1958

3. City of Pittsburth v. Pennsylvania PUC (17 PUR3d 249) 1956

Rhode Island Public Utilities Commission

1. Re Blackstone Valley Electric Company (Docket No. 1701) 1983

2. Re New England Power Company (Docket No. ER76-304-007 et al. Opinion No. 49-C, October 4, 1983) 1983

3. Re Wakefield Water Company (Docket No. 1547) 1981

4. Re Narragansett Electric Company (23 PUR4th 516) 1978

5. Re New England Telephone & Telegraph Company (22 PUR4th 391) 1977

Rhode Island Supreme Court

1. Michaelson v. New England Telephone & Telegraph Company (404 A2d 799) 1979

2. Rhode Island Consumers' Council v. Smith (6 PUR4th 27) 1974

South Carolina Public Service Commission

1. Re Southern Bell Telephone & Telegraph Company (35 PUR4th 1) 1980

South Dakota Public Utilities Commission

1. Re Iowa Public Service Company (21 PUR4th 339) 1977

2. Re Montana-Dakota Utilities (22 PUR4th 1) 1977

3. Re Northwestern Public Service Company 1977
(22 PUR4th 60)

4. Re Northwestern Bell Telephone Company 1960
(36 PUR3d 67)

Tennessee Public Service Commission

1. Re General Telephone of the Southeast 1980
(Docket No. U-6862)

2. Re South Central Bell Telephone Company 1980
(Docket No. U-6936, November 20, 1980)

3. Re South Central Bell Telephone Company 1977
(22 PUR4th 257)

4. Re Tennessee-American Water Company 1975
(Docket No. U-6048, March 13, 1975)

5. Re City Water Company of Chattanooga 1970
(84 PUR3d 264)

Tennessee Supreme Court

1. United Inter-Mountain Telephone Company v. 1977
Tennessee PSC (19 PUR4th 589)

Tennessee Chancery Court

1. South Central Bell Telephone Company v. 1973
Tennessee PSC, et al. (100 PUR3d 45)

Texas Public Utilities Commission

1. Re Dallas Power & Light Company 1984
(9 Texas PUC Bull 440, Docket No. 5256,
January 12, 1984)

Vermont Public Service Board

1. Re Green Mountain Power Corporation 1972
(94 PUR3d 417)

2. Re Central Vermont Public Service Corporation 1971
(89 PUR3d 121)

Washington Utilities & Transportation Commission

1. Washington Water Power Company 1978
(24 PUR4th 427)

2. The Pacific Telephone & Telegraph Company (25 PUR3d 18) 1958

West Virginia Public Service Commission

1. Re Appalachian Power Company (42 PUR4th 620) 1981

2. Re Potomac Edison Company (Case No. 80-576-E-42T, October 16, 1981) 1981

3. Re Monongahela Power Company (30 PUR4th 137) 1979

4. Re Chesapeake & Potomac Telephone Company (28 PUR4th 120) 1978

5. Re Appalachian Power Company (Case No. 8182, May 6, 1977) 1977

6. Re General Telephone Company of the Southeast (21 PUR4th 513) 1977

7. Re West Virginia Water Company (Case No. 8634, June 17, 1977) 1977

8. Re Chesapeake & Potomac Telephone Company of West Virginia (18 PUR4th 236) 1976

9. Re West Virginia Water Company (Case No. 7632, July 10, 1975) 1975

10. Re Chesapeake & Potomac Telephone Company of West Virginia (Case No. 7496, June 24, 1974) 1974

11. Re General Telephone Company of the Southeast (Case No. 7486, May 28, 1974) 1974

12. Re The Potomac Edison Company of West Virginia (6 PUR4th 183) 1974

West Virginia Supreme Court

1. Virginia Electric & Power Company v. West Virginia PSC (242 SE2d 698) 1978

Wisconsin Public Service Commission

1. Re Gleason Telephone Company (2-U-7291, September 6, 1972) 1972

2. Re General Telephone Company of Wisconsin (34 PUR3d 497) 1960

Wisconsin Circuit Court

1. General Telephone Company of Wisconsin v. Wisconsin PSC (46 PUR3d 1) — 1962

Wyoming Public Service Commission

1. Re Black Hills Power & Light Company (Docket No. 9339, Sub 3) — 1970

Commission Decisions and Court Cases Dealing With the Stand-Alone Method

California Public Utilities Commission

1. Re Income Tax Expense for Rate-making Purposes (59 PUR4th 576) — 1984

Delaware Public Service Commission

1. Re Diamond State Telephone Company (87 PUR3d 174) — 1970

Delaware Supreme Court

1. Diamond State Telephone Company v. Delaware PSC (28 PUR3d 113) — 1959

Hawaii Public Utilities Commission

1. Re Kauai Electric Division of Citizens Utilities Company (30 PUR4th 299) — 1979

Louisiana Public Service Commission

1. Ex Parte South Central Bell Telephone Company (Docket Nos. U-14133, U-14252) — 1980

Louisiana Judicial District Court

1. South Central Bell Telephone Company v. Louisiana PSC, et al. (90 PUR3d 69) — 1971

2. Southern Bell Telephone & Telegraph Company v. Louisiana PSC (32 PUR3d 1) — 1960

Missouri Public Service Commission

1. Re Missouri Cities Water Company (29 PUR4th 1) — 1979

New York Public Service Commission

1. Re Port Chester Water Works, Inc. 1980
   (Case 27602, Opinion No. 34)

2. Re Jamaica Water Supply Company 1980
   (37 PUR4th 404)

New York Appellate Division Court

1. New York Water Service Corporation v. New York PSC 1979
   (72 AD2d 841, 421 NYS 2d 703)

Ohio Public Utilities Commission

1. Re Ohio Power Company 1982
   (Case Nos. 81-782-EL-AIR, 81-1139-EL-CSS,
   July 14, 1982)

2. Re East Ohio Gas Company 1976
   (16 PUR4th 137)

Oklahoma Corporation Commission

1. Re Southwestern Bell Telephone Company 1975
   (12 PUR4th 391)

APPENDIX B

APPENDIX B

FORMULAS UNDERLYING THE METHODS STUDIED

The formulas for the methods analyzed in this study follow:

Formula Variables

TI_u = taxable income of the utility

RB_u = rate base of the utility

r_u = rate of return allowed for the utility based on the utility's capital structure and the utility's cost of capital (Chapter 2 provides an explanation of how the weighted rate of return is calculated)

i_u = weighted cost of the utility's long-term debt used in determining the utility's allowed rate of return

$LTDC_u$ = percentage of long-term debt in the utility's capital structure

$LTDI_u$ = interest expense on the utility's long-term debt

LTD_u = book value of the utility's long-term debt

TB_u = tax base of the utility

PTD_u = permanent tax differences of the utility

SE_u = effect of the surtax exemption on the utility

TA_u = federal income tax allowance included in the utility's revenue requirement

t = statutory tax rate

r_p = rate of return allowed for the utility based on the parent's capital structure and the parent's cost of capital

i_p = weighted cost of the parent's long-term debt used in determining the utility's allowed rate of return

$LTDC_p$ = percentage of long-term debt in the parent's capital structure

$LTDI_p$ = interest expense on the parent's long-term debt

LTD_p = book value of the parent's long-term debt

TI_r = total taxable income of the regulated affiliates

TI_{or} = total taxable income of the other regulated affiliates (excluding the utility)

TI_s = total taxable income of the corporate system

TI_{nr} = total taxable income of the nonregulated affiliates

CTL = actual net consolidated federal income tax liability

CTL_{avg} = average actual net consolidated federal income tax liability

CTL_r = portion of the actual net consolidated federal income tax liability attributable to the regulated affiliates

TR = tax recoveries

NCL_s = total nonchronic tax losses of the corporate system

t_e = effective tax rate

TC = tax credits earned by the corporate system

PTI_s = total positive taxable income of the corporate system

TS_s = total tax savings of the corporate system

CL_s = total chronic tax losses of the corporate system

$TI_{u(avg)}$ = average taxable income of the utility

$PTI_{s(avg)}$ = average positive taxable income of the corporate system

TS_u = portion of the total tax savings of the corporate system which is allocated to the utility

n = percentage of chronic loss arising from affiliates having operations related to the operations of the utility

i_s = weighted cost of the corporate system's long-term debt

$LTDC_s$ = percentage of long-term debt in the corporate system's capital structure

$LTDI_s$ = interest expense on the corporate system's long-term debt

LTD_s = book value of the corporate system's long-term debt

e_u = percentage of both preferred and common equity in the utility's capital structure

ce_u = percentage of common equity in the utility's capital structure

p = percentage of the parent's ownership in the utility's common equity

E_s = equity account of the utility (includes the par value of its common stock, its paid-in capital, and its retained earnings)

$LTDE_p$ = percentage of long-term debt in the parent's total capitalization (includes the retained earnings of its subsidiaries)

r_s = rate of return allowed for the utility based on the consolidated system's capital structure and the parent's capital costs

The formulas for the two forms of the stand-alone method follow:

Stand-alone method using the utility's interest expense

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$i_u = LTDC_u \times \frac{LTDI_u}{LTD_u}$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = TB_u \times [t/(1 - t)]$$

Stand-alone method using the parent's interest expense

$$TI_u = [RB_u \times r_p] - [RB_u \times i_p]$$

$$i_p = LTDC_p \times \left[\frac{LTDI_p}{LTD_P}\right]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = TB_u \times [t/(1 - t)]$$

The formulas for the other fifteen methods analyzed in this study follow:

The Cities Service Gas Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$TI_r = TI_u + TI_{or}$$

$$TI_s = TI_r + TI_{nr}$$

$$CTL_{avg} = \frac{\left[CTL_{19X3} + CTL_{19X4} + CTL_{19X5}\right]}{3}$$

$$CTL_r = CTL_{avg} \times \left[\frac{\left[TI_{r(19X3)} + TI_{r(19X4)} + TI_{r(19X5)}\right]}{\left[TI_{s(19X3)} + TI_{s(19X4)} + TI_{s(19X5)}\right]}\right]$$

$$TA_u = CTL_r \times \left[\frac{\left[TI_{u(19X3)} + TI_{u(19X4)} + TI_{u(19X5)}\right]}{\left[TI_{r(19X3)} + TI_{r(19X4)} + TI_{r(19X5)}\right]}\right] \times \frac{1}{[1-t]}$$

If $TI_{nr} < 0$, then $TI_s = TI_r$

The United Gas Pipe Line Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$CTL_{avg} = \frac{\left[CTL_{19X1} + CTL_{19X2} + CTL_{19X3} + CTL_{19X4} + CTL_{19X5}\right]}{5}$$

$$CTL_r = CTL_{avg} \times \left[\frac{\left[TI_{r(19X1)} + TI_{r(19X2)} + TI_{r(19X3)} + TI_{r(19X4)} + TI_{r(19X5)}\right]}{\left[TI_{s(19X1)} + TI_{s(19X2)} + TI_{s(19X3)} + TI_{s(19X4)} + TI_{s(19X5)}\right]}\right]$$

$$TA_u = CTL_r \times \left[\frac{\left[TI_{u(19X1)} + TI_{u(19X2)} + TI_{u(19X3)} + TI_{u(19X4)} + TI_{u(19X5)}\right]}{\left[TI_{r(19X1)} + TI_{r(19X2)} + TI_{r(19X3)} + TI_{r(19X4)} + TI_{r(19X5)}\right]}\right] \times \frac{1}{[1-t]}$$

If $TI_{nr} < 0$, then $TI_s = TI_r$

The Mechanic Falls Water Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TR = NCL_s \times t$$

$$t_e = \frac{CTL + TC + TR}{PTI_s}$$

or,

$$t_e = \frac{[(PTI_s - CL_s) \times t]}{PTI_s}$$

$$t_{e(avg)} = \frac{t_{e(19X4)} + t_{e(19X5)}}{2}$$

$$TA_u = TB_u \times \left[\frac{t_{e(avg)}}{[1 - t_{e(avg)}]}\right]$$

The Caribou Water Works Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$t_e = \frac{CTL + TC}{PTI_s}$$

$$t_{e(avg)} = \frac{\left[t_{e(19X2)} + t_{e(19X3)} + t_{e(19X4)} + t_{e(19X5)}\right]}{4}$$

$$TA_u = TB_u \times \left[\frac{t_{e(avg)}}{[1 - t_{e(avg)}]}\right]$$

The Newton Water Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$t_e = \frac{CTL}{PTI_s}$$

$$t_{e(avg)} = \frac{\left[t_{e(19X1)} + t_{e(19X2)} + t_{e(19X3)} + t_{e(19X4)} + t_{e(19X5)}\right]}{5}$$

$$TA_u = TB_u \times \left[\frac{t_{e(avg)}}{[1 - t_{e(avg)}]} \right]$$

The West Penn Power Company Method

$$TS_s = t \times \frac{\left[CL_{s(19X1)} + CL_{s(19X2)} + CL_{s(19X3)} + CL_{s(19X4)} + CL_{s(19X5)} \right]}{5}$$

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$TI_{u(avg)} = \frac{\left[TI_{u(19X1)} + TI_{u(19X2)} + TI_{u(19X3)} + TI_{u(19X4)} + TI_{u(19X5)} \right]}{5}$$

$$PTI_{s(avg)} = \frac{\left[PTI_{s(19X1)} + PTI_{s(19X2)} + PTI_{s(19X3)} + PTI_{s(19X4)} + PTI_{s(19X5)} \right]}{5}$$

$$TS_u = TS_s \times \left[\frac{TI_{u(avg)}}{PTI_{s(avg)}} \right]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = [(TB_u \times t) - TS_u] \times [1/(1-t)]$$

The Dauphin Consolidated Water Supply Company Method

$$TS_s = t \times \frac{\left[\begin{array}{l}[n_{(19X1)} \times CL_{s(19X1)}] + [n_{(19X2)} \times CL_{s(19X2)}] \\ + [n_{(19X3)} \times CL_{s(19X3)}] + [n_{(19X4)} \times CL_{s(19X4)}] \\ + [n_{(19X5)} \times CL_{s(19X5)}]\end{array}\right]}{5}$$

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$TI_{u(avg)} = \frac{\left[\begin{array}{l}TI_{u(19X1)} + TI_{u(19X2)} + TI_{u(19X3)} \\ + TI_{u(19X4)} + TI_{u(19X5)}\end{array}\right]}{5}$$

$$PTI_{s(avg)} = \frac{\left[\begin{array}{l}PTI_{s(19X1)} + PTI_{s(19X2)} + PTI_{s(19X3)} \\ + PTI_{s(19X4)} + PTI_{s(19X5)}\end{array}\right]}{5}$$

$$TS_u = TS_s \times \left[\frac{TI_{u(avg)}}{PTI_{s(avg)}}\right]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = [(TB_u \times t) - TS_u] \times [1/(1-t)]$$

The Iowa Public Service Method

$$TS_s = t \times \frac{\left[\begin{array}{l}[NCL_{s(19X1)} + CL_{s(19X1)}] + [NCL_{s(19X2)} + CL_{s(19X2)}] \\ + [NCL_{s(19X3)} + CL_{s(19X3)}] + [NCL_{s(19X4)} + CL_{s(19X4)}] \\ + [NCL_{s(19X5)} + CL_{s(19X5)}]\end{array}\right]}{5}$$

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$TI_{u(avg)} = \frac{\left[\begin{array}{l}TI_{u(19X1)} + TI_{u(19X2)} + TI_{u(19X3)} \\ + TI_{u(19X4)} + TI_{u(19X5)}\end{array}\right]}{5}$$

$$PTI_{s(avg)} = \frac{\left[\begin{array}{l}PTI_{s(19X1)} + PTI_{s(19X2)} + PTI_{s(19X3)} \\ + PTI_{s(19X4)} + PTI_{s(19X5)}\end{array}\right]}{5}$$

$$TS_u = TS_s \times \left[\frac{TI_{u(avg)}}{PTI_{s(avg)}}\right]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = [(TB_u \times t) - TS_u] \times [1/(1-t)]$$

The Narragansett Electric Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u]$$

$$TS_s = LTDI_{p(19X5)} \times t$$

$$TS_u = TS_s \times \left[\frac{TI_{u(19X5)}}{PTI_{s(19X5)}} \right]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = [(TB_u \times t) - TS_u] \times [1/(1-t)]$$

The Southwestern Bell Telephone Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_s]$$

$$i_s = LTDC_s \times \left[\frac{LTDI_s}{LTD_s} \right]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = TB_u \times [t/(1-t)]$$

The United Telephone Company of Florida Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u] - [RB_u \times i_p \times e_u]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = TB_u \times [t/(1-t)]$$

The New England Telephone & Telegraph Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u] - [RB_u \times i_p \times ce_u \times p]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = TB_u \times [t/(1-t)]$$

The Muncie Remand Method

$$TI_u = [RB_u \times r_u] \times [RB_u \times i_u] - \left[E_s \times \left[LTDE_p \times \frac{LTDI_p}{LTD_p} \right] \right]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = TB_u \times [t/(1-t)]$$

The Brockton Edison Company Method

$$TI_u = [RB_u \times r_u] - [RB_u \times i_u] - \left[LTDI_p \times \left[\frac{[RB_u \times r_u] - [RB_u \times i_u]}{PTI_s} \right] \right]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TA_u = TB_u \times [t/(1-t)]$$

The Continental Telephone Company of Maine Method

$$TI_u = [RB_u \times r_s] - [RB_u \times i_s]$$

$$TB_u = TI_u - PTD_u - SE_u$$

$$TR = NCL_s \times t$$

$$t_e = \frac{CTL + TC + TR}{PTI_s}$$

$$t_{e(avg)} = \frac{t_{e(19X4)} + t_{e(19X5)}}{2}$$

$$TA_u = TB_u \times \frac{t_{e(avg)}}{[1 - t_{e(avg)}]}$$

BIBLIOGRAPHY

BIBLIOGRAPHY

REGULATORY COMMISSION DECISIONS AND COURT CASES

Re Appalachian Power Company. Case No. 80-273-E-42T. 42 PUR4th 620 (West Virginia PSC 1981).

Re Arkansas Louisiana Gas Company. Docket No. U-2464. 4 PUR4th 265 (Arkansas PSC 1974).

The Bell Telephone Company of Pennsylvania v. Commonwealth of Pennsylvania. 331 A2d 572, 8 PUR4th 328 (Pennsylvania Commonwealth Court 1975).

Brockton Edison Company v. Department of Public Utilities. Mass., 400 N.E.2d 838 (Supreme Judicial Court of Massachusetts, 1980).

Re Caribou Water Works. Docket Nos. 83-29 et al. 57 PUR4th 136 (Maine PUC 1983).

Re The Chesapeake and Potomac Telephone Company. Formal Case No. 595, Order No. 5623 (District of Columbia PSC 1974).

Chesapeake and Potomac Telephone Company of Maryland v. Maryland Public Service Commission et al. 187 A2d 475, 48 PUR3d 36 (Maryland Court of Appeals 1963).

Re Chesapeake and Potomac Telephone Company of West Virginia. Case Nos. 8049, 8213. 18 PUR4th 236 (West Virginia PSC 1976).

Re Chesapeake and Potomac Telephone Company of West Virginia. Case No. 9358. 28 PUR4th 120 (West Virginia PSC 1978).

Re Cities Service Gas Company. Opinion No. 396, Docket No. G-18799. 49 PUR3d 229 (Federal Power Commission 1963).

Cities Service Gas Company v. Federal Power Commission. 337 F2d 97, 56 PUR3d 51 (U.S. Court of Appeals 1964).

City of Charlottesville, Virginia v. Federal Energy Regulatory Commission. No. 80-1175 (U.S. Court of Appeals 1981).

City of Muncie v. Indiana Public Service Commission. 378 NE2d 896, 26 PUR4th 588 (Indiana Court of Appeals 1978).

Re City Water Company of Chattanooga. Docket No. U-5232. 84 PUR3d 264 (Tennessee PSC 1970).

Re Columbia Gulf Transmission Company. Opinion No. 173, Docket Nos. RP75-105-002, RP75-106-006. 54 PUR4th 31 (Federal Energy Regulatory Commission 1983).

Re The Connecticut Natural Gas Corporation. Docket No. 11710. 11 PUR4th 66 (Connecticut PUC 1975).

Re The Connecticut Natural Gas Corporation. Docket No. 791202. 37 PUR4th 287 (Connecticut Division of Public Utility Control 1980).

Re Continental Telephone Company of Maine. F.C. No. 2183, C. No. 440. 18 PUR4th 636 (Maine PUC 1977).

Re Davenport Water Company. Docket No. RPU-81-54. 49 PUR4th 616 (Iowa State Commerce Commission 1982).

Re Diamond State Telephone Company. Docket No. 210, Order No. 374. 21 PUR3d 417 (Delaware PSC 1958).

Re Diamond State Telephone Company. 149 A2d 324, 28 PUR3d 113 (Delaware Supreme Court 1959).

Re East Ohio Gas Company. Case No. 79-535-GA-AIR. 38 PUR4th 91 (Ohio PUC 1980).

Federal Power Commission v. United Gas Pipe Line Company et al. 386 US 237, 18 L ed 2d 18, 87 S Ct 1003, 68 PUR3d 321 (U.S. Supreme Court 1967).

Re Florida Gas Transmission Company. Opinion No. 611, Docket Nos. RP66-4, RP68-1. 93 PUR3d 477 (Federal Power Commission 1972).

Re General Telephone Company of the Southeast. Docket No. U-6862 (Tennessee PSC 1980).

Re General Telephone Company of the Southeast. Case No. 8532. 21 PUR4th 513 (West Virginia PSC 1977).

Re General Telephone Company of the Southwest. Docket No. U-2910. 29 PUR4th 379 (Arkansas PSC 1979).

Re Income Tax Expense for Rate-making Purposes. Decision 84-05-036, OII 24. 59 PUR4th 576 (California PUC 1984).

Re Indiana & Michigan Electric Company. Opinion No. 79, Docket No. ER76-716 (Federal Energy Regulatory Commission 1980).

Re Indiana & Michigan Electric Company. Cause No. 36150. 40 PUR4th 537 (Indiana PSC 1981).

Re Indiana & Michigan Electric Company. Cause No. 35251 (Indiana PSC 1982).

Re Indiana Cities Water Corporation. Cause No. 36448. 45 PUR4th 55 (Indiana PSC 1981).

Re Iowa Public Service Company. Docket No. F-3063. 21 PUR4th 339 (South Dakota PUC 1977).

Re Jamaica Water Supply Company. Case 27587, Opinion No. 80-21. 37 PUR4th 404 (New York PSC 1980).

Re Lambertville Water Company and The Toms River Water Company. Docket Nos. 746-481 and 754-244 (New Jersey Board of Public Utilities 1981).

Re Louisiana Power & Light Company. Opinion No. 110, Docket No. ER77-533 (Federal Energy Regulatory Commission 1981).

Re Mars Hill and Blaine Water Company. F.C. Nos. 2184, 2185. 19 PUR4th 380 (Maine PUC 1977).

Mars Hill & Blaine Water Company v. Maine Public Utilities Commission. Me., 397 A2d 570 (Supreme Judicial Court of Maine 1979).

Re Mechanic Falls Water Company. F.C. Nos. 2120 et al. 13 PUR4th 347 (Maine PUC 1976).

Re Muncie Water Works Company. Cause No. 34571. 44 PUR4th 331 (Indiana PSC 1981).

Re The Narragansett Electric Company. Docket No. 1288. 23 PUR4th 516 (Rhode Island PUC 1978).

Re Narragansett Electric Company. Docket No. 1659. 52 PUR4th 271 (Rhode Island PUC 1983).

Re National Rates for Natural Gas. Opinion No. 749-C, Docket No. 478. 15 PUR4th 1 (Federal Power Commission 1976).

Re National Rates for Natural Gas. Opinion No. 770-A, Docket No. RM75-14. 17 PUR4th 317 (Federal Power Commission 1976).

Re New England Telephone and Telegraph Company. Docket No. 1251. 22 PUR4th 391 (Rhode Island PUC 1977).

New England Telephone and Telegraph Company v. Maine Public Utilities Commission. 390 A2d 8, 27 PUR4th 1 (Maine Supreme Judicial Court 1978).

Re New Jersey Bell Telephone Company. Docket No. 815-458 (New Jersey Board of Public Utilities 1982).

Re The New York Telephone Company. Docket No. 11601. 7 PUR4th 496 (Connecticut PUC 1974).

Re New York Telephone Company. Case 25155. 84 PUR3d 321 (New York PSC 1970).

Re Newton Water Company. Docket No. 790911 (Connecticut PUC 1980).

Re Northwestern Bell Telephone Company. Docket No. U-75-496. 16 PUR4th 207 (Minnesota PSC 1976).

Re Northwestern Bell Telephone Company. File No. 401628. 9 PUR4th 427 (Minnesota District Court 1975).

Pennsylvania PUC v. Bell Telephone Company of Pennsylvania. Docket No. R-811819 et al. 52 PUR4th 85 (Pennsylvania PUC 1983).

Pennsylvania PUC v. Dauphin Consolidated Water Supply Company. Docket No. R-80061242. 55 Pa PUC 44 (Pennsylvania PUC 1981).

Pennsylvania PUC v. Equitable Gas Company. Docket No. R-822133 et al. 54 PUR4th 406 (Pennsylvania PUC 1983).

Pennsylvania PUC v. Metropolitan Edison Company. Docket No. 626, C-R0626001 et al. 28 PUR4th 555 (Pennsylvania PUC 1979).

Pennsylvania PUC v. National Fuel Gas Distribution Corporation. Docket No. R-811600 et al. 55 Pa PUC 665 (Pennsylvania PUC 1982).

Pennsylvania PUC v. Philadelphia Electric Company. Docket No. R-822291 et al. 56 PUR4th 637 (Pennsylvania PUC 1983).

Pennsylvania PUC v. South Pittsburgh Water Company. Case No. 18807. 84 PUR3d 487 (Pennsylvania PUC 1970).

Pennsylvania PUC v. UGI Corporation. Docket No. R-821899 (Pennsylvania PUC 1982).

Pennsylvania PUC v. Western Pennsylvania Water Company. Docket No. R-78050600. 28 PUR4th 87 (Pennsylvania PUC 1979).

Pennsylvania PUC v. West Penn Power Company. Docket No. R-78100685, C-R0685001 et al. 32 PUR4th 245 (Pennsylvania PUC 1979).

Pennsylvania PUC v. West Penn Power Company. Docket No. R-80021082 et al. (Pennsylvania PUC 1981).

Re Port Chester Water Works, Inc. Opinion No. 80-34, Case 27602 (New York PSC 1980).

Re RCA Alaska Communications, Inc. Docket No. U-78-4(33) (Alaska PUC 1981).

Re Richmond Water Works Corporation. Cause No. 35852 (Indiana PSC 1980).

Re Rockland Electric Company. Docket No. 827-612. 53 PUR4th 658 (New Jersey Board of Public Utilities 1983).

Ex Parte South Central Bell Telephone Company. Order No. 10531-A, Docket No. 10382. 87 PUR3d 498 (Louisiana PSC 1971).

Re South Central Bell Telephone Company. Docket No. U-6402. 22 PUR4th 257 (Tennessee PSC 1977).

South Central Bell Telephone Company v. Tennessee PSC. 100 PUR3d 45 (Tennessee Chancery Court 1973).

Re South Jersey Gas Company. Docket No. 818-754 (New Jersey Board of Public Utilities 1982).

Re Southern Bell Telephone and Telegraph Company. Docket No. 79-305-C, Order No. 80-113. 35 PUR4th 1 (South Carolina PSC 1980).

Re Southern California Edison Company. Opinion No. 821, Docket No. E-8176. 23 PUR4th 44 (Federal Power Commission 1977).

Re Southwestern Bell Telephone Company. Docket Nos. U-772, U-773. 2 PUR3d 1 (Arkansas PSC 1953).

Re Southwestern Bell Telephone Company. Ordinance No. 9236. 2 PUR3d 265 (Houston, Texas, City Council 1953).

Re Southwestern Bell Telephone Company. Docket No. 60,800-U. 34 PUR3d 257 (Kansas State Corporation Commission 1960).

Southwestern Bell Telephone Company v. Kansas State Corporation Commission et al. 386 P2d 515, 51 PUR3d 113 (Kansas Supreme Court 1963).

Re Terre Haute Water Works Corporation. Cause No. 35796 (Indiana PSC 1980).

Re United Gas Pipe Line Company. 31 FPC 1180, 54 PUR3d 285 (Federal Power Commission 1964).

United Gas Pipe Line Company v. Federal Power Commission. 357 F2d 230, 63 PUR3d 173 (U.S. Court of Appeals 1966).

Re United Telephone Company of Florida. Docket No. 780777-TP(CR), Order No. 9208. 34 PUR4th 421 (Florida PSC 1980).

United Telephone Company of Indiana, Inc. v. Public Service Commission of Indiana. 402 N.E.2d 1013 (Court of Appeals of Indiana 1980).

Re United Telephone Company of Iowa. Docket No. RPU-79-12 (Iowa State Commerce Commission 1981).

Re United Telephone Company of the West. Application No. 31018. 12 PUR4th 462 (Nebraska PSC 1975).

Re Washington Gas Light Company. Formal Case No. 787, Order No. 7749. 52 PUR4th 1 (District of Columbia PSC 1983).

Washington Public Service Commission v. The Pacific Telephone and Telegraph Company. Cause Nos. U-8971, U-9011. 25 PUR3d 18 (Washington PSC 1958).

Western Pennsylvania Water Company v. Pennsylvania Public Utility Commission. Pa.Cmwlth, 422 A2d 906 (Commonwealth Court of Pennsylvania 1980).

OTHER REFERENCES

Arthur Andersen & Company. Study Document on Accounting for Income Tax. Prepared for the American Gas Association and the Edison Electric Institute. Chicago, Illinois: Arthur Andersen & Company, 1983.

"Chronic Loss Method Adopted for Consolidated Tax Returns." Public Utilities Fortnightly, April 15, 1982, pp. 58-59.

"Court Reviews Gas Load Loss Claims, Orders Tax Savings Passthrough." Public Utilities Fortnightly, April 26, 1984, pp. 67-68.

"Effective Tax Rates for Affiliated Utilities." Public Utilities Fortnightly, April 12, 1979, pp. 55-57.

Garfield, Paul J. and Lovejoy, Wallace. Public Utility Economics. Englewood Cliffs, N.J.: Prentice-Hall, 1964.

Howe, Keith M. and Rasmussen, Eugene. Public Utility Economics and Finance. Englewood Cliffs, N.J.: Prentice-Hall, 1982.

"Imputed Interest Payments." Public Utilities Fortnightly, March 29, 1979, pp. 45-47.

"Indiana Commission Reexamines Intercorporate Tax Loss Sharing." Public Utilities Fortnightly, August 19, 1982, pp. 62-63.

"Indiana Denies Rate Decrease for Consolidated Tax Savings." Public Utilities Fortnightly, March 18, 1982, pp. 79-80.

Radford, Bruce. "Consolidated Tax Savings and Affiliated Utilities: New Life for an Old Issue." Public Utilities Fortnightly, November 5, 1981, pp. 62-66.

"Subsidiary Permitted to Disregard Parent's Loss Carry-forwards." Public Utilities Fortnightly, July 16, 1981, pp. 60-61.